



# 125 years of IUFRO

History of the International Union of Forest Research Organizations 1892–2017





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A publication on the occasion of the 125<sup>th</sup> IUFRO Anniversary Congress in  
Freiburg, Germany, 18–22 September 2017

*By Elisabeth Johann, Alexander Buck, Brigitte Burger, Michael Kleine, Renate Prüller,  
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# Foreword

The year 2017 marks the 125<sup>th</sup> anniversary of the International Union of Forest Research Organizations (IUFRO). This milestone provides a timely opportunity to present an overview of the history of IUFRO.

IUFRO was established on 17 August 1892 in Eberswalde, Germany with only three members: the Association of German Forest Experiment Stations and the experiment stations of Austria and Switzerland. From that time onwards IUFRO has grown constantly to become a worldwide organization now representing more than 15,000 scientists in over 600 Member Organizations in 126 different countries. More than 700 researchers, representing a broad range of scientific backgrounds and disciplines serve as Coordinators of IUFRO Divisions, Research Groups, Working Parties or Task Forces.

IUFRO originally emerged from the recognition that research collaboration was important to the future of forests and people. Since IUFRO's establishment, significant advancements have been made in understanding forest ecosystems and their sustainable management, the multiple benefits provided by forests, and the multiple threats they face. Current and future global trends, such as population growth, economic globalization, and climate change create novel challenges for forests and the people who depend on them. Addressing these challenges requires effective and efficient collaboration across scientific disciplines and sectors. Therefore, the reasons for the creation of IUFRO remain as valid today as they were 125 years ago.

This publication describes significant historical developments in IUFRO since the centennial in 1992. It intends to contribute to maintaining a record of IUFRO's history for the future. The publication is the result of the collaborative effort of a dedicated group of authors. It draws on information from the IUFRO archives, interviews with IUFRO Presidents, as well as information provided by IUFRO officeholders and former Executive Secretary Heinrich Schmutzenhofer. We gratefully acknowledge the contributions by all of them.

To provide a fully inclusive or entirely accurate historical record of IUFRO is an impossible task. Nevertheless, it is my sincere hope that this publication will provide a useful source of information and inspiration to forest scientists globally.

This publication is not the first document to present the history of IUFRO. A somewhat shorter and rather distinct historical record titled "1892-1992, 100 years" was produced in 1992 to mark IUFRO's 100th anniversary. It is available on the IUFRO website ([www.iufro.org](http://www.iufro.org)). Those seeking details regarding the history of IUFRO are encouraged to read that important and most interesting document alongside this new publication.

I sincerely hope that you will find this publication interesting and useful, and that it will inspire you to continue to, in the words of IUFRO's motto, "Interconnect Forests, Science and People".



**Alexander Buck**  
*IUFRO Executive Director*



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# CHAPTER I

## Introduction

Forest-related scientific research is the basis for the long-term sustainable development of the world's forests. It also plays an instrumental role in understanding and addressing a wide variety of environmental, economic and social issues pertaining to forests. Cooperation among forestry researchers is therefore of utmost importance. In order to accomplish long-term sustainable development, forest researchers must also synthesize what is known about the biological, economic and social conditions in and around forests. This can only be realized step-by-step and in harmony with respective local conditions.

The International Union of Forest Research Organizations (IUFRO) is the leading global network for forest science cooperation and is the only international organization devoted to forest research and related sciences (including social sciences). IUFRO's mission is to advance research excellence and knowledge sharing and to foster the development of both science-based and interdisciplinary solutions to forest-related challenges - for the benefit of forests and people worldwide. In keeping with this mission, IUFRO facilitates collaborative research and disseminates scientific knowledge to stakeholders and decision-makers. IUFRO also contributes to forest policy and on-the-ground forest management. Its unique membership brings together research organizations, universities and individual scientists. It also includes decision-making authorities and other stakeholders who are interested in, and/or focus on, forests and trees. Embracing both professional and geographic diversity, IUFRO unites between 15,000 and 20,000 scientists in more than 120 countries.

IUFRO also prides itself on being one of the world's oldest international scientific organizations. It began in the late nineteenth century as a union of German language forestry research institutions in Germany, Austria and Switzerland. However, from these modest beginnings, it grew rapidly into a large international organization. IUFRO's founding vision - that of free and non-political collaboration in forestry research - has proved to be powerful and resilient. It has endured amidst the dramatic changes that have taken place in the world in the past 125 years.

The two World Wars, for instance, caused a temporary interruption of IUFRO's work but did not seriously jeopardize the organization's existence and growth.

The idea of an organization of international cooperation in forest research was first suggested in 1890 by an Austrian forester named Karl Böhmerle. At the time, knowledge regarding growth and yield and technical methods of measurement was a prominent topic of discussion among forest scientists. Since then, the field of forest-related research has broadened considerably. Understanding the interdependencies of technical measures and social developments, and the supra-regional importance of such connections, has become a research priority. Further, the purely economic aspects of forestry have lost their weight. This has taken place as scientists and policymakers alike have become more aware of the relationships between environmental, social and economic dimensions of forest-related issues. The social aspects of forestry have thus gained considerably in importance. The prevailing understanding among contemporary forest researchers, at least in theory, is that renewable resources can be used only in a sustainable way. That is, the regeneration capacity of forests must be respected, and non-renewable resources should thus be consumed very sparingly.

To address the needs of forests, the needs of forest researchers must be addressed as well. It is important, for instance, for forest researchers to freely collaborate, to arrange their own cooperation to the greatest possible extent. They should also have the right to appoint the experts who are to examine the research questions that are asked within the context of these collaborations. Furthermore, as soon as a specific research topic has yielded a clear result, it must be distributed, utilized and applied.

In 1946, the long-term Secretary of IUFRO, the Swedish scientist Sven Petrini, made these observations. World War II had ended, and this brought on an array of political changes in Europe. Amidst these transitions, IUFRO would emerge as one of the leading international organizations to choose collaboration over discord, and



Former forest academy “Alte Forstakademie” in Eberswalde (Germany), the birthplace of IUFRO, with memorial of Bernhard Danckelmann (Germany) second IUFRO President, and one of the founding fathers of IUFRO. Photo © HNNE/Marco Natkhin

enshrine that commitment in their vision and practices. At this time, the Forest Division of the Food and Agriculture Organization (FAO) of the United Nations decided to include, and cooperate closely with, IUFRO. Petrini had pointed out several years prior (in 1937) that although forestry had to be developed individually in each country according to its specific cultural historical and economical needs, scientific research should take an international approach. This observation became a defining feature of IUFRO’s activities.

The forest sector has changed dramatically over the course of IUFRO’s history. These changes are due to factors such as globalization, governance reforms, multi-sectoral relations, diversification of products, and calls to place greater emphasis on social and environmental

issues. Although certain new challenges have emerged as a result of these transformations, the changes have also led to more interdisciplinary research cooperation and the joint use of new technologies, especially for information and communication purposes.<sup>1</sup>

Amidst the challenges that both humanity and the world’s ecosystems currently face, present and future generations will have to make great efforts to maintain the vital dynamic of forests as a whole. IUFRO’s long-term priorities of sustainability, responsibility and global collaboration require not only knowledge, but also a strong sense of ethics. Fortunately, a look at the past 125 years indicates that IUFRO has possessed both knowledge and ethics in abundance, and will continue to do so in the years to come.





# CHAPTER 2

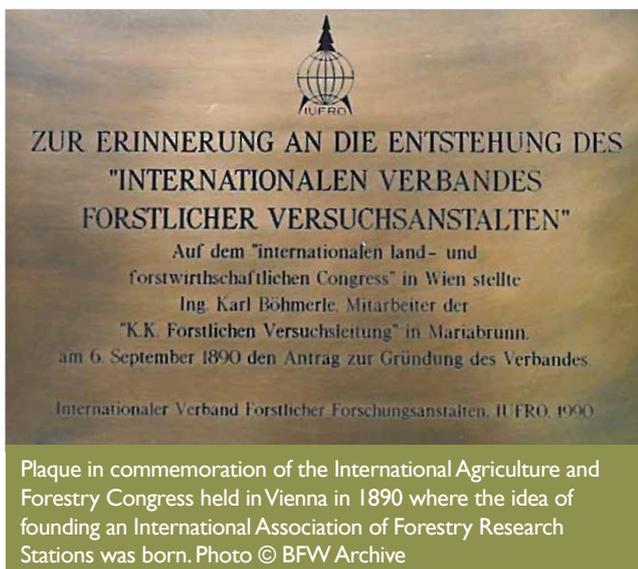
## The First 100 Years: 1892–1992

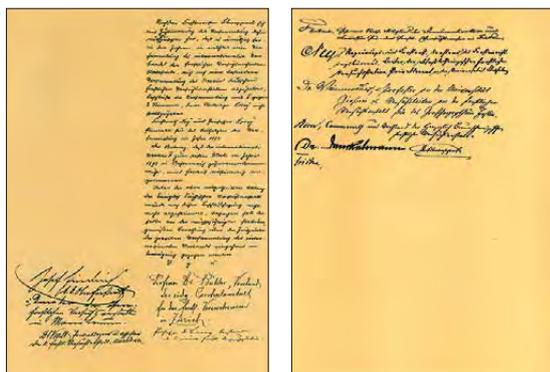
In the late 19<sup>th</sup> century, some form of structured cooperation in forestry research was already in place in Europe. This cooperation occurred principally during 26 forest congresses, which were held between 1876 and 1914 in Vienna, Austria. These congresses were forums for discussing all forestry matters of specific interest to the Crownlands of the Austro-Hungarian Empire. As forestry research activities increased, international cooperation also grew. Joint international research activities were carried out in specialized groups formed by interested scientists. The congresses offered these groups an opportunity to report on the state and results of the work done, to discuss their findings in a larger group and to establish links with related research fields. One of these events was the International Agriculture and Forestry Congress held in Vienna in 1890. At this Congress, the idea of founding an International Association of Forestry Research Stations was born. This idea was motivated by a need to unify forestry research, to develop and improve

measuring methods and results, and to make those methods and results comparable.

### 1892–1929: Foundation and first activities

During the International Agriculture and Forestry Congress held in Vienna in 1890, Karl Böhmerle, member of the Austrian Forest Experiment Station Mariabrunn, Austria, addressed the following question: Which method should be applied to standardize the implementation and evaluation of experiments on an international basis? The papers and discussions on this subject were brought to a conclusion when a resolution was adopted which had been brought to the table by Karl Schuberg of Germany. This resolution identified the members of a proposed committee which was tasked with the responsibility of arranging international meetings of scientists working on forestry research experiments. The proposed committee was created with the additional aim of developing uniform principles and common designs for forestry research experiments, and for the publication of their results. The Committee consisted of the Directors of the Experimental Stations: Lucien Boppe (Nancy, France), Anton Bühler (Zurich, Switzerland), Bernhard Danckelmann (Eberswalde, Germany), Joseph Friedrich (Mariabrunn, Austria), and Julius von Soltz (Schemnitz/Banská Štiavnica, now in Slovakia). The Committee met at Badenweiler, Germany, in 1891 and worked out draft statutes, which Professor Danckelmann sent out to all the Forestry Research Stations which had expressed an interest in participating. On the occasion of the annual Meeting of the German Forestry Research Stations in Eberswalde on 17–19 August 1892, the statutes were adopted by the German Union of Forestry Research Stations, as well as the Swiss and Austrian Forestry Experimental Stations. Thus, the International Union of Forestry Research Stations was founded. The signatories pointed out that additional institutions should be invited to join the Union.





Signatures under the Protocol of 17 August 1892.  
Photo © IUFRO



VI IUFRO Congress in Brussels, 1910. Photo © BFW Archive



Participants of an excursion held on the occasion of the IV  
IUFRO Congress in 1903. Photo © BFW Archive

The original protocol of this agreement is stored in the archive at Eberswalde.

At the first Congress held in Vienna, Austria in 1893, 17 delegates from five countries (Germany, Switzerland, Austria, Italy, and Hungary) participated. In the following years the number of members and participants in the scientific meetings slowly increased. At the congresses, which took place at regular intervals, research methods were presented and coordinated, and results were discussed. Special emphasis was placed on the practical demonstration of experimental plots during field excursions.

The first Congress opened on 11 September 1893 with a paper presented by Tuisko Lorey from Germany on the most suitable methods for measuring the height of trees.

Lectures on the quality and origin of seeds and on forest water resources followed. The methods used for the design of experimental plots, as well as the standardization of terminology and the establishment of an international bibliography, continued to be major subjects for discussion at subsequent Congresses. Particular attention was paid to the discussion of forest-thinning methods. Studies in the field of wood technology were also discussed. However, at that time there was no executive body at the Union's disposal which could have exercised a steering and coordination influence between the Congresses.<sup>2</sup> As a result, the resolutions adopted at these congresses often turned out to be of little practical use.

In the early 20<sup>th</sup> century the Union received fresh impetus through expansion of its membership. In addition to the founding nations, forestry research institutions in Belgium, Denmark, the United Kingdom, Italy, Japan, Russia and Hungary were admitted as members. The enlargement of the Union required a redrafting of the founding statutes, which were very concise and of a rather general tone. This revision of statutes took place at the Fourth Congress in Vienna, Austria, in 1903. At this Congress all languages were acknowledged as official languages at the meetings, but it was also established that reports should be published in German and French. The Congresses held in 1906 and 1910 also reflected the intensification of the work of the Union, which had meanwhile admitted members from Bulgaria, the Netherlands, Portugal, Romania, Sweden and the United States of America. The seventh Congress was scheduled for 1914 in Budapest, Hungary. However, World War I broke out a month before the Congress was scheduled to begin, and therefore the Congress could not take place. Apart from the General Assembly and the Chairman, the Union had no institutional infrastructure at its disposal.

<sup>2</sup> Julius Speer; President of IUFRO 1961-1967. Paper presented by Julius Speer, Munich, Germany on the occasion of the IUFRO World Congress, Oslo, Norway 1972

During World War I, international cooperation stopped, as did forest research in many of the countries involved in the war. After the war it took more than ten years before the Union was able to fully resume its activities. In 1926, the First World Forestry Congress was held in Rome, Italy. During this meeting, a resolution was adopted which resulted in the Union's seventh Congress in Stockholm, Sweden in 1929.

## 1929–1938: The reconstitution of IUFRO

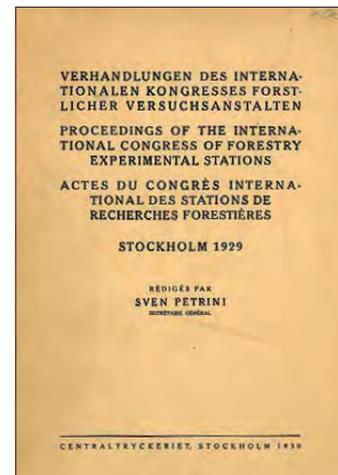
In 1929, under the leadership of the Swede Henrik Hesselmann, draft statutes were developed for the re-establishment of the Union. This draft text was adopted with a few minor modifications at the Union's seventh International Congress in Stockholm. The organization's new name, "International Union of Forestry Research Organizations", reflected the broadened base of activities which IUFRO was to undertake in the future. Particular emphasis was placed on the Union's role within the framework of the promotion of international scientific cooperation in the field of forestry, especially regarding the standardization of research terminology. The establishment of an international bibliography was also emphasized.

The drafters of these statutes agreed to appoint a Secretary General to take care of administrative tasks and thus support the President. The Secretary General's primary task was to inform all institutions and persons interested in forestry and forest-related research about the Union. Copies of the resolutions of the Congress were distributed to all members and reprints of the statutes were sent all over the world together with printed circulars inviting all research institutions to join the Union. Efforts were made to contact countries not represented at the Congress. The newly organized International Union of Forestry Research Organizations (IUFRO) now also offered membership to universities, forestry colleges and wood research institutes. Previously, the membership of the International Union was composed exclusively of forestry research centers with limited forest-related biological research programs, and hardly any technical and economic programs. However, these topics were soon to be included into the research agenda of forest research centers. In parallel, very well-equipped wood research institutes were established with an exclusively technical focus. IUFRO was open to include research on technical aspects of wood; technical research institutes were in turn expected to look into topics relevant for forestry.

An International Committee was appointed as the supreme governing body. The Committee, it was decided, should meet only during Congresses, and take over the decision-making authority from the General Assembly. One delegate would represent each member country in this body. Finally, the Statutes of 1929 also established the Permanent Committee, which consisted of seven members and was to be the managing body of the Union between the Congresses.



IUFRO President Henrik Hesselmann, Sweden. Photo © IUFRO



IUFRO Congress Proceedings Stockholm 1929. Photo © IUFRO

In light of the broadening fields of forest-related research, it became clear that the Committee was in need of greater support. Sub-commissions or Special Committees for particular issues were therefore established. For instance, a Bibliography Committee was founded in Zurich 1929, and a Subcommittee on seeds and species issues was set up in Berlin in 1937. At the Congress in Budapest, Hungary, in 1936 a Subcommittee for wood testing was established. An important function of this Subcommittee was to cooperate with the New International Association for Materials Testing based in Zurich, Switzerland. This Association held its first Congress in 1931 in Zurich, and its last reported Congress took place in 1937 in London. A meeting was planned in Finland in 1938 and another one in England in 1939, but both were cancelled.

At the VII IUFRO Congress in 1929, most papers were presented to, and discussed by, one of four special sections-- namely, the Forestry Section, the Section for Forest Ecology, the Section for Forest Soil Science, and the

Section for Entomology. For the first time, English was admitted as an official language at the Congress; prior to this, the only official languages were German and French.

At the end of 1929, 21 forest research institutes had paid their first annual subscription fees to the Union. By the end of 1930, the Union had 57 members. The Permanent Committee held its first meeting in Zurich in the middle of 1930 where all members were present. The topics discussed concerned the IUFRO budget, seed exchange, bibliography, resolutions of the Stockholm Congress, and the program for the next Congress. Member countries (and a number of member organizations) at this time included Germany (8), USA (4), Austria (1), Belgium (3), Spain (2), Estonia (1), Finland (2), France (2), Great Britain (3), South Africa (1), Malaysia (1), British India (1), Greece (1), Hungary (2), Italy (2), Japan (2), Latvia (2), Norway (3), the Netherlands (1), Poland (3), Yugoslavia (1), Sweden (2), Switzerland (1), Czechoslovakia (3), and 3 individual members. The number of ordinary members increased from 54 to 85 in 1931 and the Union embraced 31 different countries.

Following the reconstitution of the Union, two Congresses were organized during the 1930s, in France in 1932, and in 1936 in Hungary. During the IIX IUFRO World Congress held in Nancy, France from September 4–11, 1932, the International Committee decided that there should be a rotation of members in the Permanent Committee. The number of members had increased to 93 and the Union now embraced 35 different countries. The IX IUFRO World Congress, which took place in Hungary from August 24 to September 9, 1936, began in Sopron and ended in Lillafüred, with stops in Pécs, Szeged, Budapest, and Debrecen. About 70 papers and several excursions assembled 22 nations for the last time until 1948. A long and difficult period lay ahead and due to the outbreak of World War II, the 1940 Congress in Helsinki, Finland, had to be cancelled.

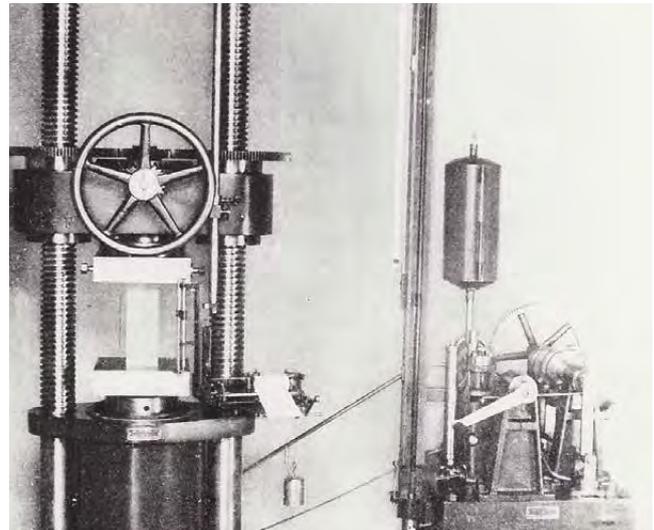
In hindsight, it was a very exclusive group of persons who met at the IUFRO Congresses between World Wars I and II. In principle, only members or their representatives were allowed to take part in the Congresses. Qualified institutes outside the Union could be invited, on the condition that they would take up membership. The official invitations, addressed to the governments of countries with IUFRO member organizations, were accompanied by an explanatory note stating that the Congress was meant for experts. However, invitations to government representatives of Congress host countries were also issued as courtesy required. One of the permanent and most interesting topics discussed during the interwar Congresses was the exchange of forest seeds of controlled origin. Lists of the countries from which seeds of controlled origin of various forest species could be obtained were included in the Union's Annual Reports.

Writing and editing of the Annual Report was one of the tasks of IUFRO's Secretary General. Sven Petrini from Sweden was the first to hold this position and served as Secretary General for about 20 years. This was very fortunate for the Union, as Petrini also helped to maintain IUFRO during World War II.

In the years before World War II, IUFRO had members in Algeria, Argentina, Australia, Austria, Belgium, British India, Canada, Cyprus, Czechoslovakia, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Italy, Japan, Latvia, Malaysia, Morocco, Netherlands East Indies, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, the Netherlands, Union of Soviet Socialist Republics, Union of South Africa, United States of America, and Yugoslavia. Recognized forest scientists of the time joined the group of extraordinary members. These scientists included H. I. Baldwin of the USA, H. Badoux, H. Biolley and Philip Flury (all from Switzerland), F. von Kalitsch from Germany, and G.R. Eitingen of the USSR.

### International and national cooperation

After the first printed Annual Report of the General Secretariat had been published in 1931, IUFRO was registered at the League of Nations in Geneva. It was thus included into the user manuals and bulletins and the list of accredited international associations which were organizing congresses at that time. Cooperation started with the International Institute of Agriculture in Rome, Italy, the new International Association for Materials Testing in



Material testing machine, around 1900.  
Photo © BFW Archive / K. Johann

Zurich, Switzerland; the Union of International Associations in Brussels, Belgium; the International Institute for Documentation (also in Brussels), and the International Institute of Intellectual Cooperation in Paris, France. In addition, the Annual Reports were sent to the majority of the large libraries, companies, institutions, and associations which were interested in research and international cooperation in general.

In his 1937 report, IUFRO Secretary General Sven Petrini mentioned the establishment of two new international forestry organizations, namely the Commission

International du Bois (CIB) (International Timber Commission) in Vienna, Austria, with its Subdivision Committee for Wood Utilization, as well as the International Centre of Silviculture (CIS) in Berlin, Germany. Petrini considered it important to stay in contact with these institutions, and to establish cooperation to an appropriate extent.

The International Timber Commission was, at the time, an economic association to promote timber products. It produced statistical publications about wood commodity imports and exports, arranged conferences, and was engaged in policy matters. The Timber Committee also offered an information service as well as a work program for scientific research institutes. The Committee therefore served as an important intermediary for members of IUFRO.

IUFRO's main task in the 1930s was to promote cooperation and mutual understanding between countries and people, and to strengthen and improve research in the field of forestry in general. IUFRO also supported the implementation of forest-related research into practice and aimed to create more possibilities for the utilization of the collected material, to promote the exchange and comparison of scientific experiments, to facilitate the intellectual cooperation and simplify procedures for scientific interchange.



IUFRO President Erich Lönnroth, Finland

### 1939–1945: The war years

In 1937 Erich Lönnroth, from Finland, was appointed President of IUFRO. He remained in this position until 1948.

IUFRO was not obliged to suspend its activities during the war. However, for obvious reasons, these activities could not take place as intended. Nevertheless, communication channels stayed open not only within Europe, but also with North America. Although the Permanent Committee could not meet, the President and the Secretary General were able to stay in close contact with each other.

In fact, the only reason for delays in IUFRO's business in those years was the deterioration of postal connections as a result of the war. One of the most important accomplishments was the publication of the Annual Report, which was carried out by Sven Petrini and continued until 1945.

During World War II research institutes in many countries had to reduce their staff and their budgets were cut. As a result various planned undertakings had to be shelved. Moreover, owing to the serious disturbance of the international postal services, the previous brisk exchange of communications was considerably restricted, and in some cases it nearly stopped completely. These circumstances affected in particular the International Bibliography of Silviculture. Only a few countries were able to continuously follow up on the cooperation which had begun with the members' exchange of lists of current forest literature.

The prevailing conditions did not allow for a final agreement concerning the bibliographic work undertaken jointly by IUFRO and the International Centre of Silviculture. A form of cooperation had to be found which in no way would prejudice future decisions. This was achieved by inviting individual national bibliography institutions to place their collections of titles at the disposal of the International Centre of Silviculture. In return, they were offered the opportunity of having special reprints made from the annual bibliography, which would facilitate their exchange obligations within the Union. This appeal for cooperation was met with a notable response. The Union's national centers for the International Bibliography of Silviculture acceded in several cases to this application by sending in lists of current literature. Fourteen countries offered their cooperation: Germany, Croatia, Denmark, Spain, Finland, France, Hungary, Italy, Norway, the Netherlands, Portugal, Romania, Sweden and Switzerland.

Cooperation, however, continued only between individuals, and not on an institutional basis. The issue was thus postponed until after the end of the war. Although the annual publication of the *Bibliographia Forestalis* ceased after 1943, collecting activities continued. This collection, which is now stored in the library of FAO, comprises forestry-related books, forest journals and serials, and also some individual papers, a total of approximately 9,000 publications in 21 languages.

IUFRO President Erich Lönnroth considered it of great importance that the provenance experiments with pine and spruce, which were started by the Union in 1938 and 1939, should be conducted during the war in such a way that the valuable genetic material should not be wasted. The Annual Reports informed readers about the progress of the work of the Sub-Committee on Forest Seeds and Forest Tree Species - they provided information, for instance, about their meeting in Vienna, Austria in October 1940. Instructions for the continuation of provenance trials with pine, spruce, and larch were drafted. However, a conference for comprehensive consultations, which was planned to take place in Bucharest in September 1943, had to be cancelled because most of the participants were prevented from attending.



The war years

Although 1944 was dominated by the events of the war, Sven Petrini recorded some progress in the Union's activities. A preliminary report of the international provenance experiments with pine and spruce, organized at the Petawawa Forest Experiment Station in cooperation with the Union, was sent from Canada to the General Secretariat. The majority of this report was printed as an annex to the Annual Report. In addition, the new international provenance experiments with larch started off well. The seed samples listed in the preceding Annual Report were transmitted in spring 1944 to fellow researchers in Austria, Bohemia (currently western Czech Republic), Denmark, Finland, France, Germany, Hungary, Italy, Norway, Poland, Portugal, Romania, Slovakia, Sweden, Switzerland, Turkey and also to Great Britain and Canada. Due to the good relations with the British Council in Stockholm, Sweden, the consignments of seeds were dispatched to England and Canada by air. In addition to the above-mentioned participants in the larch provenance experiments, the Secretary General also arranged the participation of the United States.

## 1945–1992: Time of worldwide expansion

“Having had to fight in the (Second World) war at the Oder battle line, 100 kilometers away from home, it has been the main objective of my life to contribute to international dialogue and understanding.” (Walter Liese, IUFRO President 1977-1981, in 2014)

### The post-war period through the 1970s - recovery, reorganization, and growth

Apart from the activities mentioned previously, most of the member organizations of the Union had been unable to function well during the war. Only two organs of the

Union were still intact and in operation in 1945, namely, the President's office and the Secretariat. However, this was all that was required in order to reestablish the organization after the War. However, a meeting of forest research representatives from the leading nations was nevertheless necessary.

After the war, the Food and Agriculture Organization (FAO) was established under the auspices of the United Nations. At a major meeting in 1946, FAO was charged with assuming the tasks which had previously been performed by the International Institute of Agriculture in Rome, the International Timber Committee in Vienna and Brussels, and the International Centre of Silviculture in Berlin. These tasks concerned forestry statistics, bibliography and information services.

There were also plans to incorporate IUFRO into FAO. However, the Union opted for an independent course. It had found a distinctly democratic, decentralized form of cooperation and was therefore very flexible and effective. IUFRO wanted to build on the previously adopted system of special commissions. These commissions were appointed by the researchers themselves, and could gather for deliberation either in groups or at large congresses. The forest research organizations wished to retain their own Union, but high-quality cooperation with the FAO remained an important priority.

In the meantime, research institutes in several countries contacted the IUFRO Secretariat to declare their adherence to the existing Union, and also to express their hope that the Union would soon be in the position to continue its work. In 1946 the Union was comprised of members from the following countries: Argentina, Belgium, Denmark, Spain, Finland, France, Italy, Norway, the Netherlands, Poland, Portugal, Sweden, Switzerland, Czechoslovakia, and Yugoslavia. The conditions were not yet stable enough to enable the membership of Austria and Germany. Nevertheless, L. Fabricius from Munich, Germany (who was a member of the Permanent Committee) represented the German research institutes. The federal forest research stations of the USA remained affiliated primarily with FAO until rejoining the Union in 1956. The Forestry Commission of the United Kingdom rejoined in 1947.

In the meantime FAO, now based in Rome, had incorporated several international forestry and forest management organizations. There was still a strong intention within FAO to incorporate IUFRO as well. However, the IUFRO delegates who met in Helsinki in 1948 under the chairmanship of Erich Lönnroth rejected this suggestion emphatically. Merging with a political organization was considered irreconcilable with the mission of a purely scientific association such as IUFRO. Experience had shown that scientists were quite capable of arranging their own contacts and exchanges. Any direct control over the research activities of autonomous organizations by a central organization was thus rejected by various countries. Finally, on 21 January 1949, an agreement was arranged with FAO which guaranteed the continued independence of IUFRO. FAO declared its readiness to make available to IUFRO a secretariat at FAO's own Headquarters in Rome.



Larch



At the IUFRO World Congress in 1953 a new section dealing with the impact of forest operations on man was introduced. Respiration measurements on a forest worker.  
Photo © BFW Archive

In return, the Union promised to assist FAO with various issues and declared its readiness to invite FAO observers to all IUFRO meetings. In 1957, FAO asked to be released from the obligation of providing a secretariat, and IUFRO agreed. In the following years, the relationship between the two organizations took a very favorable turn and the ties between them became closer and more cordial. FAO financed research projects undertaken by member organizations, and IUFRO advised FAO and carried out a large number of research contracts.

Scientific work and communication slowly resumed. Towards the end of 1946 the IUFRO Secretary General succeeded in obtaining a manuscript for a proposal for new rules for seed testing. The manuscript was prepared during the war and written by G. Vincent from Brno, Czechoslovakia. The work served as basis for the more precise rules which the Union wanted to draw up as soon as its organs could work freely again. The General Secretariat organized the translation into English and French and sent out copies together with the Annual Report.

After the war, former IUFRO member countries (particularly their scientists and researchers) were eager to renew their collaboration; their international friendships had been painfully interrupted for a long time. A good example of cross-country collaboration is the case of O. Jenss, former assistant to W. Schmidt, Eberswalde, and Chairman of the Union's Sub-Commission for the study on seeds and races of forest trees. Mr. Jenss had been living as a prisoner of war in England. After application by the General Secretariat and by courtesy of the English authorities, he was allowed to describe in detail the seed collection sites for the larch species used in IUFRO's international provenance trials. He had personally taken part in the collecting of the seeds, and his information was published in the Annual Report 1946. That said, the year 1947 did not result in rebuilding of all of the international relations which were necessary for cooperation between the world's nations. However, connections were reestablished with a great number of former members, while new

members applied for membership. Yet, in 1947 the number of members was still less than half of the membership before the war. It was still not possible to establish normal relations with Germany, and the United States federal research institutes remained outside IUFRO as well. The most important event of this time was a conference held in September 1947 in Helsinki, Finland. There, the Permanent Committee and the Bibliography Commission were reorganized in the lead-up to the next Congress, which was to take place in Switzerland in 1948. It was the principal task of that Congress to reorganize the institutions and activities of the Union.

At the Congress in Zurich in 1948, there were 44 member organizations, which did not adequately reflect international interest in cooperation with the Union. Some former members were simply unable to pay the annual subscription fee, such as the Hochschule für Bodenkultur, Vienna, Austria. In other cases, contact had not yet been reestablished, or their membership was not yet welcomed. It was not until 1952 that the ordinary membership was increased by the addition of seven German research institutes. By 1954 there were already 13 German institutions (out of 133 total members). However, there were still no German representatives in the committees nine years after the end of World War II, with the single exception of Professor Julius Speer, who was also the only scientist of German origin among all IUFRO officeholders until 1959.

A new structure was decided upon in 1948, which proved very valuable: the President (along with the Permanent Committee, which met once a year) directed the affairs of the Union. He was assisted by a Technical Adviser which he himself designated, and by the Secretariat based at FAO at its headquarters in Rome. This arrangement was the result of an agreement reached between the Director General of FAO and the President of the Union. IUFRO's supreme controlling body was the International Council which met every three to five years on the occasion of the Congresses of the Union,

and each country appointed a representative to the Council. The scientific activities of the Union were carried on mainly through the 11 Research Sections, each of which was directed by a Section Leader. Any research worker who belonged to a member institution or was an associate (i.e., individual) member could participate in one or several Research Sections. The relation among the research workers thus intensified and international cooperation was promoted.

This was a period of steady and successful development for IUFRO. At the Congress in Rome in 1953, the Union could once again boast more than 100 members.

### Goals of IUFRO under the presidency of James MacDonald, Forestry Commission, London, United Kingdom, 1959

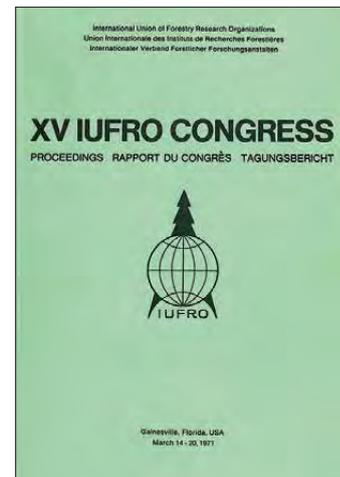
- Establishment of close personal relations between forest research workers of all countries, especially between specialists working in the same fields of activity (research sections)
- Informal exchange of ideas and experiences in the field of forest and timber research in general, and in particular within the individual Research Sections (results, research planning and organization, methods and equipment)
- Standardization of concepts and methods, so far as appears desirable
- Critical analysis of the findings of research work done so far, and promotion of further research on an international scale
- Collaboration with international organizations, such as the Food and Agriculture Organization of the United Nations (FAO), with a view to supplying scientific advice and guidance on particular forest-related problems
- Efforts to secure a worldwide uniform classification of forestry literature

In the 1950s IUFRO publications included outlines for permanent sample plot investigations, the standardization of site records, rules for the international control of forest seed and standardization for the classification of forestry literature. A considerable part of the Annual Reports was dedicated to the yearly meetings of the Permanent Committee. These meetings became longer and included forest-related excursions. They gave participants the opportunity to discuss the matters pertaining to IUFRO, to strengthen the network among the officeholders, to expand their knowledge of international forestry affairs, and to strengthen social relationships, which was essential after World War II and remains to this day one of IUFRO's greatest strengths.

The experience gained during those years of reinforcement provided the basis for the Statutes adopted at the Congress in Vienna in 1961. In addition to the Permanent Committee, these Statutes provided for an Enlarged Committee composed of the Leaders of the twelve scientific sections. This expanded Committee coordinated the work



IUFRO President James MacDonald, United Kingdom



XV IUFRO Congress Proceedings, Gainesville, USA.  
Photo © IUFRO

of the Sections, whose activities were carried out in about 80 different Working Groups.

By the time of the 1956 Congress in Oxford, United Kingdom, membership had increased to 139; by the 1967 Congress in Munich, Germany, it had grown to 176. At the time of the 1976 Congress in Oslo, Norway, 267 member organizations from 68 countries had joined the Union. The list of subjects dealt with during the Congresses in the 1970s and 1980s could no longer be easily summarized, as had been possible at the beginning of the century. The papers submitted for the 1967 Congress in Munich and the report on the discussions were thus presented in ten volumes.

The XV IUFRO World Congress in Gainesville, USA, in 1971 was the first Congress held outside Europe. For the first time, it was referred to as a “World Congress,” and a Congress title was introduced: “The Role of Research in the Intensification of Forestry Practices and Activities.”

In view of the large number of participating researchers and increasing global interest in forest-related issues and the various fields of forest science, a more complex organizational structure became necessary. Thus, a committee was set up to elaborate new statutes (with members F. Hummel, W. Liese, A. de Philippis, F. Richard, D. R. Redmond, and I. Samset). These new statutes were adopted by the International Council and went into effect on March 15, 1971. In order to avoid an unbalanced representation of topics, the Sections were replaced by Subject Groups, which were of a lasting nature, and by temporary Project Groups designed to treat specific problems during a limited period of time. All of these groups were assigned to six Divisions. These Divisions reflected a broad range of interests: Division 1: Site and Silviculture; Division 2: Forest Plants and Forest Protection; Division 3: Forest Operations and Techniques; Division 4: Planning, Economics, Growth and Yield, Management and Policy; Division 5: Forest Products; and Division 6: General Subjects (Recreation, Landscape, Statistics, Terminology, Information, Education and History of Forestry). In 1972 the six Divisions included 41 Subject Groups and 18 Project Groups, which were further subdivided into 148 Working Parties. The Permanent Committee was replaced by an Executive Board composed of the President, the Vice-President, the six Division Coordinators, nine members (who were selected with a view to ensuring a geographical balance), and two additional members. Furthermore, member subscription fees were raised, and based on the number of the scientific staff at member organizations.

IUFRO cooperation had grown significantly: In 1972 there were 7000 scientists belonging to member organizations. This increased diversity and complexity had intensified the need for a Permanent Secretariat, which was established in 1973 at the Federal Forestry Research Institute in Vienna, Austria. The Secretariat was to take responsibility for the preparation of accounts, collection of subscriptions, maintenance of records (such as membership lists), IUFRO statistics, custody of archives, dissemination of information within IUFRO (such as Annual Reports and IUFRO News), and preparation of IUFRO publications. The Secretariat was also intended to assist Divisional coordinators, and help to prepare meetings (Congresses, Executive Board Meetings, Subject and Project Group meetings, etc.).

### IUFRO's new role in international forestry research – The Kyoto Congress

In 1981 the XVII IUFRO World Congress was held in Kyoto, Japan. With more than 1,300 participants from 73 countries, it was the largest Congress in IUFRO's 90-year history. It was also the first Congress held outside of the Western hemisphere. The opening and closing ceremonies and the key addresses, as well as the Divisional meetings, were simultaneously translated into English, French, German and Japanese. A total of 155 sessions were held, including presentation of 330 invited papers, 257 voluntary papers and 248 posters.



Forest degradation in the Tropics. Photo © IUFRO

The Kyoto Congress emphasized the importance of strengthening forestry research in tropical regions and developing countries. This was reflected in the Congress Declaration, which stressed that: (1) Tropical regions and developing countries deserve priority for research, (2) Research should focus on land use, fuelwood, and use of biomass for energy, and (3) Research should take account of cultural, operational and economic factors of developing countries.

The Congress emphasized that more forestry research was needed in the context of rural development, energy production and use, and conservation. Furthermore, funding was needed to expand and restructure forestry research institutions. IUFRO was urged to adjust to this changing focus in forestry and take a more active part in tropical forestry research.

The IUFRO Executive Board approved the creation of a new position for a special coordinator to focus on research in tropical regions and developing countries. The principal objective of this work was to strengthen the research capacities at forestry research institutions in developing regions.

### Forest science serving society – The Ljubljana Congress

The XVIII World Congress held in Ljubljana, Yugoslavia, in 1986 was the first to take place in Eastern Europe. In the course of preparations for this Congress, Dusan Mlinsek, IUFRO President from 1981-1986, pointed out that forestry was like a big global family that did not know political borders. The only kind of borders in this family, he said, would be natural borders between major natural ecosystems. After all, everybody in the world wanted beautiful and healthy forests and successful forestry, regardless of politics. These aims were common to all, but the ways of reaching them might be different.

While the Ljubljana Congress was a great success, it was overshadowed by the reality of high rates of forest loss in tropical regions caused by overexploitation, and by increasing damage to temperate forests caused by air pollution. The forestry research institutes of Central Europe in particular were deeply concerned about the latter issue, and they adapted their research programs to meet the

urgent needs. Media reports spoke of an environmental disaster of unprecedented dimensions. However, the general economic and political situation did not encourage the enthusiasm needed for research. In many countries, adverse financial conditions precluded the acceleration of the research activities required to face the threats to forests. Professor Mlinsek believed that the voluntary work

### IUFRO-World Congresses and Presidents 1893 – 1992

	Year	Place	President	Period of Presidency	Congress Title
	1892 (17 August)	Eberswalde (Germany)	F. Krutina, C. Kast, L.W. Horn, K. Ney, K. Wimmenauer, B. Danckelmann, A. Schwappach, K. Fricke, T. Lorey, J. Friedrich, J. Lorenz-Liburnau, A. Bühler		Foundation Meeting
1	1893	Vienna (Austria)	Josef Friedrich (Austria)	1892–1893	
2	1897	Brunswick (Germany)	Bernhard Danckelmann (Germany)	1894–1896	
3	1900	Zurich (Switzerland)	Conrad Bourgeois (Switzerland)	1897–1900	
4	1903	Vienna (Austria)	Josef Friedrich (Austria)	1901–1903	
5	1906	Stuttgart (Germany)	Anton Bühler (Germany)	1904–1906	
6	1910	Brussels (Belgium)	N.I. Crahay (Belgium)	1907–1910	
	1914	Budapest (Hungary)	Jenő Vadas (Hungary) <sup>1</sup>	1911–1914	
7	1929	Stockholm (Sweden)	Henrik Hesselmann (Sweden)	1929	
8	1932	Nancy (France)	Philibert Guinier (France)	1929–1932	
9	1936	Budapest (Hungary)	Gyula Roth (Hungary)	1933–1936	
10	1948	Helsinki (Finland) Zurich (Switzerland)	Erich Lönnroth (Finland) <sup>2</sup>	1937–1948	
11	1953	Rome (Italy)	Hans Burger (Switzerland)	1949–1953	
12	1956	Oxford (Great Britain)	Aldo Pavari (Italy)	1954–1956	
13	1961	Vienna (Austria)	James McDonald (Great Britain)	1957–1961	
14	1967	Munich (Germany)	Julius Speer (Germany)	1962–1967	
15	1971	Gainsville (USA)	George M. Jemison (USA)	1968–1971	Research's Role in the Intensification of Forestry Practises and Activities
16	1976	Oslo (Norway)	Ivor Samset (Norway)	1972–1976	Forestry in a World of Limited Resources
17	1981	Kyoto (Japan)	Walter Liese (Germany)	1977–1981	Research Today for Tomorrow's Forests
18	1986	Ljubljana (Yugoslavia)	Dusan Mlinsek (Yugoslavia)	1982–1986	Forest Science Serving Society
19	1990	Montreal (Canada)	Robert Buckmann (USA)	1987–1990	Science in Forestry: IUFRO's Second Century

<sup>1</sup> Organized, but cancelled due to World War I

<sup>2</sup> The congress planned in Helsinki, Finland in 1940 was cancelled because of the outbreak of World War II.



Damage caused by air pollution and drought.  
Photo © IUFRO/H. Schmutzenhofer

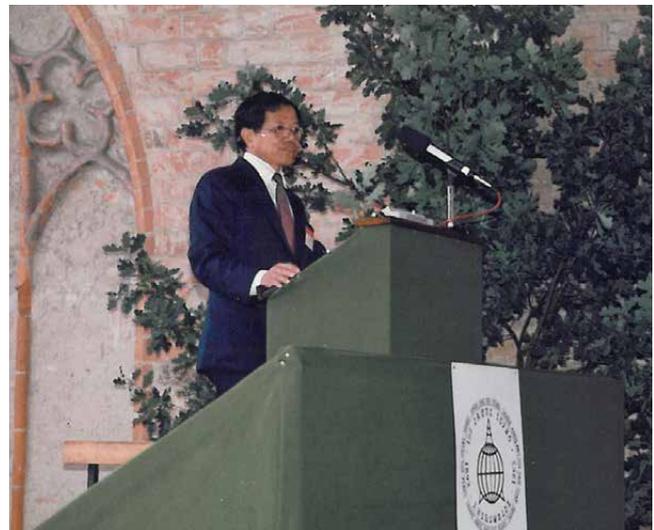
since IUFRO's establishment. Its theme was "Science in Forestry: IUFRO's Second Century." At that World Congress, Dr. Salleh Mohd. Nor was elected as the first IUFRO President from outside Europe and North America. The main problems he faced were the low prestige of and support for forestry research in developing countries, due to the lack of political support and funding, the lack of qualified human resources, the lack of leadership, and inadequate research management.

### The Centennial celebration in 1992

IUFRO celebrated its 100<sup>th</sup> birthday in 1992 with great success and pride. The celebration took place in a location replete with forest history: IUFRO's birthplace in Eberswalde, Germany, in the impressive 700-year-old Chorin Abbey. Over 1000 members and friends attended



Technical session at IUFRO World Congress in Montreal, Canada, 1990. Photo © IUFRO



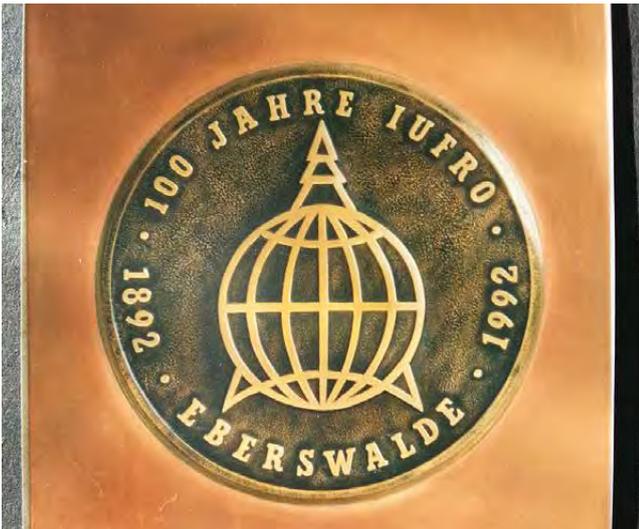
IUFRO President Salleh at Centennial celebrations in Eberswalde, Germany, in 1992. Photo © IUFRO

of IUFRO officeholders and researchers was the main reason why the Union was able to maintain its activities at such a high level and with great enthusiasm. Forestry ethics, in his opinion, did not allow stagnation in research activity. Thus, he promoted more interdisciplinary collaboration among researchers and also recommended improved communication with people outside forestry, including the establishment of alliances.

In April 1990 the Executive Board met in Vienna and Prague in order to demonstrate its interest in scientific cooperation across East-West barriers (which still existed at that time). At that time no member of the Board would have predicted the complete collapse of those barriers. Following the end of the Cold War, the scientific and social cooperation and collaboration within Europe became as relaxed as it had been 50 years before prior to the outbreak of World War II.

The XIX World Congress in Montréal, Canada, in August 1990, was the last to be held during the first 100 years

the celebrations. Speeches were delivered by dignitaries from Germany and other parts of the world, including the Minister for Food, Agriculture and Forestry of Germany, the Assistant Director General of FAO, and representatives from the founding countries. Two IUFRO Presidents were keynote speakers: Walter Liese as a former President, and Salleh Mohd. Nor as the current President at the time. In the course of celebrations a commemorative plaque was installed at the Eberswalde Forestry Academy. After a tree planting ceremony in the park adjacent to the Academy, the celebration ended with a concert in the Abbey of Chorin. The celebration was followed by a week of scientific discussions at the Technical University of Berlin. Here, a full day was dedicated to IUFRO's past and future. Several excursions were organized to European research stations and sample plots established in the long history of IUFRO. These excursions demonstrated the long-lasting exchange of experience and science-based findings for which IUFRO had become known, and as



Plaque in commemoration of the founding of IUFRO in 1892.  
Photo © IUFRO



Alte Forstakademie, Eberswalde, Germany.  
Photo © HNEE/Jürgen Rocholl

such they crowned the extraordinary event. A brochure documenting the history of IUFRO was published for the occasion and has remained an important reference for the organization.





# CHAPTER 3

## IUFRO's Visions, Congresses and Strategies 1992–2017

For 100 years, IUFRO had been *the* global, non-governmental, organization tasked with stimulating research in forestry and forest products, encouraging cooperation among member institutions and scientists, and publicizing the results of its members' research. In the last quarter century (from IUFRO's Centennial-Celebration in 1992 to the present day), the focus of the community of forest policymakers, economists and managers has changed. This is as societal expectations regarding forests broadened to include enhanced production of forest goods, social benefits, and environmental services through sustainable management of trees and forests. Globally, natural forest area is decreasing and planted forest area is increasing. Changes in the forest sector have included globalization, governance reform, multi-sectoral relations, diversified products, and a greater demand for socially and environmentally focused research. This has occurred at a time of severe deforestation, particularly in the tropics and in countries with developing

economies. This has also occurred at a time where there is growing concern for climate change and its impacts, which has affected the policies of all countries.

To cope with the many changes affecting forests and forestry, new national and international institutions have arisen, and new international instruments and mechanisms for the sustainable management and use of forests have been developed. They have been aimed in particular at reducing deforestation, enhancing forest and biodiversity conservation and, more broadly, optimizing human and environmental welfare.

The challenges facing the research community over the past 25 years have been to recognize these changing societal demands and environmental pressures, and to conduct timely proactive and reactive research which could contribute to international and national policy processes, debates and public information services as well as forest management on the ground.

IUFRO World Congresses held at four to five year intervals have been recognized as excellent opportunities to bring together scientists and stakeholders from all parts of the world to discuss scientific and technical issues related to priority areas of forest research, policy and management. The Congresses are interdisciplinary and integrative in scientific content. As one of the world's largest global forest events, they have typically been attended by more than 2,000 participants. As non-political, international fora, these Congresses are open to participants from all nations to conduct the Union's business and to exchange of scientific, professional and technical information on forestry and forest related subjects. Host country selection has rotated among geographic regions, increasingly reflecting the distribution and interests of IUFRO's membership. Such geographic rotation also increases the opportunity to feature different forest ecosystems and forest management approaches in Congress excursions. Since 1992, five IUFRO World Congresses have been organized by hosts from countries in Europe, Southeast Asia, Northeast Asia, Australia, and North



Deforestation in the tropics. Photo © John Stanturf



Berlin city forests – communicating about forestry activities in urban forests. Photo © IUFRO

America. These Congresses clearly demonstrate the wide geographical range of IUFRO-member organizations.

IUFRO World Congresses are not only a showcase of forest research and fora for meeting of colleagues but the plenary sessions serve as the general assembly of the members of the Union. The opening sessions have served as plenaries where the IUFRO Presidents inform the participants regarding the most important issues that they believe require the attention of the members. IUFRO has been well served between Congresses by Presidents with high international reputation, scientific expertise and managerial capabilities. The quality of their work has been demonstrated by their responsiveness to political development, scientific needs and societal demands. In addition to fulfilling the general tasks and responsibilities associated with leading the Union, IUFRO Presidents during the last 25 years have worked towards attaining specific goals stemming from their personal backgrounds and socioecological experience.

IUFRO's leadership has understood that they must promote quality research, enhance the development of scientific capacity, and strengthen the administrative, financial and legal foundations of the Union for the benefit of its members. There has also been a need to expand strategic partnerships and cooperation both within the broader scientific community and with the non-scientific world. It was equally necessary to enhance communication within the scientific community and with stakeholders that utilise scientific knowledge. These concerns within IUFRO have propelled a process that culminated in the elaboration of strategies that continue to inform IUFRO's activities to the present day.

This chapter provides an overview of main developments in each strategy period with particular emphasis on the World Congresses held in the past 25 years. The "dialogue boxes" in this chapter feature the profiles of IUFRO Presidents including some of their views and achievements, beginning in 1992 – the time of the IUFRO Centennial celebrations. The texts for these summaries draw

from interviews with the Presidents. Specifically the Presidents were asked to consider the following themes: the role that IUFRO has played in their research careers, the key challenges facing forests and forestry during the time of their leadership, and the major experiences and achievements of the respective presidencies.

## 1992–2000 Responses of research to global forestry challenges: Taking IUFRO into the 21<sup>st</sup> century

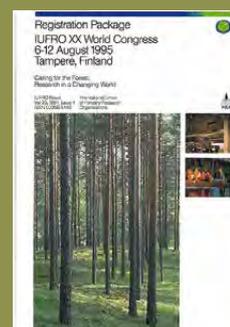
A few months before IUFRO's Centenary, heads of Governments met in Rio de Janeiro at the United Nations Conference on Environment and Development (UNCED) – commonly referred to as the Earth Summit (see Chapter

### XX IUFRO World Congress, Tampere, Finland, 1995: "Caring for the Forest: Research in a Changing World"

The IUFRO Congress in Tampere in 1995 provided a forum for about 3,000 participants from across the world to consider these challenges, especially as they impacted on forests and forestry. At this Congress, it was stated that the world had become "smaller" through more firmly linked economies and increasingly rapid channels of communication. Furthermore, the growing global population was straining the productive capacities and health of forests and associated ecosystems.

While the management of plantation and second growth forests had become more efficient, concerns related to natural forests had intensified. These concerns included: the rapid destruction, degradation and fragmentation of forests (directly by conversion to other land uses, unsustainable management, fire, pests and diseases, and indirectly by population pressures and macroeconomic policies); the increasing loss of biodiversity; the effects of air pollution and climate change; and the need for environmentally sound use of forests and forest products.

In light of these issues, the resolution adopted at the Congress in Finland aimed at maintaining IUFRO's primary role of networking among members. This would be by increasing the intensity and frequency of interdisciplinary collaboration within the Union, as well as with other organizations and groups outside the Union. The resolution also expressed the need to increase IUFRO member participation in Latin American, North African, Middle Eastern, Eastern European and Asian Pacific regions. To this end, innovative technology to increase data sharing and research efficiency, and to optimize timely delivery of research information, was considered a priority.



Congress Registration Package.

## Forestry research from a tropical perspective – new horizons

“... but I suppose as a forester, I love the forest and have spent many years of my career doing forest inventory, camping in virgin forests all over Peninsular Malaysia and Sabah. Those times were among the most enjoyable of my life. I am deeply concerned about future generations; they should also have the opportunity to enjoy the wonders of our forests.”

Salleh Mohd Nor spent most of his professional life advocating and protecting nature and natural resources in Malaysia and around the world. He brought to IUFRO his extensive experience in tropical forestry, and thus strengthened IUFRO's international status. In his friendly and outspoken way, he opened the doors to IUFRO in Malaysia and tropical Asia.

One of the foremost concerns he had was the low prestige and support of forestry research in developing countries. He considered the lack of political support and funding as well as the lack of qualified human resources to be major barriers to effective research in these countries. In this context, he strongly promoted the activities of IUFRO's Special Program for Developing Countries (SPDC). He initiated the IUFRO Development Fund and the concept of IUFRO Chapters. He also established the Asia Pacific Association of Forestry Research Institutions (APAFRI) with the aim of enhanc-

Salleh Mohd Nor,  
IUFRO President 1991–1995



ing and supporting IUFRO and the SPDC in the Asia Pacific region.

Salleh was an excellent communicator who further developed harmonious contacts with the Food and Agriculture Organization of the UN (FAO) and the Consultative Group for International Agricultural Research (CG) System. His involvement in IUFRO not only benefitted his home institution, the Forest Research Institute of Malaysia (FRIM), but also the quality of his international affiliations. These affiliations played a key role in bringing the XXI IUFRO World Congress to Kuala Lumpur, Malaysia, in 2000. Just as Salleh was the first IUFRO President from a developing country, this was the first time in IUFRO's history of over 100 years that its World Congress was held in a developing tropical country.

“According to the different role forests are playing in developed and developing countries”, Salleh stated that “the effects of public recognition and influence of IUFRO World Congresses to the hosting country vary, largely depending on the level of forest education and public awareness about forests”. As an overall message Salleh emphasized the importance of acknowledging the role that forest research plays. This needs to be reflected in the international as well as on national and local agendas, and is crucial for the survival of mankind.

6). The President of IUFRO at that time, Salleh Mohd. Nor, considered it appropriate for the Union to consider the “follow-up” activities of the Summit. He also sought to find ways to ensure that forestry was given due attention and that research would always be of critical importance to achieving the aspirations of the Earth Summit. The question arose as to whether IUFRO could respond effectively to the challenges described at the Summit.

As is perhaps the case with any research network, responding effectively to the demands of the international agenda was not always an easy task. The structure of IUFRO - a network of scientists working together informally - presented a challenge in adequately representing the broad and diverse forest science community in the international policy arena. Relatively new subjects of study had also emerged as important during this period. For example climate change, biodiversity conservation, land degradation, new wood and non-wood goods and services, sustainability criteria, and the importance of the private sector in forestry were emerging fields. These fields required the involvement of new professional specialities.

These outcomes of the Tampere Congress highlighted a need for some modification to the established work

of IUFRO. During the FAO World Forestry Congress in Turkey in 1997, IUFRO President Jeffery Burley (1996-2000) highlighted a suite of challenges which pertained to forestry research globally, but which were also relevant for Europe in particular. Professor Burley stated that forestry research and forestry science had to (1) be timely and relevant to current and foreseen problems, (2) reflect an interdisciplinary and integrated process, spanning from the identification of a problem to the application of the solution, (3) take full account of existing information, (4) be of high performance and able to demonstrate benefits to society, and (5) be able to be fully accountable to funding agencies, policymakers and the public.

IUFRO responded to these challenges by adapting its scientific structure; establishing new Task Forces and initiatives; increasing inter-disciplinary meetings and projects; participating in inter-Agency policy processes; and producing policy-relevant publications. Already 1996, the most significant changes were made to IUFRO's structure subsequent to the XV IUFRO World Congress in 1971. At the 1971 Congress, IUFRO's organizational Sections had been transformed into six scientific Divisions. At the XX IUFRO World Congress



IUFRO World Congress in Tampere, Finland, 1995 – auditorium. Photo © IUFRO



IUFRO World Congress in Tampere, Finland, 1995 – poster session. Photo © IUFRO

in 1995 in Tampere, Finland, approval was given to reorganize Divisions 1 and 2 into four Divisions (1, 2, 7 and 8). This reorganization was necessary because of the Union's growth and activity, which had imposed an increased workload on the existing Division Coordinators. IUFRO's structure was thus changed to include eight Divisions composed of 65 Research Groups and 203 Working Parties - a total of 268 Units.

The new Coordinators, and indeed the Coordinators of all Divisions, made great efforts to ensure minimum duplication among Research Groups, the elimination of inactive Units, and a wide distribution of officeholders at all levels, across diverse geographies. Another administrative change that had implications for the visibility and understanding of the Union was a simplification of Research Unit titles and leadership titles. The classifications "Subject Group" and "Project Group" were abolished and the single name "Research Group" came into use.

### XXI IUFRO World Congress, Kuala Lumpur, Malaysia, 2000: "Forests and Society: The Role of Research"

The XXI IUFRO World Congress took place in Kuala Lumpur, Malaysia, from 7 to 12 August 2000. This was the first IUFRO World Congress to be held in a developing country. The Congress focused on forest and forestry related issues moving into the 21st century; particularly on the relationships between sustainable forest management and water, fire, genetic resources, pests and pollution, technology, and society. Approximately 2,000 scientists from 93 countries attended 179 technical and business sessions, nine In-Congress tours, and 12 Post-Congress excursions. IUFRO members from the ASEAN region in particular were able to benefit by having a World Congress in their region.

Keynote speakers highlighted new visions for forestry and forest research at the turn of the new millennium, and stressed the close linkages between forests and society (reflected in the the Congress theme). The Congress Resolutions covered pertinent forestry issues including: the role of forests and trees in human welfare; the interface of science, policy and industry; the role of IUFRO in intergovernmental processes; research and the impacts of forestry activities by networking and interdisciplinary processes; research and development of information access and supply through the Global Forest Information Service (GFIS); and the enhancement of research capacity through the encouragement of the role of women and disadvantaged researchers in forest science.

As stated above, another major challenge was to have a voice and impact in international fora. In 2000, IUFRO made significant contributions to the Intergovernmental Forum on Forests, to the preparations of its successor (the United Nations Forum on Forests), and to FAO's Committee on Forestry. President Burley and several other members of IUFRO's Executive Board gave keynote addresses, invited speeches and technical papers, and represented the Union at major conferences of other organizations. These conferences included the Helsinki Process (later on referred to as Forest Europe) and the Montreal Process (on criteria and indicators for sustainable forest management in temperate and boreal forests in 12 countries outside Europe). The International Consultation on Research and Information Systems in Forestry (ICRIS), an Austrian and Indonesian initiative in support of the programme of work of the Intergovernmental Forum on Forests (September 1998, Gmunden, Austria) was an event of particular significance. This was the first time that IUFRO contributed directly to an international policy process, and it most certainly was not the last (see Chapter 6).

Also the Kuala Lumpur Congress had a profound impact on IUFRO. IUFRO's International Council decided to change one word in the English name of IUFRO: "Forestry" became "Forest." This change reflected IUFRO's wider appeal to biophysical and social scientists

## Taking IUFRO into the 21<sup>st</sup> century – “People need forests”

“If IUFRO did not exist, then it should be invented. However, research should not be conducted in a vacuum. Research is of no use unless it is applied— only then does it have some benefit. The process chain is research, application, benefit.” [Interview for Belantara, a daily bulletin published at IUFRO WC 2000]

When Jeffery Burley assumed the office of IUFRO President, he brought with him the knowledge gained from a rich variety of prior professional experiences. Having worked in Africa, Asia, Latin America and in vulnerable forest regions across the world, he was able to bring IUFRO into greater dialogue with tropical countries. He was also able to promote the Special Program for Developing Countries (SPDC). When asked about the viability of research in developing countries, Burley said that not all countries possess adequate resources for research. He further observed that often, “it is more a lack of will in terms of necessary political support,” and he noted that this frequently “translates into a lack of will for financial support.” Speaking from experience, he commented that in times of financial difficulty, “it is the research budget that is the first to be slashed or obliterated.”

Burley further explained that many factors influence the success of research organizations. They require strong, creative and supportive leadership at all levels; encouragement of staff and recognition of successful outcomes; political and financial support from the organization and policymakers; appropriate equipment; and the ability and willingness of staff at all levels to communicate their work for a range of audiences -- including peers, administrators, media, and the public.

Professor Jeffery Burley,  
IUFRO President 1996–2000



For Burley, becoming IUFRO President “had always been a professional aspiration.” Reflecting upon five decades spent in the forestry sector, he called attention to the themes selected by IUFRO through the years for its World Congresses. As suggested by their titles — from “Forestry in a World of Limited Resources” in 1976 to “Linking Technology and Tradition” in 2005 — it is clear, he said, that continuity and change have both played an important role in IUFRO’s recent history. Significant transformations to forests, and forestry, have taken place, and at the same time, people’s need for forests remains as constant as ever.

One of the most important trends, he noted, has been the growing political awareness of forestry. Likewise, there has been increased public awareness of the ecological importance of forests. In this context, the change of IUFRO’s name from “forestry” to “forest” research organizations initiated during his Presidency was meant to embrace a larger community and to duly recognize the environmental and social benefits of forests. It was also intended to stimulate organizations which were not traditional forestry institutions, to become involved in IUFRO.

In his tenure as President, Burley emphasized the importance of providing adequate means of publishing research findings. He considered IUFRO’s proceedings to be valuable but not sufficiently visible. There was a parallel need to convey scientific information to participants, and he proposed that each scientific output be published in three forms: (1) peer reviewed publication(s), (2) information for politicians and (3) material for the press and the public. His efforts resulted in the creation of the IUFRO World Series and Research Series (in collaboration with CABI).



Discussing agroforestry activities with the participation of women (India 2002). Photo © IUFRO

concerned with forests. The Congress significantly contributed to increasing IUFRO membership in the Asian region, and to shaping the priorities of the Union in the years to come.

The year 2000 also marked the first time in IUFRO’s history that gender issues were formally addressed. For the most part, gender research had been recognized in forestry as a legitimate scientific discipline since the 1970s. But it was not until the turn of the millennium that a gender perspective was applied to any of IUFRO’s empirical or theoretical work. Additionally, there was a lack of knowledge and information regarding the role of women in forestry. Importantly, the new IUFRO Research Group 6.18.00 “Gender and Forestry” was established in 2000. The Group promoted an awareness of how management and use of forest resources affect (and were affected by) gender, and it was celebrated as a highly useful development.

## IUFRO, the Advocate of Forest Science – IUFRO Strategy 2001–2005

Several major trends affected the future of the global forest sector at the beginning of the new millennium. Deforestation, forest degradation and loss of biodiversity had continued at an alarming rate. A shift of timber production from the Global North to the Global South was occurring, and this involved a parallel shift from natural and semi-natural forests to intensively managed plantations as a source of industrial wood. Environmental and social concerns gained greater significance. These changes in the forest sector presented challenges for forest researchers.

During the 20<sup>th</sup> century, IUFRO had served its members and the forest research community primarily by providing scientists with a global network and a forum to

new millennium, IUFRO's leadership decided to make itself more widely accessible to those outside the scope of traditional forestry research. Worldwide economic and social changes, especially in industrialized countries, were leading to decreased emphasis within the field of forest management that had been on timber production. Rather, there was an increased emphasis on aspects of forests relating to social welfare, ecology and global environment. These changes highlighted IUFRO's decision to broaden its scope to more accurately reflect issues affecting forests globally.

IUFRO's leadership believed that the Union should be regarded as a leading advocate of forest science, with a mission to promote the coordination of, and the international cooperation in, scientific studies that embraced a



Plantation forestry. Photo © Geoff Roberts

### Celebrating 110 Years of IUFRO

On 9 October 2002, a Symposium on “Forest Research and Concepts in a Changing World” was held in Maria-brunn, Vienna. It was jointly organized by IUFRO and its host organization, the Austrian Federal Forest Research Centre (BFW), to mark the 110th anniversary of the Union. IUFRO President Risto Seppälä welcomed more than 100 participants who came from 20 countries in three continents. These participants represented forest research institutions and international organizations such as the United Nations Forum on Forests, the United Nations Commission for Europe, the International Plant Genetic Resources Institute, the Confederation of European Forest Owners, and the Liaison Unit of the Ministerial Conference on the Protection of Forests in Europe. The symposium also provided an opportunity to present the new IUFRO Headquarters in Mariabrunn to an international audience.

present research results. In the 21<sup>st</sup> century, these services were insufficient to meet the challenges facing forests and forestry. Hence, President Risto Seppälä made it a priority of his presidency to transfer existing scientific knowledge to decision-makers and other stakeholders. This would ensure that new knowledge could be incorporated into forest policy and practice.

At the outset of a new five-year period in 2001, the IUFRO Board accepted a new “Philosophy and Strategy” that emerged from a 1999 Review Panel chaired by former Vice-President Jim Cayford. For the first time, it stated IUFRO's Vision and Mission and also listed the key areas through which the defined objectives could be attained. In brief, IUFRO had made a decision to modernize the organization, revise its financial management, strengthen solidarity among its members, and to establish a new image for itself. As a reflection of this effort, a new logo was designed and accepted in 2001.

However, the changes in IUFRO extended far beyond its visual appearance: IUFRO has always been an organization with a long-standing tradition in forestry. In the

broad spectrum of forest-related research. They believed that these goals could be achieved by improving the world's existing network of forest science cooperation, and by promoting international dialogue and the dissemination of scientific knowledge.

In 2000, the United Nations Forum on Forests (UNFF) was established as a subsidiary body of the United Nations Economic and Social Council. One of the cross-cutting items on UNFF's agenda was to address forest-related scientific knowledge. In addition to UNFF, three other United Nations Conventions dealt with forest-related topics to a some extent. These included the Conventions on Biological Diversity (CBD), Climate Change (UNFCCC) and Desertification (UNCCD). Through its well established structure and expertise, IUFRO was able, with increasing frequency, to engage with a diversity of issues that were arising in these international processes and to provide relevant scientific knowledge to decision-makers.

A milestone was reached in 2003 when IUFRO was accepted as member of the Collaborative Partnership on Forests (CPF; see Chapter 6) after then-President Risto

## Contributions to international and national policy processes

“When I accepted the position of IUFRO President, I considered it important that we continue to open up-- both within the scientific community and with policymakers and society at large. I have the impression that we have succeeded very well in bringing our Union and forest science to a high level of international recognition.”

During the first years of the new millennium, IUFRO took several steps to improve its activities at the global science-policy interface. The steps taken at the time have influenced the development of the Union, and have enhanced its relevance for international forest policy. Seppälä played a decisive role in strengthening IUFRO's involvement in international policy processes, and guided the process of IUFRO's joining the Collaborative Partnership on Forests (CPF). He was one of the main advocates of the establishment of the Joint CPF Initiative on Science and Technology, now the Global Forest Expert Panels (GFEP).

Seppälä strongly believed that IUFRO must continue to open the door more widely to those outside the traditional parameters of forest research. This included groups in both research and user countries which assumed important roles in the forest sector and with whom IUFRO had not yet partnered. Seppälä supported collaboration and initiated several agreements within and outside IUFRO. Under his presidency IUFRO's first Strategic Plan

Professor Risto Seppälä,  
IUFRO President 2001–2005



was implemented and a new one for the period 2006 to 2010 was prepared.

In his words: “Whatever is decided upon, whatever is done or carried out, is really a joint decision because of the input and contribution by a team of people prior to the actual culmination of the fact.” He emphasised the importance of teamwork as the “... way we derive the best of expertise from all over, from various aspects, from numerous regions, from many countries and the best way to produce new findings and for IUFRO to give out invaluable input to be offered for the betterment of the world at large”.

Seppälä stated that his vision was for IUFRO to become a “clearinghouse” for forest research information and expertise. “This may be achieved through direct links to all individuals who act in and are related to research units.” He declared that “after having relevant information on a specific field of expertise, we should be able to act as a clearinghouse and respond to the requests of clients when expert knowledge is required or a solution is found for a research problem. If IUFRO can be seen as this sort of service provider, it will greatly enhance visibility. This in turn would increase IUFRO's appeal to sponsors and clients, which is directly linked to enhanced financial opportunity.” [R. Seppälä in Belantara interview IUFRO World Congress 2000]

Seppälä had successfully demonstrated the unique value that would be added to the partnership by IUFRO. Its membership in the CPF has enabled IUFRO to systematically interact with the most important international forest-related partners, and has also allowed IUFRO to significantly increase its impact on forest-related policy processes.

The increasing visibility of IUFRO in international fora led President Risto Seppälä to note that IUFRO's participation in political processes would not have been possible without that strong base provided by the Union's core activities. However, he also pointed out that IUFRO needed to more effectively translate the scientific information it had gained to decision-makers and policymakers. Failure to do so would imply that its research findings would be undervalued.

During 2001–2005 the scientific work of IUFRO was carried out by eight Divisions including approximately 71 Research Groups and 214 Working Parties. The Divisions and their Units continued to represent the core of IUFRO's scientific activities. In an effort to expand the scope of IUFRO's activities, nine Task Forces were established to advance inter-disciplinary research on emerging

key issues. These Task Forces were intended to operate on a temporary basis and they would not duplicate or compete with the work of the Divisions. In contrast, they would seek to provide overviews of the selected topics and to establish mechanisms to encourage research including collaboration with non-IUFRO organizations and scientists (see Chapter 4).

In addition, IUFRO promoted scientific cooperation and information sharing not only at a global scale, but also through a variety of national and regional mechanisms. These for example included the Forestry Information Network for Latin America and the Caribbean, and the Forestry Research Network for Sub-Saharan Africa. In 2001, an initiative known as “With IUFRO into a Common Future” was launched. This allowed IUFRO members in high-income countries to establish “twinning” arrangements with members from low-income countries. As a result, several partnerships between member institutions were developed.

Within these first years of the new millennium, IUFRO also had to confront the challenge of many new organizations entering the field of forest research. According to a European Cooperation in Science and Technology

### **XXII IUFRO World Congress, Brisbane, Australia, 2005: “Forests in the Balance: Linking Tradition and Technology”**

The Brisbane Congress held on 8-13 August 2005 provided an excellent opportunity to discuss the research community's latest results, and to examine the contribution of science to forest policy and management. Importantly, it also initiated actions for the future. At this Congress, over 2,100 participants from 90 countries presented their research work. They did so in approximately 700 oral presentations, and an additional 700 poster presentations. The scientific program clearly demonstrated the progress made by research in helping to solve forest-related problems. These included problems of concern to forest stakeholders, policymakers, managers, educators and the general public. The Congress also clearly reflected the shift of IUFRO's research priorities over the past years. This was a transition from more technical issues to environmental issues and increasingly, to social issues.

The issues raised in the two Resolutions adopted at the Congress, “Promoting Global Cooperation in Forest-Related Research” and “Promoting Science for Decision-making”, provided important guidance for the 2006-2010 Strategy (see below). The first Brisbane Resolution highlighted the readiness of scientists to focus their research more strongly on the key issues of society and the global environment. The Resolution also conveyed the scientists' interest in responding to the information needs of the different stakeholders, and in strengthening cooperation with other scientific disciplines. The second Brisbane Resolution was directed to the world outside of the forest science community. It reflected IUFRO's commitment to provide relevant scientific findings more regularly as inputs to inform policy decision-making, and to translate present research results into appropriate forms (so as to be readily understood by policymakers and other stakeholders). At the same time, the Resolution noted that Science could only live up to its expectations relating to research and education if sufficient resources were available to make this possible.

(COST) study published by the European Forest Institute (EFI) in 2002, there were more than a 1,000 institutions in Western Europe alone, dealing with forest-related research. Out of these, less than 200 were IUFRO members. In other parts of the world, the situation was likely to be similar. It was clear that many forest scientists no longer worked in traditional forest research organizations. The need and potential to expand IUFRO's membership base to better reflect the broadened scope of forest research had been recognized also in an independent review carried out in 2004.

This independent Review also indicated that the steps taken in this period, especially IUFRO's admission as a member of the CPF, played an essential role in positioning the Union at the science-policy interface. Nevertheless, there was still a need to further strengthen the science-policy interface and provide scientific information and expert advice for international policymaking. The report of the Review panel also provided an important basis for the development of the IUFRO Strategy 2006-2010.

### **Global Science Cooperation for the Benefit of Forests and People: IUFRO Strategy 2006–2010**

In the early years of the new millennium, the environment within which IUFRO operated was evolving significantly. The international forest policy agenda becoming increasingly fragmented, requiring cross-sectoral platforms for cooperation. However, IUFRO's existing structure was not fully consistent with the realities facing the forest sector. IUFRO clearly needed to broaden the scope of its activities.

From IUFRO's perspective, it became critical to articulate the value of forest research in a broad social context.

More than ever before, holistic research related to forests and trees had to include the traditional biophysical as well as other disciplines. Research needed to take into account social, economic, environmental, cultural and political dimensions. Forest research that was interdisciplinary and

### **Regional Congresses in Latin America and Europe**

Forest researchers from 15 countries in the Latin American and Caribbean region and from 13 countries outside the region, gathered in La Serena, Chile from 23-27 October 2006. At this meeting, they exchanged latest research results on the interaction between forests, the environment and society in Latin America and the Caribbean. This conference, the Second IUFRO Latin American Congress (IUFROLAT II), was dedicated to “Forest Research in the Region of Latin America and the Caribbean: Supporting Forests and People through Networking”. In the La Serena Declaration, the increasing importance of forests and trees and their multiple goods and services was emphasised.

The IUFRO Regional European Congress was dedicated to “Forests and Forestry in the Context of Rural Development” and was held on 6-7 September 2007 in Warsaw, Poland. This Congress was held in conjunction with the Annual Conference of the European Forest Institute. The Congress discussed the effects of global issues and trends, such as climate change, loss of biodiversity, and increasing demand for bioenergy on rural communities worldwide. Participants also addressed the potential of forests and forestry for generating income and employment for rural communities and for mitigating climate change in an emerging bio-based economy. At the Congress, it was noted that non-wood products, environmental services, and social values were not sufficiently addressed by forest science.

## Continuity and strengthening of science collaboration – time of consolidation

“Serving IUFRO as President for the past 5 years was such a great learning experience and at the same time challenging with the issues of deforestation and climate change.”

Don K. Lee was the second person from the Asia region to serve as IUFRO President. As Lee engaged with the key issues of his time, he placed particular emphasis on deforestation and reforestation problems. The Keep Asia Green publication series, which was established during his tenure as President, focused on forest rehabilitation in Asian countries. Its contributors observed remarkable outcomes of forest landscape restoration in Southeast Asian regions (tree plantation in semi-arid areas in Myanmar and Cambodia), Northeast Asia (poplar plantation in desert areas of China), and Central Asia (green-belt establishment with tree plantation in Mongolia and walnut/juniper/spruce plantations in Kyrgyzstan). Don K. Lee also helped secure funding for capacity development and information exchange (through the IUFRO Global Forest Information Service, GFIS) in Asia, and with other regions. In addition, he presided over the IUFRO World Congress 2010 in Seoul, Republic of Korea, in an exemplary fashion. The Congress attracted more than 3000 participants, and the President of the Republic of Korea attended the opening ceremony.

As a scholar Don K. Lee was specifically interested in forest education, and considered forestry to be both a multifaceted science and an art. In his words: “Today,

Professor Don Koo Lee,  
IUFRO President 2006–2010



forest education seems to take up new fashions such as biotechnology, recreation, healing, and wildlife management more eagerly. If basic topics, including the enhancement and increase of forest resources are strengthened in education and research, new trends can be addressed more easily. In any case, each country or countries with similar climatic regions should develop their own strategic directions of education and training programs.” During the period 2006–2010, Lee advocated for capacity building through education, training, and collaborative research projects.

Lee considered the support of young people to be of high importance. In his talks as President, Don K. Lee used to mention the “5 I’s” – Invite, Inform, Involve, Ignite and Influence – particularly when addressing forestry students and young scientists. He observed that “being educated and doing research are not only for one’s own development and benefit. It is also for the well-being of others, including our neighbors and those who are excluded from society. Forests and forest products provide us with a large number of goods and services in a sustainable way. However, forests and their benefits are not only there for current generations to use. Therefore, we must not over-use those benefits and services, but rather try to save and protect them. We should pay even more attention to increasing forest resources and keeping forests healthy and strong!”

policy-relevant had greater potential to attract political and financial support both nationally and internationally.



IUFRO Headquarters team at 2<sup>nd</sup> IUFROLAT II in La Serena, Chile, 2006 (from left): Eero Mikkola, Judith Ströger-Goiser, Gerda Wolfrum, Peter Mayer, Don Koo Lee (IUFRO President), Risto Seppälä (Immediate Past President), Michael Kleine (front left), John Parrotta (Task Force Coordinator). Photo © IUFRO

These considerations led IUFRO to formulate, approve and implement its five-year Strategy for 2006–2010. The Strategy included an expansion of IUFRO’s Mission to incorporate the well-being of forests *and* the people who depend on them. It formulated goals and objectives for IUFRO for the next five years and also outlined the respective actions for its implementation. More specifically, the Strategy defined the goals of strengthening research for the benefit of forests and people, expanding strategic partnerships and cooperation, and communication and strengthening links with the scientific community as well as with students, policymakers and society at large. This was the first time in IUFRO’s history that students were addressed explicitly in the Strategy and invited to take part in its implementation. IUFRO President Don Koo Lee considered the IUFRO Strategy to be the centrepiece of IUFRO’s work during his term.

The period 2006–2010 was characterized by a continued high number of IUFRO-sponsored events. Particular emphasis was placed on strengthening science collaboration at the regional level. While Regional Congresses had

### XXIII IUFRO World Congress Seoul, Republic of Korea, 2010: “Forests for the Future: Sustaining Society and the Environment”

The XXIII Congress held on 23–28 August 2010 in Seoul attracted more than 2,700 participants from 93 countries. The President of the Republic of Korea, Lee Myung-bak, gave a welcome address to the delegates during the Opening Ceremony. The Congress explored a broad range of current and emerging issues of great importance for the future of forests and their capacity to provide the environmental, economic, social, cultural, and health benefits that sustain rural and urban societies worldwide. The sessions were dedicated to the following themes: forests and climate change; biodiversity conservation and sustainable use of forest resources; forest environmental services; Asia's forests for the future; forest products and production processes for a greener future; emerging technologies in the forest sector; frontiers in forest and tree health; forests, communities and cultures; and forests, human health and environmental security.

During the historic International Year of Biodiversity, the IUFRO Congress Resolution committed IUFRO to: expanding and deepening IUFRO's work at the science-policy interface; strengthening forest monitoring activities; improving communication and increasing visibility and accessibility of research findings; improving IUFRO's capacity to expand its membership and funding base; and to promoting high-quality forest-related research and enhancing IUFRO's capacity for interdisciplinary cooperation.



2010 IUFRO World Congress in Seoul, Republic of Korea. Photo © Congress Organizing Committee



IUFRO President Don Koo Lee and FAO ADG Jan Heino at a moderated session to celebrate the 60th anniversary of signing a Memorandum of Understanding. Photo © WFC 2009

been held previously<sup>3</sup>, the Board decided to make them a regular activity in between World Congresses.

The strengthening of partnerships and collaborations was another important facet of the 2006–2010 IUFRO Strategy. IUFRO continued to develop and expand its activities in the framework of the CPF. In 2007, Immediate Past President Risto Seppälä, Deputy Executive Director Alexander Buck and the Senior Forestry Advisor at the Ministry for Foreign Affairs of Finland, Markku Aho, developed a proposal for a new mechanism designed to support forest related intergovernmental processes. The mechanism did so by assessing available scientific information and producing reports on issues of high concern to policy makers. The proposal for a “Joint Initiative on Science and Technology” was formally adopted as CPF Initiative in 2007. The initiative was later renamed to “Global Forest Expert Panels” (GFEP) and is globally recognized by scientists and policy makers (for more information, please see Chapter 5).

The year 2007 also marked the beginning of IUFRO's active participation in the Conferences of the Parties of the United Nations Climate Change Conference (UNFCCC).

In parallel with the UN Climate Change Conferences, “Forest Days” were organized by CIFOR and co-hosted by CPF partner organizations, including IUFRO. They were convened in order to inform the discussions related to forests, in particular the deliberations on reducing emissions from deforestation and forest degradation (REDD+). As a member of CPF, IUFRO formally co-hosted Forest Day 2 in December 2008 in Poznan, Poland, Forest Day 3 in December 2009 in Copenhagen, Denmark, and Forest Day 4 in Cancun, Mexico. IUFRO also increased its participation in meetings of the Convention on Biological Diversity (CBD), and IUFRO officeholders contributed to a number of *Ad Hoc* Technical Expert Groups (AHTEG) established by the CBD.

<sup>3</sup> The First Latin America Congress IUFROLAT “El Manejo Sustentable de los Recursos Forestales - Desafío del Siglo XXI” was held in Valdivia, Chile, 22–28 November 1998, and the IUFRO European Regional Conference “Forestry Serving Urbanised Societies” was held in Copenhagen, Denmark, 27–30 August 2002.

In 2009, IUFRO participated in FAO's XIII World Forestry Congress, "Forests in Development: A Vital Balance" in Buenos Aires, Argentina. Two IUFRO sessions in particular attracted several hundred participants. These were the IUFRO Directors' Forum discussing the issue of "Forest monitoring as a basis for political decision-making"; and the IUFRO Symposium on "Emerging Issues in Forest Science." Participants of the World Forestry Congress celebrated the 60<sup>th</sup> anniversary of signing a Memorandum of Understanding by FAO and IUFRO.

In pursuing the strategic goal of expanding the role of social sciences in IUFRO and of strengthening links with the broader scientific community, a major adjustment was made to the structure of IUFRO in 2009: Division 6 "Social Aspects of Forests and Forestry" was split and a new Division 9 "Forest Policy and Economics" was created (see Chapter 4). This structure change significantly enhanced the awareness of social aspects of forest research and facilitated the involvement of scientists from related disciplines in the network.

### Forest Science for the Benefit of Forests and People: IUFRO Strategy 2011–2014

In the first decades of the 21<sup>st</sup> century the focus of forest research continued to shift from a more inward looking perspective within the boundaries of forest science disciplines to a more open perspective. Research became more complex and many of the issues affecting forests could not (and still cannot) be solved by the forest sector alone. Global issues such as climate change, biodiversity, bio-energy, and water availability gained further prominence on the international policy agenda and were of strong interest to policymakers and groups outside the forest sector.

This broader perspective of the role of forest research was clearly reflected in the IUFRO Strategy 2011-2014 "Reading the Pulse of Forest Science for the Benefit of Forests and People." This Strategy emerged from an independent review that had been carried out in 2009 for the purpose of assessing IUFRO's scientific structure, identifying challenges and opportunities, and providing guidance on how to position IUFRO to better fulfil its future mission.

For the first time the Strategy 2011-2014 addressed research and institutional Goals at the same time. The research goals focussed on the following six thematic areas: Forests for People; Forests and Climate Change; Forest Bioenergy; Forest Biodiversity Conservation; Forest and Water Interactions; and Resources for the Future. The three institutional goals adapted from the previous Strategy reflected IUFRO's commitment to strengthen research and expand IUFRO's capacity for interdisciplinary cooperation; to strengthen coordination within the scientific community and increase visibility of science-based research findings; and to further strengthen IUFRO's work at the science policy interface.

One of the substantial challenges in implementing the Strategy was to promote inter-Divisional activity. This was consistent with the fact that the boundaries between disciplines in virtually all fields of research were increasingly porous. The six research themes of the IUFRO Strategy were created with the intent to guide inter-Divisional and interdisciplinary science collaboration in IUFRO. A major step in working with the six research themes was taken at the XXIII IUFRO World Congress in 2010 when the IUFRO Board approved the proposal by IUFRO President Niels Elers Koch to set up six corresponding Task Forces and engage internationally renowned experts to co-ordinate their activities. Two additional Task Forces were established; one on International Forest Governance and one on Education in Forest Sciences. In addition, the

#### Regional Congresses in Africa and Latin America

The first Regional Congress ever organized on the African continent took place from 25-29 June 2012 in Nairobi, Kenya and brought together about 350 participants from 45 countries, including 32 in Africa. Organized by IUFRO and FORNESSA, the Congress theme was "Forests and Trees: Serving the People of Africa and the World." It was jointly hosted by the World Agroforestry Centre (ICRAF) and the Kenya Forestry Research Institute (KEFRI). The Congress concentrated on issues relating to the conservation, sustainable management, and use of forest and tree resources in the African region, with the overall aim of showing how forest science influences livelihoods, environmental management and development in Africa. It provided an opportunity for forest scientists, forest managers and policymakers from Africa and around the world to share and exchange information and experiences on some of the critical issues affecting forest and wildlife resources in Africa. At the end of the Congress, the Nairobi Resolution, which addressed key needs for enhancing goods and services from forests and trees in African landscapes, was presented to the participants.

The Third Regional Congress in Latin America (IUFROLAT III) was jointly organized by IUFRO and the Tropical Agriculture Research and Higher Education Centre (CATIE). Around 600 scientists and decision-makers discussed forest ecosystem services, and their role in landscape management. They also discussed related research needs in the region. IUFROLAT III was the largest regional congress of IUFRO at the time, and as such was a milestone in the participation of Latin American scientists in IUFRO and its Divisions, Research Groups and Working Parties. It attracted delegates from many universities and research centres from within and outside the region, and provided a platform for intensive dialogue during and in between sessions. Agreements were reached and proposals made for an integral cooperation with partners from both within the region and other parts of the world. IUFROLAT III was a demonstration of the power of international cooperation in all directions: between North and North, North and South, and South and South.



Audience at first IUFRO-FORNESSA Regional Congress in Nairobi, Kenya, 2012. Photo © IISD/Mike Muzurakis



Field trip during IUFROLAT III, 2013. Photo © IUFRO

term of the Task Force on Forests and Human Health was extended until 2014.

While the establishment of Task Forces created new and additional networking opportunities, meetings and conferences sponsored by IUFRO's nine Divisions and their Research Groups and Working Parties continued to constitute the main mechanism for science collaboration in IUFRO. In 2012, IUFRO sponsored a record number of 97 meetings. Based on the positive experiences gained in the previous period, IUFRO continued to promote science collaboration also at a regional scale. From 2011 to 2014 two regional congresses were organized to implement the mission and aims of IUFRO.

The IUFRO-FORNESSA Regional Congress for Africa and the Third IUFRO Latin American Congress demonstrated the importance of scientific networking platforms in these regions. Regional congresses also play the important role of involving more member organizations and scientists from these regions in global science collaboration through the IUFRO network. However, the differences in research capacities and resources available for forest science around the globe continue to constrain the participation of scientists from economically disadvantaged countries in IUFRO meetings and activities. These differences also pose challenges to sustaining the positive momentum created by IUFRO Regional Congresses. Against this background, IUFRO Headquarters undertook strong efforts to further enhance the activities of IUFRO's Special Programmes, Projects and Initiatives related to networking, capacity building and scientific research. The project portfolio of IUFRO-SPDC, which was renamed to Special Programme for Development of Capacities (please see Chapter 5), saw a significant increase in both activities and funding.

Despite an increasingly fragmented international forest-related institutional landscape, IUFRO's membership remained relatively stable, reflecting the continued relevance of the network. The significant growth in the number of associate (i.e. individual) members which had

been observed in the previous inter-Congress period continued. Although IUFRO membership continued to be strongest in Europe and North America, some progress was made towards expanding membership in Africa, Asia and Latin America. IUFRO members now came from 122 countries, the largest number in the history of IUFRO so far. The number of IUFRO officeholders increased in all regions. Some progress was made in increasing the share of female officeholders. However, there remains a great need to improve the gender balance in IUFRO.

While forest-focussed research and educational institutions continued to constitute the core of IUFRO's membership, an increasing number of institutions and individuals from forest-related disciplines joined IUFRO in the period 2011 to 2014. A survey carried out by the IUFRO Directors' Forum among heads and directors of IUFRO member organizations in spring 2014 indicated that about one third of the responding members had changed their names within the previous ten years. Their new names mainly reflected the expanded scope of these institutions beyond forest research towards broader research priorities, or a shift from applied science to general science. This development underscored the continued need to increase IUFRO's visibility and cooperation with related disciplines and to widen its member base and pool of officeholders in order to maintain (and possibly increase) its membership in the longer term.

The United Nations General Assembly proclaimed 2011 as the International Year of Forests under the theme "Forests for People." Forest-related organizations and stakeholders were encouraged to highlight forest issues at all levels (from local to international) and raise awareness on the ecological, economic and social dimensions of forests. This was an excellent opportunity for IUFRO President Niels E. Koch to increase the visibility of forest science and promote science-based knowledge to a wider audience in line with IUFRO's strategic goals. IUFRO enhanced its communication activities

## “The” global network for science cooperation – a win-win solution

“Never before in history has society demanded such a variety of products and services from the forest.”

During Niels Elers Koch's presidency, the discourses, interests and challenges related to forests were broader, more diverse and more cross-sectoral than they had been in the past. It was clear that forests had to be seen as an element of larger settings, and the task of finding solutions beyond traditional forestry became a necessity.

Under the leadership of Koch, IUFRO worked to serve the needs of decision-makers as well as researchers. It also aimed to ensure interdisciplinarity by implementing Task Forces and engaging at the interface of science and policy. The number of individual IUFRO members increased, and this reflected the involvement of more researchers outside the forest sector, more particularly of social scientists.

He considered the two regional congresses organized in developing countries during his presidency (Kenya, Costa Rica) to be an additional demonstration of the importance of the IUFRO-network.

Koch was a fervent promoter of scientific networking. He never tires of telling the story of his own first encounter with IUFRO, which took place when he participated in the 1976 World Congress (in Oslo, Norway) at the age of 25.

In his words: “That changed the rest of my life – for the better. IUFRO provided me with a global network of the best researchers in the area I studied. I also met with colleagues who became some of my best and everlasting friends. And I acquired a much better understanding and

Professor Niels Elers Koch,  
IUFRO President 2011 – 2014



appreciation of other cultures through IUFRO. I am sure that IUFRO can do the same for forest scientists today.”

“The global network for forest-related research,” IUFRO offers excellent opportunities to exchange knowledge and experience, meet new colleagues and friends from all over the world and, thus, become a true “forest researcher without borders”. [IUFRO News 9/2010]

Koch was introduced to IUFRO early in his career, and therefore as President one of his priorities was to strongly support and involve students and young scientists in IUFRO, and to improve the cooperation with the International Forestry Students' Association (IFSA). During his presidency, he participated in all of IFSA's annual symposia as a youth mentor.

In his view, one of IUFRO's greatest strengths is the fact that most of its work is done voluntarily by close to 700 officeholders. This level of voluntary commitment indicates that working for IUFRO is intellectually rewarding, not to mention fun. Good internal relations is therefore of great importance.

IUFRO's vision is to be the leading global network for forest-related research, serving the needs of forest scientists, research organizations and decision-makers alike. Given this, Koch considered it equally important to maintain IUFRO's positive external relations. Thus, his main message at this time was that IUFRO must maintain and, where necessary, improve all IUFRO's both its internal and external relations in the years to come.

by preparing press releases in cooperation with the Collaborative Partnership on Forests (CPF). IUFRO also launched a new communication initiative called IUFRO Spotlight. IUFRO's active and successful involvement in Forest Days four and five at the Cancun and Durban Climate Summits, among other involvements, further strengthened its work at the science-policy interface. Since 2013, IUFRO has also been a member of the Collaborative Partnership on Sustainable Wildlife Management (CPW), modelled after the CPF.

The period up to 2014 was also characterized by international negotiations on the Sustainable Development Goals (SDGs). The SDGs build upon the existing Millennium Development Goals (which expired in 2015) and are intended to guide the post-2015 international development agenda. The scientific input to these negotiations was facilitated by the International Council for Science (ICSU) which IUFRO had joined as a full Scientific Union Member in 2005. Through its membership in both ICSU and the CPF, IUFRO

Headquarters provided scientific inputs by relevant IUFRO units and officeholders to the deliberations on the SDGs.

Through its contributions to these international processes, IUFRO succeeded in making relevant IUFRO activities and outputs visible to a global and diverse audience of policymakers, donors, non-governmental and inter-governmental groups, and the media.

## Interconnecting Forests, Science and People – IUFRO Strategy 2015–2019

Climate change, a growing world population, urbanization, and changing consumption patterns are some of the factors that are placing increasing and severe pressure on the world's ecosystems, including forests. However, global prosperity and human wellbeing depend on the resilience of these ecosystems and on their productivity. Thus, forests can no longer be seen in isolation. Rather,

### XXIV IUFRO World Congress Salt Lake City, Utah, USA, 5–11 October 2014 “Sustaining Forests, Sustaining People: the Role of Research”

The Congress brought together 2,500 scientists from more than 100 countries, and additional 1,200 professional foresters from North America. Among them were about 1,000 young scientists, including about 400 participating students. They demonstrated clearly the positive result of IUFRO's efforts to involve students and young scientists more deeply in the Union.

The Congress, hosted and organized by the US Forest Service, in cooperation with the Society of American Foresters and the Canadian Institute of Forestry, focused on IUFRO's scientific priorities for the benefit of forests and people worldwide. The scientific themes of the Congress were: Forests for People; Forest Biodiversity and Ecosystem Services; Forests and Climate Change; Forest and Water Interactions; Forest Biomass and Bioenergy; Forests and Forest products for a Greener Future; and Forest Health in a Changing World.

Through the Salt Lake City Congress IUFRO committed itself to expanding and intensifying its efforts to develop and promote integrated solutions to the interrelated economic, social and environmental challenges we face. It explored the role of science in crafting practical measures to enhance the resilience of forests and their capacity to provide the environmental, economic, social, cultural, spiritual and health benefits that sustain rural and urban societies worldwide. The Congress Declaration emphasized IUFRO's commitment to building on the strengths of its current global network during the next five years. In particular, IUFRO intended to expand its interdisciplinary research and partnerships with scientists in related fields, and to broaden its dialogue with, and service to, other organizations, communities, land managers and policymakers.



Cultural performance during the opening ceremony of the 2014 IUFRO World Congress in Salt Lake City, USA.  
Photo © Eric Schramm



IFSA-IUFRO-side event at FAO World Forestry Congress 2015 in Durban, South Africa. Photo © Morné Booij-Liewes

they must be seen as being interconnected with other environmental or human systems.

In order to guide IUFRO's activities in the years to come, a new IUFRO Strategy 2015-2019 was adopted in 2014; its theme was “Interconnecting Forests, Science and People.” The Strategy was developed on the basis of information obtained through a survey to IUFRO's members and officeholders, an independent Review Panel, as well as consultations with the participants of the IUFRO World Congress 2014 and other stakeholders.

The IUFRO Strategy set out five research themes with associated emphasis areas reflecting the main challenges for forest research: Forests for People; Forests and Climate Change; Forests and Forest Products for a Greener Future; Biodiversity, Ecosystem Services and Biological Invasions; and Forest, Soil and Water Interactions. The Strategy also contains three institutional goals, adapted from the previous (2011-2014) Strategy. These goals reflect IUFRO's commitment to research excellence,

enhanced visibility of IUFRO's knowledge products and network cooperation, and to science-based solutions and options for influencing policy processes. These institutional goals and the related objectives and actions aimed to further sharpen the strategic orientation of IUFRO.

The first years of the new Board period were characterized by a continued high number of meetings sponsored by IUFRO Divisions, Research Groups and Working Parties. In 2016, an impressive total of 82 IUFRO co-sponsored meetings offered a large number of opportunities for scientists to network and share research results. Furthermore, almost 50 international meetings have been scheduled and announced in IUFRO's calendar for 2017. A large share of these events addressed one or more of the five themes of the IUFRO Strategy, as reflected by the IUFRO website which tags each meeting according to these themes.

In 2014 the IUFRO Board decided to modify the concept of Task Forces. It agreed on a number of principles

## 2015–2019 Challenges: IUFRO's strength lies at the grassroots

“Interconnecting forests, science and people: this is the theme of IUFRO's Strategy for the coming years. We aim to promote research excellence around the globe and effectively share the latest scientific evidence on key policy issues. We will bring people together to address the complex natural resource challenges that are facing our planet.” [IUFRO News 2015]

“Forests and trees are critical to achieving global sustainable development and to ensuring that the world will be a living space for generations to come. Global forest science is playing a role in decision-making related to climate change, biodiversity, water, income and employment, and quality of life. By interconnecting scientists and scientific knowledge around the globe, IUFRO in particular is able to work out solutions for globally pressing problems to forestry. IUFRO faces the important task of motivating global collaboration, especially between countries whose forestry sectors are well resourced, and those in need of greater support. As a global network of forest scientists, IUFRO has a great responsibility to bring relevant scientific findings to governments and politicians worldwide.”

In his address to the Board in 2015, as the newly elected IUFRO President, Michael Wingfield reintroduced several of the concepts that would guide his presidency. He referred to the special nature and unique character of IUFRO as a “grassroots” driven organization. He also highlighted the power of research initiatives undertaken by the members of IUFRO's close to 300 scientific units.

Professor Michael Wingfield,  
IUFRO President 2014 – 2019



He pointed out the challenge of equally representing all forest-related research fields and geographic regions; and he also emphasized the need to effectively address the information requirements of key stakeholders, including the private sector.

Another key issue underpinning President Wingfield's presidency has been the task of supporting education in forestry in the strongest possible way. He has stated that “the cooperation which is currently taking place between IUFRO and the International Forestry Students' Association (IFSA) is an effective means of mentoring students, promoting joint activities and stimulating their participation in IUFRO”.

Wingfield often recalls the huge influence that IUFRO has had on his professional career. He notes that he was first exposed to this scientific community while he was undertaking his Master of Science studies in plant pathology. In his earliest encounters with IUFRO, Professor Wingfield met renowned scientists and began to cooperate internationally—a combination of activities that are distinctive to IUFRO.

President Wingfield considers IUFRO's 125-year anniversary to be a highlight of his Presidency. It is, in his view, an opportunity to celebrate past achievements, and also to consider the future of forestry and to discuss IUFRO's direction in the decades to come. Given that IUFRO's core focus lies in research, and that there is no other single organization performing the same role, the future promises to be replete with new and exciting challenges.

### Regional Congress in Asia

In October 2016, more than 800 scientists from 56 countries participated in the first IUFRO Regional Congress for Asia and Oceania. It was held in Beijing, China, and its theme was “Forests for Sustainable Development: The Role of Research.” The Congress was held in a region where most countries have experienced extremely rapid social and economic developments and forest changes in recent years. The Congress was jointly organized by the Chinese Academy of Forest Science and IUFRO. It aimed at reaching a common understanding about the status and trends of forests; and it also aimed to promote communication about the research which would be required in order to support sustainable forestry development amidst these changes. It was the largest regional meeting ever held, and succeeded in strengthening the relationships within IUFRO's global network, and particularly among scientists and IUFRO member organizations in the Asia-Oceania region.

as a basis for the establishment of Task Forces in order to encourage activities across the full spectrum of IUFRO's disciplinary expertise. These principles include: the involvement of relevant IUFRO units and the need to complement and expand the activities of the Divisions; the involvement of additional experts currently outside of the IUFRO network and partner institutions, as needed; the specific contribution to addressing broader policy processes or interdisciplinary science-policy initiatives; and the need for clear operational responsibilities, timelines and deliverables. Furthermore, Task Forces were encouraged to undertake more focused activities over a much shorter time period. Consequently, ten new Task Forces were established with a mandate to operate until September 2017 (see also Chapter 4).

During President Michael Wingfield's term, IUFRO's efforts to expand the scope of work beyond ‘traditional’ sectoral and disciplinary boundaries were reflected also in IUFRO's activities and at the science-policy interface. Already in September 2015, IUFRO had a strong presence

at FAO's XIV World Forestry Congress held in Durban, South Africa in September 2015. It was the first FAO World Forestry Congress ever to be held on the African continent. IUFRO played a key role in adding the forest science perspective to the discussions and decisions. A total of 18 different events were either organized or co-organized by IUFRO, or featured IUFRO officeholders in prominent roles.

In May 2015, IUFRO released for example a comprehensive scientific analysis of the relationship among forests, food and nutrition. This study was prepared in the framework of the IUFRO-led Global Forest Expert Panels Initiative of the CPF (see Chapter 6). It appeared in the lead-up to the finalization of the United Nations Sustainable Development Goals, and served as a basis for a report on "Sustainable Forestry for Food Security and Nutrition" by the High Level Panel of Experts on Food Security and Nutrition (HLPE) - the science-policy interface of the Committee on World Food Security (CFS).

The historic climate agreement reached at the Paris Climate Conference in December 2015, and the "Bonn Challenge" of bringing 150 million hectares of the world's deforested and degraded land into restoration by 2020, presented new opportunities for forest scientists to work with each other, with colleagues in numerous

Restoration under Global Change" held in San Juan, Puerto Rico on 6-9 June 2017.

The desire to bridge scientific disciplines and involve members also guided the preparations for the IUFRO 125<sup>th</sup> Anniversary Congress, scheduled for 18-22 September 2017 in Freiburg, Germany. The forest research institutes of the states of Germany and the research institutes of France, Austria and Switzerland founded IUFRO in 1892. The year 2017 marks the 125<sup>th</sup> anniversary of this first and highly significant step to promote international cooperation in forest research. The 125<sup>th</sup> Anniversary Congress aims to provide a platform for the exchange of scientific knowledge and a dialogue across the full range of forest-related topics and scientific disciplines. In line with its theme "Interconnecting Forests, Science and People" the discussions will focus on globally pressing topics such as the contribution of forest research towards mitigating climate change, conserving biodiversity, providing water, creating income and employment, and improving the quality of life. Another intention of the Congress is to bring together not only forest scientists from around the globe but also leading decision-makers and stakeholders from the forest, environment, development and other key sectors.



Tree nursery in Rwanda. Photo © IUFRO

other fields, and with decision-makers. During the 2015 Global Landscapes Forum held on the sidelines of the UNFCCC COP21 Climate Summit in Paris, IUFRO launched a IUFRO's World Series entitled "Forest Landscape Restoration as a Key Component of Climate change Mitigation and Adaptation." In 2016 IUFRO's Special Programme for Development of Capacities, in close collaboration with relevant IUFRO units, organized two international knowledge-sharing workshops on Forest Landscape Restoration (FLR) in Rwanda and El Salvador. These regional workshops were followed by a major "International Conference on Forest Landscape

### XXV IUFRO World Congress, Curitiba, Brazil, 2019

Following a recommendation by the IUFRO Board, a decision was made by the IUFRO International Council that the XXV IUFRO World Congress will take place in Curitiba, Brazil from 29 September - 5 October 2019. For the first time in IUFRO's history, the Congress would be held in a Latin-American country. This decision reflects IUFRO's determination to focus its forest science networking activities more strongly on Latin America. It was also considered that this Congress will provide a strategic opportunity to promote IUFRO in Brazil and throughout Latin America, where membership is proportionally lower than in other regions of the world. In addition, a much higher number of scientists from Latin American forest research institutions and universities will be able to participate in this Congress.





# CHAPTER 4

## The Scientific Competence of IUFRO 1992–2017

15,000 scientists and their contribution to science excellence

### The work within the Divisions

IUFRO's backbone is the exchange of ideas and knowledge through scientific networking on a global scale. These exchanges take place in nine permanent Divisions subdivided into 247 Research Groups and Working Parties, led by 723 officeholders (April 2017). Most of these officeholders (84%) come from Europe, North America and Asia, and 24% are women. Due to the changing priorities and needs of society as well as the varying interests of the officeholders, research topics have changed in the course of the past 25 years. Among the most important examples for such research topics are: the increasing demand for stakeholder involvement and opportunities for input, the introduction of "agendas of scale" (such as agendas set on the basis of global demands and national needs), the growing emphasis placed on long-term planning, and the consideration of temporal research scales. All these factors doubtlessly made – and continue to make – forest research both more timely and relevant. Knowledge management became ever more crucial for the improvement of efficiency of forest research institutions. However, traditional research frameworks often separated researchers from the practitioners and decision-makers. Professional communication of results to beneficiaries, and guidelines for researchers working at the science-policy interface, were considered valuable mechanisms for making research more efficient and meaningful, especially for decision-makers.

One very direct consequence of changes in societal requirements occurred in IUFRO's Division 6 – Social, Economic, Information and Policy Sciences. Towards the end of the term 2005-2010, social issues were driving policy to an increasing degree. They were also informing decisions about the regulation of forests and forestry – a development which would prove to be more important in the 21st century than ever before. These issues are complex and need to be dealt with from many perspectives and theoretical positions, drawing from areas such as anthropology, history, sociology, psychology, geography,

economics, philosophy, law, public administration, and political science. Yet in spite of the vast importance of social concerns, Division 6 was the only Division in IUFRO to focus on the social issues regarding forests. Division 6 comprised Research Groups and Working Parties which also dealt with important issues such as Information Services and Knowledge Organization, Extension, Education, and Management of Research.

In order to reduce the heterogeneity, size and complexity of the Division, Division 6 was split and an additional Division – Division 9 – was created in 2010. Division 6 was renamed "Social Aspects of Forests and Forestry", and Division 9 was called "Forest Policy and Economics".

Another substantial challenge related to IUFRO's structure (that is, its segmentation into distinct Divisions) has been that of promoting inter-divisional activity. Inter-divisional activities, however, are required. The boundaries between disciplines in virtually all fields of research are increasingly porous. Likewise, some of the most pressing issues relating to forestry research cut across many different disciplines, which are covered by distinct Divisions in IUFRO. However, IUFRO has overcome this organizational challenge to a certain extent: With Task Forces covering the major themes of the IUFRO Strategies and Divisions working in collaboration with them, substantial progress has been made, and this is well illustrated in many products. Recently, all Divisions have actively expanded their cooperation networks within and outside of IUFRO. The Union has acknowledged the need for joint inter-divisional or interdisciplinary approaches, and has observed the clear trend that "non-forest-science" communities are increasingly addressing problems related to forests and forestry. Increased and successful networking and exchange of experience and scientific findings by IUFRO is made apparent by the multitude of congresses and meetings organized by Divisions, their Research Groups and Working Parties. It has also been reflected in the increasing number of Task Force meetings.

Over the years, all Divisions have held numerous meetings, conferences and symposia, which have illustrated each Division's research scope as well as changes in scope which have occurred over time. To present all these events would be far beyond the space available in this chapter, but a few have been chosen for each Division. These events significantly contributed to strengthening research and addressing changing research needs for the benefit of both forests and people.

### Division I – Silviculture

Division I concerns itself with the study of forest and ecosystem management; stand establishment and stand treatment (including fertilization); agroforestry; wood biomass for bioenergy; restoration of degraded sites; mountain zone and arid zone silviculture; tropical, boreal and temperate zone silviculture; and natural (extensive) and artificial (intensive) silvicultural systems.

Research in Division I initially focused on silvicultural systems; this research area later needed to be expanded to take into consideration an increased demand for wood and non-wood goods and services. In 2003, for example, 12 meetings were held on the theme of "Sustainable Forestry and Silviculture". These events covered a wide variety of is-



WSL Research Plot 01-05 I at Gutschwald, Höhronen, Switzerland. A stand of European silver fir, Norway spruce and beech managed using 'plentering'; data have been collected since 1983. Photo © Gary Kerr

issues such as silvicultural research and its application to the enhancement of forest production, forest landscape restoration, and sustainable forest management for multiple goods and environmental services. The majority of these events followed a multidisciplinary approach, involving Research Groups and Working Parties from various IUFRO Divisions as well as other international research, development and conservation organizations.

At the same time, a higher demand for biodiversity conservation, and increased natural disturbances and threats in the light of climate change, influenced Division 1's research

priorities. Thus, Division 1 strove towards widening its research sphere to include social and ecological issues.

The need for this step has become especially obvious in the work on Forests and Climate Change. Following the conference on "Adaptation of Forests to Climate Change" in 2008, Division 1 organized several international meetings on climate change and made substantial contributions to the development of responsible and foresighted adaptation and mitigation strategies. Research during 2009 covered both cross-sectional and purely silvicultural topics. A cross-divisional collaboration with Divisions 8 (Forest Environment) and 4 (Forest Assessment, Modelling and Management) took place in Sweden. This collaboration took the form of a conference on "Spruce in the Context of Global Change - Ecology, Silviculture, Forest Products, Management Risks and Conservation Practices". The conference focused on a very diverse range of issues related to spruce and climate change in Europe, Asia and North America. Technical sessions included aspects of long-term forest development, production risks, genetic stock, regeneration, biomass and timber, spruce ecology and physiology, as well as environmental services derived from spruce forests. Forty years after the first meeting of the IUFRO Silver Fir Group in Vienna in 1969, the Austrian Federal State Province of Vorarlberg in Hittisau hosted the "12th International Silver Fir Symposium". Scientists from 11 nations discussed the current status and future perspectives of silver fir and its relatives in Europe.

In 2012, work in Division 1 focused on a broad range of topics and addressed two major challenges in contemporary research: - the adaptation of forests and forestry to a changing climate, with particular focus on meeting both timber and ecosystem services, and - the development of more flexible and adaptive agroforestry systems.

Climate change was the dominating theme of activities in 2015, and conversation on this subject took place within a wide range of events (13 meetings) and publications. The role of adaptive forestry practices in responding to environmental and social changes related to climate change was an area of particular interest.

One important trend in silviculture of late is a development towards ecologically based practices with natural regeneration. Another trend is the emergence and intensification of technologically based plantation practices. In Europe, for instance, this has led to two somewhat contrasting lines of development: one is an increased focus on natural regeneration in the established forest, and the other is an increased focus on plantation practices for afforestation. Future-adapted silviculture is the main line of development in research as well as in forestry practice. This development has obvious relevance to the issue of climate change, but also for the adaptation of forest types towards more ecologically based (sometimes called close-to-nature) forest ecosystems.

In 2017 Division 1 had 29 Units with a total number of 95 officeholders (15% of whom were women).

*Coordinators: 1991–1995 Jacob L. Whitmore, USA; 1996–2000 Lisa Sennerby-Forsse, Sweden; 2001–2005 John Parrotta, USA; 2006–2010 Björn Hånell, Sweden; 2011–2014 Björn Hånell, Sweden; 2015–2019 Jens Peter Skovsgaard, Sweden.*

## Division 2 – Physiology and Genetics

Division 2 includes research on the physiology and genetics of forest tree populations. The physiology group encompasses units specialized in xylem physiology, shoot growth physiology, canopy processes, root physiology and symbiosis, cold and drought hardiness, and whole plant physiology. The genetics groups are divided into conifer and hardwood breeding and conservation, population and quantitative genetics, genomics and biotechnology, and tree seed and propagation. Other important groups deal with conifer breeding and genetic resources, hardwood improvement, culture and genetic resources, and tree seed, physiology and biotechnology.

Similarly to Division 1, the increased demand for wood and non-wood goods was also a major driving force behind research in Division 2. Then as now, the long-term research topics under the purview of Division 2 include: planted forests, wood productivity, wood quality, tree improvement, integration of tree breeding and genomic applications, and the public acceptance of genetically modified trees. For instance, the conference titled “Norway Spruce Provenances and Breeding” (which was held in 2007) emphasized the urgent need to protect Norway spruce, one of the most important European forest tree species threatened by climate and other environmental changes. In view of climate change and predicted moving of provenances, the results of the IUFRO 1964, 1968 and 1972 series of provenance experiments were considered to be extremely important. The provenance experiments which spread all over Europe and North America are real *ex situ* gene banks preserving the genetic diversity of Norway spruce.

The Division also focused on genetics of sustainable and productive forest trees under anthropogenic effects and global climate change. The “Second International Conference on Conservation of Forest Genetic Resources” (CFGRS-2009) was held in Siberia in recognition of the great importance of the Siberian Taiga in regulating global climate and the biospheric role of Siberian forests.

Forest restoration is another theme addressed by the Division and was dealt with in several conferences such as the “1<sup>st</sup> IUFRO-sponsored Restoring Forests Congress” (September 2011; Madrid, Spain) and the “2<sup>nd</sup> IUFRO Restoring Forests Congress” (Lafayette, Indiana, USA, in 2014). This congress was an example of a cross-divisional activity, as it was co-organized by Divisions 1, 2 and 3. Its aim was to examine the continued evolution of the scope of forest restoration and re-explore the need to set realistic goals to achieve restoration success.

The Division, in partnership with Division 1, organized a conference on “Sustaining the Future of Acacia Plantation Forestry” in 2014. The rapid expansion of Acacia plantations in South East Asia prompted the need to form an international forum which would consider the biology and potential manufacturing capacity of these plantations. The collaborative meeting was organized to address three themes: plantation management for sustainable wood production, risk evaluation and management, and genetics and breeding.



Tree Biotechnology 2015 Conference. Photo © Conference organizers

In 2015, Division 2 became especially active, hosting ten meetings spanning four continents (Africa, Asia, Europe and North America) that year alone. One of these meetings was the Tree-Biotechnology Conference “Forests: the importance to the planet and society” in Florence, Italy. It highlighted the cutting-edge advancements in many facets of forest biotechnology research, including tree physiology, stress response, molecular breeding, wood development, and provided an update on the status of the releases of the conifer genomes. In addition, given that 2015 marked the first deregulation of genetically modified (GM) Eucalyptus in Brazil, the social economic and societal impacts of GM trees were vigorously discussed.

In 2017 Division 2 had 34 Units with a total number of 96 officeholders (22% of whom were women).

*Coordinators: 1991–1995 Howard B. Kriebel, USA; 1996–2000 Eric Teissier du Cros, France; 2001–2005 Ladislav Paule, Slovakia; 2006–2010 Bailian Li, USA; 2011–2014 Yousry A. El-Kassaby, Canada; 2015–2019 Yousry A. El-Kassaby, Canada.*

## Division 3 – Forest Operations Engineering and Management

Forest operations engineering and management research aims at (1) understanding the fundamental principles that underlie the behavior of forest operations systems, (2) developing concepts, methods and tools that support the design, control and management of these systems, and (3) disseminating knowledge across the globe in a timely manner.

Previous names of this Division were Operations and Techniques and, since 2000, Forest Operations. In 2006, Division 3 was renamed again to Forest Operations Engineering and Management. At the beginning of the period 2006–2010, Division 3 began a process to develop a Division strategy and to establish a “structure that follows

strategy”. The result was a fundamental redesign of the divisional structure, such that it now consists of five discipline-oriented and three systems-oriented Research Groups.

From 2011 to 2014, the Division started to establish links to scientific “umbrella communities” such as INFORMS (Institute for Operations Research and the Management Sciences), SAFR (Systems Analysis in Forest Resources), and SETAC (Society of Environmental Toxicology and Chemistry). It also made an effort to bundle its scientific events in order to become more effective and visible. Important partners were the Council on Forest Engineering (COFE) in the USA, and the Forest Engineering Conferences (FEC).

The Conference “Future Directions of Small-Scale and Community-Based Forestry” held in Fukuoka, Japan, 8-12 September 2013 was the first Joint Conference of IUFRO Research Groups 3.08.00 (Small-Scale Forestry) and 6.08.00 (Gender and Forestry). Participants were made aware of the realities that small-scale forest owners in many developed countries are facing due to aging and depopulation of their villages - specific challenges included a decreasing forest income and more dependency on other income sources. At the same time, the participants of the conference also confirmed that the issues of small-scale forestry and community-based forestry could be discussed on a new common ground by adding a gender perspective, which would lead them to new directions.



Participants of the 5<sup>th</sup> Forest Engineering Conference are watching steep-slope mechanized timber harvesting operations during a field excursion. Photo © Woodam Chung

A highlight of 2014 was the 5th Forest Engineering Conference (FEC) held in Gerardmer, France, under the theme of “Forest Engineering: Propelling the Forest Value Chain”. Sponsored by IUFRO Division 3, the FEC is a major international event in the field of Forest Operations and Engineering, and is held every four years. The 2014 Conference was organized in conjunction with the “47th Symposium on Forestry Mechanization”

(FORMEC), and brought over 260 participants from 32 countries to the four-day meeting. With more than 160 oral and poster presentations and a discussion forum, the conference provided the opportunity to recognize the complexity of today’s forest value chains, the current gaps, as well as potential solutions through technology development.

Forest biomass utilization, supply chain management, precision forestry, and human factors are still recognized as emerging subjects for the continuously changing economic, social and environmental demands on forest resources and landscapes. New technologies needed to be developed in order to handle and utilize forest biomass for diverse bioenergy and bio-based products. Holistic approaches to evaluate the benefits of biomass utilization were required as well. Forest supply chains had become increasingly complex and challenging due to diverse demands on forest resources, higher customer expectations, fragmented supply chain operations, and a larger number of stakeholders. New approaches, such as control systems engineering, big data mining, and collaborative supply chain management, became necessary. Precision forestry has been recognized as an emerging approach to understand, coordinate and manage the spatio-temporal variability of site and vegetation parameters. Human factors engineering has been revitalizing and expanding its research boundaries to human-machine interfaces and the design of work systems.

In 2015, the Division set out three strategies to enhance the Division’s research visibility, and strengthen its research and education capacities across the globe. These strategies included (and include): (1) Improve communication within and beyond Division 3, (2) Promote collaboration across disciplines, and (3) Support education to foster the next generation of research scientists in the fields of Division 3.

In 2017 Division 3 had 14 Units with a total number of 47 officeholders (15% of whom were women).

*Coordinators: 1991–1995 Per Olav Nilsson, Sweden; 1996–2000 Dennis P. Dykstra, USA; 2001–2005 Dennis P. Dykstra, USA; 2006–2010 Hans R. Heinimann, Switzerland; 2011–2014 Hans R. Heinimann, Switzerland; 2015–2019 Woodam Chung, USA.*

#### Division 4 – Forest Assessment, Modeling and Management

This Division encompasses studies of growth and yield (including mensuration); forest resource inventory (collection and analysis of resource data); forest management planning and managerial economics; remote sensing; management sciences of forest enterprises; statistical methods, mathematics and computer technology.

A strict sectoral approach to forest management could no longer cope with the variety of demands on forests, and a more integrated view on land use seemed necessary and forestry and forest management had to

be considered in a wider context. Other sectors and issues were increasingly carrying out assessments at the European scale that encompass forests, but that hardly involved the forestry sector.

In Division 4, climate change, changes in societal expectations and increasing relevance of environmental aspects called for action in the following fields: shift from biophysical to comprehensive sustainability indicators; modeling, and better interaction between modelers and users such as practitioners and policymakers. Forest cover changes already contribute 12-15% of the world's annual carbon emissions associated with the loss of biodiversity and many environmental services. Major problems still exist in providing accurate estimates of forest cover and quality change. This became quite obvious at the international "Forest Change 2014" conference held on 2-4 April 2014 in Freising, Germany. At this conference, participants agreed that analyzing and ultimately controlling forest change still requires cost-effective inventory methods. Only a comprehensive view on various spatial scales, which integrates forestry and agricultural land-use options, may enable successful strategies in conserving the regulating ecosystem services of forest ecosystems and delivering important provisioning services (food and timber) at the same time. Uncertainty is an overarching issue to be addressed in monitoring concepts and models.

The 2015 "Symposium of System Analysis in Forest Resources" took place from 19-21 August 2015 in Uppsala, Sweden. It was organized by the Forestry Research Institute of Sweden (SkogForsk) and the Swedish University of Agricultural Sciences and was sponsored by IUFRO Unit 4.04.04. This was the first symposium organized in Europe and the 16th Symposium in a series with previous conferences held in the USA (in 1975, 1985, 1988, 1991, 1994, 1997, 2000, 2003, 2006 and 2009), in Chile (1993, 2002 and 2011), in Brazil (2005), and in Canada (2013). This series has long provided (1) a venue for the presentation of state-of-the-art applications of operations research and systems analysis in forest resources management planning and policy analysis, and (2) opportunities for a fertile exchange of ideas among forest researchers and practitioners

The "Fourth International Conference on Forest Measurements and Quantitative Methods and Management" was held in Blacksburg, USA, in October 2015. It was co-sponsored by the Southern Mensurationists, a regional group in the US dedicated to promoting quantitative applications in forestry, and IUFRO's Division 4. Although much progress has been made in modeling forest trees and stands, there are still significant gaps to be filled with regard to forest responses to management practices and environmental influences.

In 2017 Division 4 had 31 Units with a total number of 87 officeholders (15% of whom were women).

*Coordinators: 1991–1995 Axel Roeder, Germany; 1996–2000 Klaus von Gadow, Germany; 2001–2005 Klaus von Gadow, Germany; 2006–2010 Margarida Tomé, Portugal; 2011–2014 Margarida Tomé, Portugal; 2015–2019 Jean-Luc Peyron, France.*



Participants in the field excursion to the Reynolds Homestead in the Piedmont region of Virginia visiting research studies aimed at an improved management of pines and hardwood species.  
Photo © Arne Pommerening

## Division 5 – Forest Products

Division 5 concentrates on the processing, finishing, logistics and recycling of forest products. It includes the use of plantation wood and non-wood forest products. The major goals for research in Division 5 include: the use of forests for bioengineering and bio-refining, the impact of climate change on biodiversity and wood products, and a better integration of research with industry. The Division also has an interest in non-timber forest products.

Approximately 109 million hectares of plantations exist worldwide, and this number is increasing. Plantations serve as important sources of wood and fiber for timber, pulp and paper processors. While these man-made resources contribute significantly to the global timber supply, they are often criticized for their impact on the environment. It is therefore within the realm of forestry certification that efforts are made to limit and bring into perspective the potential effects of timber plantations on sustainable development. A successful "International Plantation Certification Symposium", which was co-sponsored by IUFRO Divisions 1 and 5, took place in South Africa in September 2007. The objective of the meeting was to establish the effect of forest certification on the sustainability of plantation operations. One of the conclusions of the meeting was that forestry is no longer about trees alone. Rather, it is also about the demands and needs of people and the impact that both forests and people have on the biological and social environment.

Division 5 has a long tradition of holding All-Division conferences offering an overview of the topics it deals with. Six such conferences were held between 1992 and 2017. The All-Division 5 Conference in 2007 in Taipei, for instance, discussed recent research progress, exchanged information, and collaborated on research related to the conference theme of "Forest Products and Environment – A Productive Symbiosis". The Division 5 conference, organized in partnership with the Technical University of Lisbon/ISA in Estoril, Portugal, brought together a record



Delegates in front of the Conference Venue of the 2007 All-Division 5 Conference in Taipei. Photo © Conference organizers

number of more than 500 researchers from all over the world, half of them from Asian countries. In 2017, the latest conference focused on *Forest Sector Innovations for a Greener Future* and was jointly organized with the Faculty of Forestry at the University of British Columbia, FPInnovations, and the Society of Wood Science and Technology in Vancouver, Canada.

The cultures of various societies in the past, present and future have considered wood as to be eco-friendly and sustainable material. IUFRO Working Party 5.10.01 (Wood Culture) was the co-organizer of the “2<sup>nd</sup> World Wood Day” (WWD) and celebration in Xianyou, Fujian, which was organized primarily by the International Wood Culture Society (IWCS). WWD coincides with the International Day of Forests on 21 March, and this symbolizes society’s inter-dependence on wood products and forests for a sustainable future. The theme for the WWD celebration on 21-25 March 2014, “Wood in a Changing Culture”, drew delegates, wood artists and musicians of wooden instruments from more than 70 nations. On 21 March 2015 the WWD in Eskisehir, Turkey, included an international, collaborative project with 23 artisans from 12 countries who designed and constructed a timber bridge and erected it in the town square. The technical symposium was organized under the heading of “Wood and Humanity: an Interdisciplinary Approach to Sustainable Development”. The events of World Wood Day focus on wood culture, which encompasses the human use of wood - that is, the value and the way people use wood in society.

In 2015 Division 5 organized or sponsored seven conferences such as the “3<sup>rd</sup> World Teak Conference” (11-16 May, Guayaquil, Ecuador), the “10<sup>th</sup> World Bamboo Congress” (17-22 September, Damyang, South Korea), the 10<sup>th</sup> International Conference “Wood Science and Engineering in the third Millenium – ICWSE 2015” (5-7 November, Brasov, Romania) and the 8<sup>th</sup> Scientific Conference “Innovations in Forest Industry and Engineering Design” (5-7 November, Yundola, Bulgaria).

In 2017 Division 5 had 36 Units with a total number of 93 officeholders (22% of whom were women).

*Coordinators: 1991–1995 Amantino R. De Freitas, Brazil; 1996–2000 John A. Youngquist, USA; 2001–2005 Hsui H. (Cathy) Wang, China-Taipei; 2006–2010 David Cown, New Zealand; 2011–2014 Andrew Wong, Malaysia; 2015–2019 Pekka Saranpää, Finland.*

## Division 6 – Social Aspects of Forests and Forestry

Division 6 focuses on social sciences and deals with forest and human health, forest education, forest ethics, gender and forestry, landscape planning and management, nature-based tourism, nature conservation and protected areas, recreation, rural development and urban forestry.

Given the multiplicity of topics that Division 6 had to cover before 2010 and the large number of Research Groups and Working Parties, it was split and a new Division - Division 9: Forest Policy and Economics – was created.

In view of the fact that social values in forestry are garnering increasing attention, recreational benefits from urban woodlands and the search for ways to increase them are also gaining in importance. This is exemplified by several meetings organized by the Division.

For instance, in 2007 the All-Division 6 Symposium entitled “Integrative Science for Integrative Management” was held in Saariselkä, Finland. At this Symposium, focus was placed on science conducted across the many different dimensions of integration. Participants considered how such science relates to integrated land management. Integration occurs across many boundaries, including geographic, administrative, ownership, and temporal, not to mention the boundaries between academic disciplines. At this Symposium, issues of research administration, educational and scientific outreach, policy, recreation/tourism/nature conservation, forest and environmental history, gender studies, environmental economics, forest terminology, social and community studies, natural resource governance, and economic development were addressed.

Issues related to social aspects of forestry have also become more visible in governmental forestry programs and discussions of forest policy in many countries. The most visible topics concern urban forests, as well as the environmental (including climate change) and social (including aging populations and more diverse ethnicity of societies) impacts of forest-related issues. The topic of forests and human health was also discussed. It is worth noting that the traditional timber production still accounts for many of the social and economic ramifications of forestry. However, that said, a better balance between timber production and the other ecosystem services provided by forests, is a future target.

Cultural and social ecosystem services are important to urban populations in particular. This is because urban populations are not connected to forests via their jobs,



Trees providing shadow, Singapore. Photo © Cecil Konijnendijk

livelihoods or everyday life. The forest is thus seen by the majority of people in cities as an environment for leisure, and a destination of visit or travel.

Scientific evidence of the many benefits provided by forests is valuable, especially given the fact that forest-related industries and livelihoods still lack acceptance from other sectors of society (including the general public). Such acceptance is important for many reasons, one of which is that enables forestry professionals to gain economic and social support from communities, public agencies and governments. Work conducted by scientists in Division 6 contributes greatly to this goal.

An important task of Division 6 is to increase the attention, knowledge and engagement in gender and forestry as a field of research. Research Group 6.08.00 (Gender and Forestry) has been particularly active. This Research Group has played a prominent role in several conferences, organizing sessions and other events such as the “International Conference on Competence for the Future: Challenging gendered notions of learning forest and forestry”, which took place on 27-30 August 2015 in Rogów, Poland. Another workshop titled “For Opening Forestry Doors by Female Power” was held in Japan (6 December 2015, Itoshima City, Fukuoka). At this workshop 17 women’s forestry groups (“forestry girls”) were established by prefectures.

In 2017 Division 6 had 13 Units with a total number of 44 officeholders (50% of whom were women).  
*Coordinators: 1991–1995 Harold F. Kaiser, USA; 1996–2000 Niels Elers Koch, Denmark; 2001–2005 Niels Elers Koch, Denmark; 2006–2010 Perry Brown, USA; 2011–2014 Tuija Sievänen, Finland; 2015–2019 Tuija Sievänen, Finland.*

### Division 7 – Forest Health

Division 7 addresses threats to forest health caused by air pollution and climate change, pathogens, and insect pests.

These threats can seriously damage forests, alone or in combination through both direct and indirect interactions. Therefore, three Research Groups were established to address the broad areas of air pollution and climate change, forest pathogens and forest insects. While specific studies on climate change represented a key component of the Division, the effect of climate change on the impact of pests and diseases in forests and plantations was also very relevant. There was indeed growing evidence that climate change events have a very significant effect on pest and disease outbreaks in various parts of the world.

The period 2005-2010 witnessed two general shifts in the focus of forest science as regards air pollution and the effects of climate change on forest ecosystems. The first was a shift from forest decline to a holistic framework of forest health, and the second was a shift from the effects on forest production to the ecosystem services provided by forest ecosystems. The synergistic effects of air pollution and climatic change were considered key issues for future research. These effects included: elevated ozone levels, and altered nitrogen, carbon and water availability.

The impact of global change on tree health is a cross-cutting issue which is deeply relevant for all three Research Groups in Division 7 (as well as for many other IUFRO Divisions and Task Forces). It was a prominent topic in several meetings which dealt with issues such as: the increasing threat posed to native tree species by new pathogens and insects with which the trees have not co-evolved. These new relationships have been facilitated by the unintentional movement of pathogens and insects (by humans). They have also been facilitated in part by the planting of tree species outside their natural range. This causes many new tree health problems to emerge, such as those related to ambrosia beetles and their fungal associates. There are several examples of changes in insect-fungal associations where formerly benign symbioses between beetles and fungi have transformed into highly pathogenic systems with major impacts on forest ecosystems. Considerable progress has been made as regards invasions by non-native bark and wood boring insects. Although this continues to be a problem experienced in most regions of the world, the worldwide implementation of phytosanitary measures designed to reduce the international movement of such pests is proving quite effective.

The Division 7 Research Groups produced a regular newsletter, usually one or two per year. They also organize several meetings per year such as the 2007 “12<sup>th</sup> International Meeting on Root and Butt Rots of Forest Trees” in Berkeley, California, USA, or the “4<sup>th</sup> International Meeting on Phytophthoras in Forests and Natural Ecosystems” in Monterrey, California, USA. In May 2012, a Biennial meeting of Research Group 7.01.00, titled “Impacts of Air Pollution and Climate Change on Forest Ecosystems”, took place in Kaunas, Lithuania. The topics explored at this meeting were: air pollution and climate change; the spatial and temporal dynamics of environmental pollution; and the interactive effects of abiotic, biotic and management stressors on forest health and productivity, carbon sequestration, nutrient cycling, hydrology, biodiversity, and risks of wildland fires. This major event was



Participants of the 25th biennial meeting for specialists in air pollution effects on forest ecosystems (RG 7.01) in Kaunas, Lithuania on 18–26 May 2012 during a field trip to the Curonian Spit National Park. Photo © Andrzej Bytnerowicz

co-organized with five other European and North American organizations and research institutions. It consequently brought together a large network of specialists from outside of IUFRO as well. The organizers of the meeting observed that despite excellent recent progress in scientific research, many knowledge gaps remained in the forestry community's understanding of the impacts of air pollution and climate change on forest health. However, they also concluded that the effective international exchange of information and the establishment of multinational and interdisciplinary scientific studies could greatly assist with closing these gaps in understanding.

2014 was another year of active networking. Meetings were organized in Antalya (Turkey), Beijing (China), Fort Collins (Colorado, USA), Auckland (New Zealand), and Esquel (Patagonia, Argentina). In addition, the Division had a very good showing at the XXIV IUFRO World Congress in Salt Lake City, Utah, USA.

After the Salt Lake City World Congress, the Forest Health Division maintained its high levels of activity by organizing nine conferences and meetings in Europe, Asia and South America in 2015. Among these was the Conference on “Impacts of Air Pollution and Climate Change on Forest Ecosystems”, which was organized every other year by Research Group 7.01.00 (June 2015, Nice, France). 122 delegates from 38 countries were in attendance. A conference on “A Global Perspective on the Ecology and Management of Bark and Wood Boring Insects” also took place in Bariloche, Argentina. This conference reflected IUFRO's increasing engagement with Latin America.

In 2017 Division 7 had 34 Units with a total number of 106 officeholders (28% of whom were women).

*Coordinators: 1996–2000 David F. Karnosky, USA; 2001–2005 Kazuo Suzuki, Japan; 2006–2010 Mike Wingfield, South Africa; 2011–2014 Eckehard Brockerhoff, New Zealand; 2015–2019 Eckehard Brockerhoff, New Zealand.*

## Division 8 – Forest Environment

Division 8 deals with the study of forest ecosystems and landscapes, forest biodiversity, natural hazards and risk management. Division 8's activities are spread over three major fields: forest ecosystem functions and processes, biodiversity conservation and natural disasters. It strives to provide a sound ecological basis for management and conservation practices - a basis grounded in a knowledge of biological sciences as well as an understanding of hazards and disturbances, which could affect forest dynamics, such as fire, climate change, pollution and winds.

At a pan-European level, Division 8 officeholders and Working Parties are active in several Co-operative Actions in Science and Technology (COST) which engage with forest environment research topics: COST Action 639 “Greenhouse Gas Budget of Soils under Changing Climate and Land Use” (BurnOut; 2006-2010), COST Action FP 0601 “Forest Management and the Water Cycle” (FORMAN; 2007-2011).

The conference on “Forest Landscape Restoration” in Seoul, Korea in May 2007 was held under the auspices of IUFRO Divisions 1, 6 and 8 and IUFRO-Korea. It was organized in cooperation with the Global Partnership on Forest Landscape Restoration and member organizations, the International Union for Conservation of Nature (IUCN), the World Wide Fund For Nature (WWF), and the Society for Ecological Restoration. The objective of the conference was to examine the scientific basis for forest landscape restoration and explore its linkages to practice and policy. Presentations focused on contributions from ecological and social sciences, including models to integrate the approaches and case studies to illustrate restoration practices.

In 2012 Division 8 was actively involved in nine main conferences including two inter-divisional events. Taken together, these conferences and events were held in nine countries on four continents. IUFRO also contributed to a high-level conference in Japan on the mitigation of



Participants at the biennial IUFRO Working Party 8.01.02 Forest Landscape Ecology Conference, 23-30 August 2015; Tartu, Estonia. Photo © Sandra Luque

natural disasters. The International Conference on “Biodiversity in Forest Ecosystems and Landscapes 2012” highlighted the need for greater integration of approaches at larger scales (landscapes or watersheds) with those at the stand and smaller scales. After 2015, water, soil and landscape continued to be important topics of research and interdisciplinary networking. In 2015, Division 8 organized or co-sponsored eight meetings. Three of these were major international conferences. One was held from 8-9 July in Kelowna, British Columbia, Canada. Its title was “4<sup>th</sup> IUFRO International Conference on Forests and Water in a Changing Environment”. The second was held from 23-30 August in Tartu, Estonia, and titled “Sustaining Ecosystem Services in Forest Landscapes – Concepts, Research and Applications”. The third was held from 24-28 October in Fuzhou, China, and was called the “4<sup>th</sup> Symposium on Forest Soils: Linking Soil Processes to Forest Productivity and Water Protection Under Global Change”. This conference was organized in cooperation with the International Union of Soil Sciences to celebrate the International Year of Soils (IYS 2015).

The topic of Forest and Water Interactions is gaining increasing importance. This is because the relationship between water and forests varies along temporal and spatial scales and is influenced by factors such as climate, topography, soil, and forest dynamics and management. Furthermore, a comprehensive understanding of forests-water interactions under climate change and land use and land cover change, and forest management regime is a critical need - particularly in large watersheds. New knowledge and innovative tools for optimizing the trade-offs between water use, water yield and a wide range of water-related ecosystem services provided by forests, need to be developed and integrated into watershed and landscape management.

Landscapes, forests and people - they are more closely connected than it seems. This was one of the main conclusions generated at the Biennial Conference of the IUFRO Landscape Ecology Working Party, titled “Sustaining Humans and Forests in Changing Landscapes: Forests, Society and Global Change” that was held in Concepción, Chile. Such meetings are held every two years in countries across the world, such as Slovenia, USA, Canada, Japan, Italy, China, Portugal, Estonia, and in 2012, for the first time, in Latin America. Latin America in particular offers new challenges to forest landscape ecology due to its tremendous heterogeneity of ecosystems and its diverse socioeconomic conditions.

In 2017 Division 8 had 24 Units with a total number of 62 officeholders (16% of whom were women).

*Coordinators: 1996–2000 Kyoji Sassa, Japan; 2001–2005 Alain Franc, France; 2006–2010 Alex Mosseler, Canada; 2011–2014 Jean-Michel Carnus, France; 2015 onw. Jean-Michel Carnus, France.*

### Division 9 – Forest Policy and Economics

Division 9 is IUFRO’s youngest Division having started its activities in 2010. It deals with information services

and knowledge organization; management of forest research; forest and woodland history; forest sector analysis; social and economic aspects of forestry; forest policy and governance; forest law and environmental legislation. This wide spectrum of research areas aims to advance the knowledge on drivers and consequences of change of the social dimension of forests. Furthermore, areas such as information and communication of traditional forest knowledge support an understanding of the needs and opportunities of the forest sector from a social perspective.

The IUFRO All-Division 9 Conference in Sarajevo, Bosnia and Herzegovina, in May 2012 brought together 120 participants from 52 countries. The Conference demonstrated clearly how important the social dimension of forests and forestry has become. It also demonstrated how IUFRO has successfully improved scientific exchange and knowledge generation at a global scale in the fields of forest policy and economics.



The youngest Division in IUFRO (Division 9 - Forest Policy and Economics) is on its way. Photo © John Innes

The significance of these efforts is exemplified also by the “First European Conference for the Implementation of the UNESCO-SCBD Joint Program on the Linkages Between Cultural and Biological Diversity”, organized by IUFRO Research Group 9.03.00 (Forest History and Traditional Knowledge) in 2014 in Florence, Italy. A major internationally acknowledged output of this conference was the “Florence Declaration on the Links Between Biological and Cultural Diversity”.

The role of tradition and traditional knowledge is an important factor for the future demands on and challenges to forests, as was illustrated by an international conference in Iguazu, Brazil, in October 2016. The theme of this conference, which was jointly organized with Division 3, was “Tradition and Increasing Challenges: Future Development of Small-scale and Community Forestry in Times of Global Change”.

In the past decade, the concept of community forestry has become increasingly relevant because of its importance for livelihoods and forests. The State-level “Training on Community Forest Areas” in Bhubaneswar, India, sponsored by Working Party 9.05.06 (Community Forestry), dealt with this subject. The training focused on effective silvicultural practices and supported the development of implementing concepts of community forestry in India.

Among the more recent highlights in Division 9 events was the conference on “Cross-sectoral Policy Impacts on Managerial Economics and Accounting in Forestry” in Bosnia-Herzegovina in May 2015. Another highlight was the “Extension Knowledge Exchange Conference” in Ireland, also in 2015. The focus of the latter conference was the evolution of extension and knowledge exchange in a rapidly changing world. The role of extension and knowledge exchange in the light of the changes in environmental conditions which have been brought about by climate change, governmental policies, and other factors, sparked lively discussions.

In August 2014 Working Party 9.01.02 (Communication and Public Relations) published a manual on communication. Developed by thirty authors, this was intended to be a manual for scientists and professional communicators to support communication beyond the scientific community. This manual served as the foundation for a training module. The training module was developed and carried out as a pre-Congress training on communications for 35 scientists and professionals from across the world in Snowbird, Utah, USA. The training was held just before the XXIV IUFRO World Congress, and the session was sponsored by IUFRO-SPDC.

An “International Workshop on Forest Science Publishing” was held in October 2015 in Helsinki, Finland. It gathered editors of forests science journals and scientists from Europe, North America and Australia, focusing on the changing scientific publication environment and the resulting challenges for forest science journals.

In 2017 Division 9 had 32 Units with a total number of 93 officeholders (37% of whom were women).

*Coordinators: 2011–2014 Daniela Kleinschmit, Germany; 2015–2019 Daniela Kleinschmit, Germany.*

## The work within the Task Forces

Since 1987, IUFRO has established Task Forces on a temporary basis during each five-year IUFRO Board term. The goal of these Task Forces is to advance interdisciplinary cooperation in forest research fields that span two or more IUFRO Divisions. Since 1991, almost 50 IUFRO Task Forces have brought together scientists, policymakers and other stakeholders to conduct innovative work across a broad range of topics. Their focus is on problem solving, and they engage with a variety of emerging (not to mention key) interdisciplinary issues that are of great interest to policymakers and groups within and beyond the forest sector.

The Task Forces thus make significant contributions to international processes and activities. Apart from making these contributions, the Task Forces also produce technical publications and state-of-knowledge reports, and conduct technical workshops and meetings. These activities provide important guidelines for forest science, thereby increasing the visibility of science-based research and highlighting IUFRO’s ability to respond to new and emerging issues. Since their foundation several Task Forces have produced excellent scientific results, and have contributed greatly to policy processes.

Task Forces do not duplicate or compete with the work of Research Groups and Working Parties in the Divisions. Rather, they recognize this work and any gaps in current research or knowledge. TFs are led by a Coordinator, nominated by the IUFRO Board. A small number of members are invited to join the Task Force in order to secure appropriate geographical and topical coverage. The Task Forces have complete license to identify a larger group of scientific collaborators if needed. Task Forces work through correspondence or meetings. They provide progress reports to the IUFRO Board in time for each of its meetings, and compile a final report within the lifespan of the current Board.

Until 2014 the term of the Task Forces corresponded with the Board’s term (usually five years). However, the current Task Forces were established for a term of two years and will end in September 2017. At that time, the Board may be asked to consider extending the terms of certain Task Forces – those which have made major progress but which may require additional time to fulfilling their goals and objectives.

## Scientific findings of the nine IUFRO Task Forces 2011-2014 - New publication series: IUFRO Research Letters

The work undertaken by the IUFRO Task Forces between the years 2011–2014 was significant. A new IUFRO publication series entitled *IUFRO Research Letters* was published on the occasion of the Salt Lake City World Congress in 2014. The series highlighted the scientific findings of each of the nine IUFRO Task Forces. It focused on the issues of greatest relevance to forests and related fields (such as forests and climate change, forests and human health, and forest bioenergy). According to the then IUFRO Vice-President Su See Lee, these topics were high on the global political agenda and of strong concern when sustainable development was discussed. The *Research Letters* provided better insights on these topics for all those interested in the future development of forests and society.

## Resources for the Future

In addition to its use as a source of energy, wood has also traditionally been used for construction and for paper-making. The components of wood have a wide

Dr. Su See Lee, first female IUFRO Vice-President for Task Forces, Special Programs, Projects and IUFRO-Led Initiatives 2011–2014, and first female IUFRO Honorary Member

## INTERVIEW WITH DR. SU SEE LEE



Photo © Yusni, FRIM

During the Opening Ceremony of the 1st IUFRO Regional Congress for Asia and Oceania in 2016, IUFRO President Michael Wingfield bestowed IUFRO's highest award – Honorary Membership – upon Su See Lee. Honorary Membership acknowledges individuals who have rendered particularly important and outstanding services to IUFRO.

*Dr. Lee, you are a senior scientist with the Forest Research Institute of Malaysia (FRIM), and specialize in forest pathology. What motivated you to pursue a career in forest science?*

I have always been interested in biology and decided to specialize in botany for my first degree at the University of Malaysia. A grant from the International Foundation for Science (IFS) allowed me to undertake my first research project on dipterocarp mycorrhizas. This project sparked my interest to pursue a Ph.D. at the University of Aberdeen. Then in 1990, when a chance arose to take up a full-time research position at FRIM, I decided to switch from academia to full-time research. Ever since, I have been enjoying conducting research about diseases of tropical forest trees.

*Your involvement in IUFRO began in 1995. Now, you are the first female Vice-President of IUFRO. In your experience, how has IUFRO developed over the course of the past couple of decades—especially as regards gender and regional balance?*

Over the years, recognition of IUFRO's role in forestry and forest research has increased. IUFRO now plays a significant role in many important international fora. I have also seen an improved gender and regional balance in IUFRO. There are more female officeholders now than in years past. Almost one third of the current IUFRO Board members are women, more officeholders are from developing countries, and younger members now participate more actively in IUFRO meetings and world congresses. All of this is most encouraging. This is quite a change from the IUFRO which I first knew; the face of IUFRO is now younger and more modern.

*In IUFRO you are responsible for Task Forces, Special Programs, Projects and IUFRO-led Initiatives. These are all tools*

*for achieving IUFRO's strategic goals. How do you see the role of the Task Forces in furthering IUFRO's objectives?*

I strongly believe that the Task Forces are well placed to further enhance IUFRO's role as the global network for science cooperation. They anticipate and forecast emerging issues, and they also collect information which fills the gaps in research between Divisions.

*In your view, what have been the major contributions of the Special Programs, Projects and IUFRO-led Initiatives to reaching goals – such as strengthening scientific capacity and the work at the science-policy interface?*

Training courses conducted by the IUFRO Special Program for Development of Capacities have benefited many developing-country scientists. Meanwhile, the Global Forest Information Service, GFIS, provides forest related information to a growing global audience. The reports and policy briefs provided by the IUFRO-led initiative "Global Forest Expert Panels," GFEP, and IUFRO's Special Project on World Forests, Society and Environment, WFSE, have been well received. They have succeeded in raising awareness among international policymakers and decision-makers about timely issues. Overall, these programs, projects and initiatives have enhanced IUFRO's profile as a provider of independent science-based information.

*How do you envision the future of forest-related research? How can national and regional forest research organizations benefit from the global research cooperation offered by IUFRO?*

The global research cooperation offered by IUFRO can strengthen capacity and research efforts worldwide. In the years to come, IUFRO can continue to support forest research organizations at both national and regional levels through information sharing, networking, training and active collaboration between partner institutions.

This interview is based on Dr. Lee's personal comments about IUFRO, the Task Forces and gender issues made in IUFRO News 6/2011. It is complemented by remarks made by Dr. Lee on the occasion of the Third IUFRO Latin American Congress in Costa Rica in 2013.

Task Forces	
<p><b>1990-1995</b></p> <ol style="list-style-type: none"> <li>1. Forests, Climate Change and Air Pollution</li> </ol>	<p><b>1996-2000</b></p> <ol style="list-style-type: none"> <li>1. Environmental Change</li> <li>2. Forest in Sustainable Mountain Development</li> <li>3. Sustainable Forest Management</li> <li>4. Gene Conservation and Management</li> <li>5. Water and Forests</li> <li>6. Internet Resources</li> <li>7. Global Forest Information Service</li> <li>8. Interface Between Forest Science and Policymaking</li> </ol>
<p><b>2001-2005</b></p> <ol style="list-style-type: none"> <li>1. Environmental Change</li> <li>2. Management and Conservation of Forest Resources</li> <li>3. Science/Policy Interface</li> <li>4. Public Relations in Forest Science</li> <li>5. The Role of Forests in Carbon Sequestration and Storage</li> <li>6. Forest in Sustainable Development</li> <li>7. Information Technology and the Forest Sector</li> <li>8. Water and Forests</li> <li>9. Forest Biotechnology</li> </ol>	<p><b>2006-2010</b></p> <ol style="list-style-type: none"> <li>1. Traditional Forest Knowledge</li> <li>2. Communicating Forest Science</li> <li>3. Illegal Logging and Forest Law Enforcement, Governance and Trade (FLEGT)</li> <li>4. Improving the Lives of People in Forests</li> <li>5. Endangered Species and Nature Conservation</li> <li>6. Forest Science-Policy Interface</li> <li>7. Forests and Water Interactions</li> <li>8. Forests and Carbon Sequestration</li> <li>9. Forests and Genetically Modified Trees</li> <li>10. Forests and Human Health</li> </ol>
<p><b>2010-2014</b></p> <ol style="list-style-type: none"> <li>1. Resources for the Future</li> <li>2. Forest and Water Interactions</li> <li>3. Biodiversity and Ecosystem Services</li> <li>4. Forest Bioenergy</li> <li>5. Forests for People</li> <li>6. Forests and Climate Change</li> <li>7. Forests and Human Health</li> <li>8. International Forest Governance</li> <li>9. Education in Forest Science</li> </ol>	<p><b>2015-2017</b></p> <ol style="list-style-type: none"> <li>1. Contribution of Biodiversity to Ecosystem Services in Managed Forests</li> <li>2. Sustainable Planted Forests for a Greener Future</li> <li>3. Sustainable Forest Biomass Network</li> <li>4. Forest Adaptation and Restoration under Global Change</li> <li>5. Climate Change and Forest Health</li> <li>6. Forests and Biological Invasions</li> <li>7. Forests, Soil and Water Interactions</li> <li>8. Resources for the Future: Transformation in Forest Use</li> <li>9. Foresight for Forest Sector Planning</li> <li>10. Joint IUFRO-IFSA Task Force on Forest Education</li> </ol>

range of uses, and many of these, such as the use of wood in biotextiles, are now commercialized. A variety of new products are emerging, such as nanocrystalline cellulose and related products. The Task Force focused on mechanisms and approaches to further the sustainable use of forest resources, drawing on a triple bottom line perspective, including environmental, social and economic sustainability. The researchers also included an additional governance perspective, since robust governance is identified as a leading factor in the unsustainable use of forests (and their degradation). This Task Force provided insight into the design of policies and institutions which could support the sustainable use of forests, and forest products, and thus advance the green economy. The topic of the Task Force was related directly to the Millennium Development Goal of environmental sustainability. It was also tangentially related to the goal of poverty alleviation.



Logs being moved by sea to a sawmill. Major changes in the patterns of demand for logs may result in them being processed in a different country to where they were harvested.

Photo © John Innes

## Forests for People

Forests provide a broad range of goods and services, which contribute to the livelihoods of around 1.6 billion people worldwide. Urbanization, globalization, and changing consumption patterns have an impact on forests. Understanding the main societal causes of these changes and their consequences on forests and people is a major challenge for forest research. This Task Force aimed at increasing knowledge on forests for people in all its various facets as well as at promoting societal awareness of forests and forest use. The researchers defined four main clusters of interest: livelihoods; health, recreation and tourism; urban and rural landscapes; and culture and education.

## Forests and Human Health

Forests ecosystem goods and services include food and herbs, pharmaceuticals and nutraceuticals, as well as the provision of recreational, cultural and spiritual benefits, which have a positive impact on human well-being. But the interplay between forests and human health is complex. The Task Force on Forests and Human Health aimed at facilitating an ongoing debate on the relationship between forests and human health. It also aimed to promote dialogue between health and forestry professionals, policymakers and companies. The Task Force's efforts complemented work by the United Nations (UN), the Food and Agriculture Organization of the UN (FAO) and international research organizations. Like the work of these other organizations, this IUFRO Task Force sought to highlight the relationship between forests, food security and human health. It supported one of the

## Forests and Climate Change

Human activities exacerbate climate change, affecting the functioning of forests and, thus, their provision of goods and services. But forests are also part of the solution (through carbon sequestration, and material and energy substitution). The Task Force on Forests and Climate Change focused in particular on the impacts of climate change on forest ecosystems (including insects and pathogens) and forest-dependent people; feedbacks between land cover dynamics, forest disturbance processes and climate change; options for adaptation and trade-offs between adaptation, conservation, and/or socio-cultural needs; and REDD+ and other opportunities for carbon mitigation, including governance and institutional arrangements.

## Education in Forest Science

Education plays a key role in ensuring appropriate forest management. Traditional forest knowledge is a crucial component of forest education. Considering today's new societal demands – such as increasing demands for ecosystem services and novel resource governance systems – other forms of learning have gained importance. The IUFRO Task Force on Education in Forest Science initiated three Learning Initiatives, which aimed at knowledge transfer, as well as the testing of new educational programs and techniques at the university level. The first Learning Initiative focused on precision forestry, the second on forests and forestry in times of climate change, and the third on model forests. The novelty of this program was also grounded in its methods to select topics, teachers and instructors, the place where



Lingonberry. Photo ©Tytty Sarjala

priority areas of FAO's Forestry Department to promote and develop Non-Wood Forest Products (NWFP), and advocate for their sustainable utilization.



Students of the University of Yaounde participating in the IUFRO workshop on education, Yaounde, 2014. Cameroon. Photo provided by Piotr Paschalis-Jakubowicz

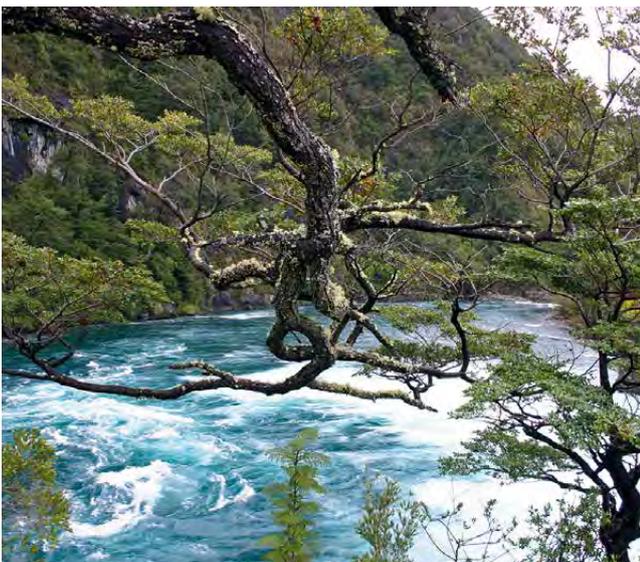
classes were conducted, applied techniques in the field and laboratories, and methods of testing knowledge and skills.

## Biodiversity and Ecosystem Services

Biodiversity is a key determinant of forests' ability to effectively provide ecosystem services such as soil formation, food, water, and erosion control. Deforestation and degradation are major causes of biodiversity loss. Other threats include climate change and diseases. These factors represent, and/or are expected to create, considerable challenges to the sustainability of forests. The Task Force on Biodiversity and Ecosystem Services focused on two key areas: the role of planted forests in the provision of biodiversity and ecosystem services (BES) and opportunities for management, and forest biodiversity and ecosystem services in tropical regions. The subject matter is related to the objectives of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and the United Nations Convention on Biological Diversity (CBD).

## Forest and Water Interactions

More than one in six people worldwide do not have access to safe drinking water, and approximately 80% of the global population is living in areas where water resources are insecure. Forest watersheds play an important role in providing domestic, agricultural and commercial water, and therefore the conservation of forests is key to sustaining the availability and quality of water. This Task Force addressed questions such as: water consumption of growing tree crops compared to other land uses, and the impacts of bio-energy/reforestation schemes on regional water resources; eco-hydrolog-



Perez Rosales National Park – Chile. Photo © IUFRO

ic responses of forests to climate change and adaptive forest management strategies to ensure water supplies and other ecological services; and integrated watershed hydrology and landscape management.

## Forest Bioenergy

Natural, planted and plantation forests are among the world's most important sources of renewable materials. The intensity of forest management and harvesting is expected to increase as the transition to a bio-based economy continues. It is important to support the movement towards a more efficient and less wasteful use of globally limited biomass resources. The Task Force on Forest Bioenergy focused on supporting forest management, wood harvesting and utilization schemes that are adapted to regional conditions. These activities would serve to optimize the multitude of benefits received from forests, while preserving or re-establishing the conditions that promote sustainability. The group worked on synthesizing the best available knowledge on forest biomass procurement systems, on exemplifying how to avoid wasteful and inefficient use of forest biomass, and on illustrating how forest biomass can be efficiently promoted and supported during an introduction phase, under competition from established fossil carbon-based product chains with a developed infrastructure for marketing and use.

## International Forest Governance

Efforts to address global deforestation and forest degradation led to an array of initiatives. Today concerted efforts are emerging over two policy instruments: legality verification, and reducing emissions from deforestation and forest degradation (REDD/REDD+). One key question is whether these efforts might succeed in finding new ways to improve forest conditions and livelihoods. The



The IUFRO Task Force on Forest Governance met in December 2012 in Copenhagen, Denmark. Photo © Devin Judge-Lord

Task Force aimed at assessing how policy integration and stakeholder learning might be fostered to improve the practice of responsible forest management around the world. It focused on understanding and assessing the

implications of scholarship on forest governance integration and learning for encouraging problem-focused research, and addressing on-the-ground and enduring forest management challenges.

### Targets goals and objectives of Task Forces 2015–2017

Since 2015 ten Task Forces have been established, which focus on a wide range of forest research and related disciplines. They will be active until 2017 and will provide knowledge and holistic expertise on several emerging issues. Below is an overview of the ten Task Forces as well as on the scientists coordinating them.

#### Climate Change and Forest Health

This Task Force aims at improving our understanding of the processes regulating the interactions between forests and climate. Its aim is to address how forest ecosystems can be made more resilient against climate change. The multi-faceted aspects of these interactions pivot around

information for improving the sustainable management of their forests and inform policymakers; (2) identify new priority research avenues for the IUFRO community, including how other environmental factors, such as climate change and invasive species, influence biodiversity - ecosystem services relationships; (3) inform policymakers of the cross-sectoral importance of ecosystem services from forests.

*Coordinator: Hervé Jactel, France.*

#### Sustainable Planted Forests for a Greener Future

The Task Force on Sustainable Planted Forests for a Greener Future has been set up to address research needs concerning emerging issues of major significance to global forest policy and sustainable development goals. These issues relate to thematic areas such as vulnerability and risk management, sustainable intensification, governance and socio-economic viability, ecosystem services and landscape restoration.

*Coordinator: Christophe Orazio, France.*



Tarangire River. Photo © Pixeltheater/Fotolia



Plantation of Olga Bay Larch at Qingyuan in Liaoning Province, China. Plantations such as these will be an important source of roundwood in the future. Photo © John Innes

forest health, with a particular focus on nitrogen and ozone pollution, insect attacks, increased temperature and drought, and the carbon balance.

*Coordinator: Elena Paoletti, Italy.*

#### Contribution of Biodiversity to Ecosystem Services in Managed Forests

The main goal of the CoBES Task Force is to gather the available knowledge on the effects of forest biodiversity on ecosystem services provisioning in managed forests, in order to: (1) provide forest managers with relevant

#### Sustainable Forest Biomass Network

The objective of this Task Force is to initiate a global network of forest experts in the field of forest biomass in order to share state-of-the-art knowledge and expertise across scientific disciplines (including natural science) as well as in the fields of social science and policy. The network should remain active after the actual period of the Task Force. The nexus between basic and applied research will be addressed by including aspects of development cooperation and by organizing events with a trans-disciplinary orientation.

*Coordinator: Viktor Bruckman, Austria.*

## Forest Adaptation and Restoration Under Global Change

Forests and forest landscapes worldwide are now facing global changes, including: climate change (in particular, extreme weather events/disturbances), novel and changing pathogen impacts, and changing social demands for forestry and land use (due to increased demands for meat and dairy, bioenergy production, and environmental services). In the face of these challenges, there is an increasing need for forest ecosystems and forest landscapes to be able to adapt to varying demands on ecosystem services. The Task Force work is dedicated to globally compiling and improving knowledge on how to achieve an optimal adaptation status of forest and forests landscapes.

*Coordinator: Andreas Bolte, Germany.*



Oak mortality from Gypsy Moth. Photo © Laura Blackburn, US Forest Service



Field trip during the expert workshop on Restoration and Adaptation of Mountain Forests in Central and Northeast Asia, 2015 in Bishkek, Kyrgyz Republic. Photo © John Stanturf

## Forests and Biological Invasions

There is an urgent need to understand the drivers of biological invasions, characterize their effects on forests, and develop strategies for minimizing future invasions and their impacts. Current work on invasions has generally focused within individual disciplines; and the lack of synthesis among fields focusing on specific invasive taxa has hindered the development of integrative knowledge and comprehensive management policies. In particular, there is a strong social component to the invasion problem that has largely been neglected. The Task Force comprises an interdisciplinary team that studies various aspects of biological invasions in forests, synthesizing knowledge across disparate fields.

*Coordinator: Andrew Liebhold, USA.*

## Resources for the Future: Transformation in Forest Use

The rationale of this Task Force is to understand the transformation of forest use that is occurring in response to the pressures of globalization, population growth, resource scarcity and ecological degradation. These transformations involve a distinct change in our relationship with forests. This change occurs at different levels within forests, from forest planting and forest harvesting and operations, to forest use and forest products. This particular Task Force takes a focused view at changes in how forests are used and valued - changes which result directly from the rapid economic, social and ecological change experienced globally. The focus is on more advanced forms of forestry such as those practiced in developed countries on an industrial scale, and on industrial-scale forestry and plantations in developing countries.

*Coordinator: John Innes, Canada.*

## Forests, Soil and Water Interactions

The Forests and Water Research Goal was previously identified in the IUFRO 2010-2014 Strategy as one of six key areas for development. Often forests and water, or forests and soils are considered in isolation, whereas the processes occur in physical and human landscapes. Subsequent management is affected by these factors as well as political and market forces. Emerging areas of work include: the recognition that interactions need to be considered within the context of landscape processes; the emergence of new threats to forest health and thus soil and hydrological processes from climate change and population growth; the development of new markets related to climate mitigation (REDD+, reforestation, bioenergy) that may change the management of whole landscapes; the ongoing development of ecosystem services payments; and the clear message that science should be



Bitter Springs Mataranka, Northern Territory, Australia.  
Photo © markrhiggins/Fotolia



Team members meet to discuss the Global Outlook on Forest Education (GOFE), research project that is one of the Task Force's major activities. Photo © Mika Rekola

cognizant of policy and management requirements. The Task Force examines these issues, gaps and uncertainties by establishing a research network, with the specific aim to develop coherent management responses that build on this enhanced understanding of forest, soil and water interactions.

*Coordinator: Richard Harper, Australia.*

### Foresight for Forest Sector Planning

IUFRO's Strategy for 2015-2019, adopted at the XXIV IUFRO World Congress in Salt Lake City, included the goal to strive for research excellence through the establishment of a foresight mechanism. IUFRO Headquarters convened a meeting of experts to discuss the scope and Terms of Reference of a Forest Foresight Advisory Group. The expert group agreed that the Forest Foresight Advisory Group should (1) design a method for conducting foresight on issues that are likely to have a future impact on forests globally and regionally; and (2) advise IUFRO on the application of this method to inform its future strategies, especially the IUFRO Strategy 2019-2024, and its activities at the science-policy interface. The Task Force will outline emerging developments in forestry, including those which affect broader society. This work will help provide a context to assist Divisions and IUFRO as a whole in maintaining their relevance and maximizing their impacts.

*Coordinator: Jerry Vanclay, Australia.*

### Joint IUFRO-IFSA Task Force on Forest Education

In recent years, changes in the forest-based sector, combined with evolving demands from society, have led to new trends in forest education worldwide. Those developments are reflected in the labor market as well as in

students' expectations to acquire a greater diversity of experiences and skills. In addition, institutional environments for research and education have changed. Forest education has been insufficiently addressed in existing international efforts thus far. The collaborative effort between IUFRO and IFSA will provide information in this field of research. This will not only strengthen the education on forests and practices, but also highlights ways to again make the sector attractive for young people. The Task Force is a unique project which brings together the perspectives and knowledge of students, educators and other stakeholders. It thereby encourages international discussions on forest education and capacity building. It also helps to identify, compile and communicate the gaps and challenges in forest education, highlighting the new fields of forest education and to enhancing forestry students' mobility and access to educational opportunities.

*Coordinators: Sandra Rodríguez-Pineros, Mexico; Magdalena Lackner, Austria.*



# CHAPTER 5

## Serving the Global Forest Science Community

IUFRO was founded as a global network for the exchange of forest-related scientific knowledge and cooperation among forest scientists. The Organization has lived up to this mission by continuously providing support to its members through various services. These services included financial support to scientists from economically disadvantaged countries (to facilitate their participation in IUFRO meetings and conferences), research capacity development, thematic networking and publishing, terminology, and information management and dissemination. To this end, IUFRO created a provision in its statutes allowing for the establishment and operation of special programs, projects and IUFRO-led initiatives. Over the years, IUFRO has established two science-policy initiatives - the Global Forest Expert Panels and the World Forests Society and Environment Project (described in Chapter 6) - as well as two long-term service programs and one project presented in this section:

- Special Programme for Development of Capacities (SPDC)
- SilvaVoc Terminology Project; and
- Global Forest Information Service (GFIS)

### Special Programme for Development of Capacities (SPDC)

The Special Programme for Development of Capacities (SPDC) has been operational since 1983. Formerly known as the Special Programme for Developing Countries, its mission is to expand and foster forest research capacity in developing and economically disadvantaged countries in Africa, Asia, Eastern Europe and Latin America. The SPDC is IUFRO's largest long-term program, and so far has been providing assistance to forest scientists in developing countries to:

- Attend IUFRO scientific meetings and conferences;
- Participate in regional and global thematic networking initiatives; and
- Improve capacities in both core scientific competences and interaction with society.



By strengthening the forest science community in developing countries and enhancing the role of science in shaping forest policy and management, the SPDC contributes to broader economic, environmental and social development objectives such as poverty alleviation, improvement in the wellbeing of rural people (in particular their access to resources), environmental protection, and the conservation and sustainable utilization of forest resources.

Over the past 34 years, the SPDC has provided support to the forest science community in economically disadvantaged countries in Africa, Asia, Latin America and Eastern Europe. Because of significant changes in global economic development in the past decades, a simple classification of countries as rich or poor no longer reflects the realities on the ground. For example, with the expansion of the European Union into Eastern Europe, many countries in that region no longer qualify for SPDC support. On the other hand, many previously developing countries have become emerging economies, and

now provide their own resources for forest research and networking. However, in some of these countries forest research still remains largely under-resourced. External support therefore needs to continue.

The above examples illustrate that the world has become more complex and the term “developing countries” has ceased to sufficiently describe the target audience. Therefore, the name of SPDC was changed from “Special Programme for Developing Countries” to “Special Programme for Development of Capacities.” While maintaining the well-known acronym (SPDC), this new name explicitly indicated the program’s aim: capacity building through training workshops, networking projects and support for participation in IUFRO scientific meetings and conferences. The new name was launched at IUFROLAT 2013 in Costa Rica, and became fully established throughout the IUFRO network at the XXIV IUFRO World Congress the following year.

The work and achievements of SPDC can be described by looking at two distinct periods of time: the earlier history of establishment and expansion of the program in the period from 1983 to 2000, and the program consolidation and expansion in the period from 2001 until 2017.

### Program establishment and early development (period 1983 to 2000)

The gap in forest research output and capacity between industrialized and developing countries featured prominently in the Congress discussions during the XVII IUFRO World Congress in Kyoto, Japan in 1981. A large proportion of the world’s forest resources are located

science community thus felt that better support to forests and their management through enhanced research would be needed. In the Congress Declaration, IUFRO was formally requested to undertake activities to strengthen research related to forest resources in developing countries. As a consequence, IUFRO and FAO joined forces and established the SPDC, with the broad aim of providing assistance to forest research in less developed countries.

Located in part at the IUFRO Secretariat in Vienna, Austria, the SPDC began its operations in July 1983. Its operations were enabled by initial funding from the World Bank and the United Nations Development Program. This budget was later supplemented with contributions from other funding bodies such as USAID, the (United Kingdom’s) Overseas Development Administration, the Governments of Denmark, Japan and Republic of Korea, and the United States Department of Agriculture. Assistance in kind (especially from FAO, the Governments of Austria, Canada and the United States of America) has also been important.

Oscar Fugalli, a senior forestry expert seconded by FAO, Rome, was appointed to lead initial consultations with scientists and research institutions in developing countries aimed at identifying priority areas to be addressed by the SPDC, including potential funding sources. Based on these consultations and major input from developing country research institutions, an initial concept for a Special Programme for Developing Countries (SPDC) was developed comprising six components: (1) Forestry research planning, (2) Training in methods of forestry research, (3) Training in methods of forestry research management, (4) Facilitating information flows to developing country researchers; (5) Fostering twinning arrangements and (6) an International fund for forestry research training.



XVII IUFRO World Congress - Kyoto, Japan, 1981.  
Photo © IUFRO



Oscar Fugalli, first SPDC Coordinator. Photo © FAO

in tropical and sub-tropical regions in Africa, Asia and Latin America. However, their survival was threatened by excessive land conversion and overexploitation. The

In the early years, SPDC focused on identifying research needs and priorities on a regional basis; initiating a series of research planning workshops in Africa, Asia

and Latin America. The workshops and consultations were organized with IUFRO member institutions in Sri Lanka (Kandy, 1984 “Increasing Productivity of Multi-purpose Tree Species”); Kenya (Nairobi, 1986 “Increasing Productivity of Multi-purpose Lands” and a 1987 follow-up on “Tree Improvement and Silvo-Pastoral Management in Sahelian and North Sudanese Africa”); Peru (Huaraz 1987 “The Role of Multi-purpose Tree Species in the Life of Rural Communities”); and Malawi (Lilongwe, 1988, “Miombo and Savanna Woodlands of East-Central and Southern Africa”). These workshops and consultations provided the basis for subsequent program elements and training activities. SPDC gained ample experience with course development, in particular a comprehensive self-learning course on “Planning and Managing Forestry Research.” This course consisted of six volumes, which were developed by scientists from the University of Minnesota, USA and were published in 1994.<sup>4</sup>

Several training workshops subsequently introduced forest researchers in developing countries to best practices for planning and managing forest research. In order to maximize the use of research data, “FORSTAT,” a self-learning course on basic statistics for forestry researchers, was published. The course material was made available in English, French as well as Spanish and training workshops on FORSTAT were organized in Austria and Kenya.

As world concerns evolved, SPDC’s mission broadened over the years from a focus on developing countries in the tropics to expanding and fostering forestry research capacity more broadly in economically disadvantaged countries, including countries in Central Asia and Eastern Europe. Thus, the SPDC aimed to assist the activities of IUFRO through special-purpose projects and activities, in collaboration with forestry research and donor agencies of the international community. As part of IUFRO’s global network of forestry research institutions, SPDC had a comparative advantage in bringing target-country scientists into collaborative research planning, training, as well as information exchange with their international counterparts. SPDC acted as a catalyst to initiate, promote and foster ideas and working relationships across borders. Examples include the BIO-REFOR Project (Biotechnology-Assisted Reforestation in Asia). The BIO-REFOR Project received generous funding from the Japanese Ministry of Foreign Affairs. Annual scientific meetings were organized in Asia in collaboration with the University of Tokyo. The meetings allowed for the exchange of latest biotechnologies and progress in forest rehabilitation and reforestation. Support for research networking in Eastern Europe could be provided through the Project as well. A project titled “Effects of Forest Health on Biodiversity in the Carpathian Mountains,” was supported by the USDA Foreign Agriculture Service. This project addressed forest decline in Eastern Europe through various collaborative field assessments, GIS analyses and dendrochronological research.



12<sup>th</sup> BIO-REFOR Workshop in Yogyakarta, Indonesia.  
Photo © IUFRO

The SPDC made the dissemination of forest-related information to developing countries a priority through the “Information Bulletin for Developing Countries.” The Bulletin was released four times a year. The information in the Bulletin was compiled by SPDC staff and was based on AGRIS (International System for Agricultural Science and Technology) data. AGRIS is a global public database which provided access to bibliographic information on agricultural science and technology.

When founding Coordinator Oscar Fugalli retired in 1991, the Governments of the United States of America and Canada seconded senior forest scientists from their Forest Services to work with IUFRO. Specifically, they were meant to serve as coordinators and deputy coordinators of SPDC until 2000. These secondments lasted between two and four years each. The appointees were: Lorne Riley from Canada (1991 to 1993), Brian Payne from the USA (1993 to 1996), Robert Szaro from the USA (1996 to 2000), Wade Bowers from Canada (1997 to 1999), and David Langor (1999 to 2001), also from Canada. Because of funding from the Danish Government through the Danish Development Agency DANIDA, SPDC was also able to recruit Atse Yapi, from Côte d’Ivoire, as Deputy Coordinator for Africa. He would be based at the FAO regional office in Accra, Ghana.

Several important accomplishments occurred during this period. A Scientist Assistance Program was established to support forest scientists from developing countries to participate in IUFRO scientific meetings and conferences. A handbook on “Preparing and Writing Research Proposals” was also developed. This handbook was authored by Pat Reid (University of Arizona, USA) and later translated by Margareta Khorchidi and Eva Schimpf into French and Spanish.<sup>5</sup> The manual continues to be used in training workshops for early-career

<sup>4</sup> <http://www.iufro.org/science/special/spdc/training-resource-centre-old/>

<sup>5</sup> <http://www.iufro.org/science/special/spdc/training-resource-centre-old/proposal-writing/>



Meeting of Directors of FORNESSA institutions to discuss strategic issues of research priorities, collaboration and funding.  
Photo © FRIM, Malawi

scientists. It has helped them to develop their skills, prepare research proposals and increased their chances of receiving funding for proposal submissions.

At the end of this program development phase SPDC actively engaged in preparatory works to assist the African forest research community to establish the Forest Research Network of Sub-Saharan Africa (FORNESSA). This African network of forest research institutions became operational in 2000. It remains the main partner for SPDC activities in the region. With the global advancement of information technologies and internet-based information systems, SPDC commenced with a major support project on “Mobilizing Scientific Information on Forests to Promote Their Sustainable Management in ACP Countries.” This three-year project was funded by the European Commission. It provided substantial resources and means to expand cooperation with the African forest science community. In addition, the project helped to usher in a new era of IUFRO project management. To be more precise, at the time funding norms had shifted from larger lump sum allocations to specific-purpose projects. These more specific projects were evaluated on the basis of detailed formal plans, restricted budgets and stricter accounting and reporting rules.

### Program consolidation and expansion (period 2001 to 2017)

At the turn of the millennium, SPDC continued as IUFRO’s long-term support program for forest science cooperation in economically disadvantaged countries. By this time, SPDC had matured significantly and received recognition within the global forest science community for its services, including travel support for attending IUFRO meetings as well as organizing and funding training and networking activities. At the same time, the program environment had changed considerably, and therefore the SPDC adopted new technologies for networking and information exchange, notably email, Internet, and in the near future, social media. In addition, IUFRO started engaging in major global policy processes such as the United Nations Forum on Forests as well as the Rio Conventions. IUFRO did so through initiatives such as the Global Forest Expert Panels (GFEP) and the World Forests, Environment and Society (WFSE). The heightened

need and ability to provide substantive scientific knowledge for policymaking at global, regional and national levels had also a major influence on SPDC’s focus of work and activities.

In 2001, a 12-month consultation process within the IUFRO-SPDC Advisory Group took place. The Advisory Group represented the IUFRO Board and contained members from both developing and industrialized countries, as well as international forestry organizations such as CIFOR and FAO. The Group was launched with the aim of developing a new strategic direction for SPDC. The resulting new strategic plan built on some of the strengths from the earlier program components. It also added a number of new elements and approaches to the delivery of IUFRO-SPDC products. Its stated mission was “to expand and foster forest research capacity in developing and economically disadvantaged countries.” In keeping with this mission, SPDC emphasized the need to enhance the ability of IUFRO member institutions in developing and economically disadvantaged countries. Particular emphasis was placed on the need to generate and deliver scientific information and advisory services on forests and trees, and thus contribute more effectively to the conservation and sustainable management of forest resources. The focus of activities was directed towards the development and implementation of new training modules, and the facilitation of various thematic research networking initiatives. Promoting “hands-on science cooperation” within the framework of the existing IUFRO structure was prioritised.

The need to adapt the priorities of SPDC to the changing framework conditions coincided with the establishment of the SPDC Coordinator as an IUFRO-funded staff position. For a decade, the governments of the USA and Canada had generously supported IUFRO through secondments of SPDC coordinators and deputy coordinators. However, a new era for SPDC began in 2001 with the signing of an agreement with the “Deutsche Gesellschaft für Technische Zusammenarbeit” (GTZ), on behalf of the German Federal Ministry of Economic Cooperation and Development. The agreement provided a three-year grant for an SPDC Coordinator position funded by IUFRO. In 2001, this position was taken up by Michael Kleine, an Austrian national with experience in forest-related development cooperation. Kleine’s previous work had involved both residential and short-term assignments, in several



countries in both tropical and sub-tropical regions: namely, in South Asia, Southeast Asia and Central America. After the GTZ funding scheme was terminated in 2004, the coordinator position became fully financed out of SPDC project funds. Starting in 2011, Kleine assumed the position as IUFRO Deputy Executive Director. He continues to coordinate SPDC activities on a part-time basis. Since 2006, SPDC has strengthened its cooperation with Latin America by establishing and funding a Regional SPDC Coordinator position at CATIE in Costa Rica. Bastiaan Louman, a senior forest scientist at CATIE, has served in this position ever since. For over a decade, cooperation with the Asia Pacific Association of Forestry Research Institutions (APAFRI) has involved many joint activities. This was due to the fact that Sim Heok-Choh, Executive Secretary of APAFRI, acted as SPDC Regional Coordinator until 2016.

The consolidation and expansion of the program was guided by five priority areas as outlined in the SPDC program strategy developed during 2001/2002. These priority areas include:

- Enhancing core scientific competence;
- Enhancing science contributions to forest policy and forest management;
- Improving thematic networking and information management; and
- Providing institutional support to individual forest scientists and regional forest research networks

We will now consider each of these priority areas:

### Enhancing core scientific competence

The aim of the SPDC program module is to train early- and mid-career forest scientists to improve their abilities and skills in implementing high quality research products. To this end, SPDC offers the following training workshops:

- Training workshops in “Preparing and Writing Research Proposals,” based on the handbooks which had previously been developed. These workshops have been implemented by Michael Kleine in Nepal, Malaysia, Ghana and Kenya. The workshops in Africa were led by Joseph Cobbinah, former director of the Forestry Research Institute of Ghana.
- A training course on “Research Methods” which presents a framework for preparing a scientific research study plan. The course leads participants through the process of asking scientific questions, developing meaningful hypotheses, and designing research to test these hypotheses. This type of training was led by Rolfe Leary, US Forest Service (retired), and John Kershaw, University of New Brunswick. It was offered as pre-congress workshop at the XXIV IUFRO World Congress 2014.
- A training workshop on “Systematic Review in Forest Science,” which introduces participants to systematic review as a powerful tool in evidence synthesis for forestry and related fields. Rather complex issues must now be addressed in sustainable management of landscapes, particularly given the most pressing problems in the 21<sup>st</sup> century (such as poverty, food security and sustainable development). It is therefore important that sufficient evidence be generated from the body of globally-available scientific research, to inform policy decisions and actions about forests and forest-related issues. This workshop module has been developed and conducted by Gillian Petrokofsky from the University of Oxford, UK.

### Enhancing science contributions to forest policy and forest management

In order for investments into research and development to be worthwhile for society, it is necessary to create awareness and promote approaches and tools for



IUFRO-SPDC Training Workshop “Systematic Review in Forest Science”, FRIM Malaysia 2015. Photo © Hu Yanjie



IUFRO-SPDC workshop on “Working effectively at the interface of forest science and forest policy” in Malaysia. Photo © IUFRO

effective science-policy interactions. To this end, SPDC offers training for scientists from developing countries in science-policy interactions and science communication. SPDC thus contributes to enhanced use of scientific information for policy and management.

- The SDPC training module on “Working Effectively at the Interface of Forest Science and Forest Policy” is based on outputs of a former IUFRO Task Force on Science-Policy Interfacing. This Task Force was headed by Richard Guldin and John Parrotta (both from the US Forest Service). It addressed the science community’s need to invest in bridging the gap between forest science and society. Science-policy interactions which make available scientific knowledge generated by forest research are essential. They can increase awareness of appropriate policy and governance approaches. They can also promote understanding of the technical and managerial solutions needed for effective conservation and sustainable management of forest resources. The overall objective of this training workshop is to provide concepts and methods to researchers on how to plan, conduct, and organize research activities so that results can more quickly and easily be transformed into usable information for problem-solving and policy-making. To this end, the training workshops are aimed in particular at promoting knowledge of policy- and decision-making processes, and the roles scientists can play in informing such processes. This workshop module is based on a best practices guide for science-policy interfacing, which was published as IUFRO Occasional Paper No. 17.<sup>6</sup> Since 2005, more than 1000 forest scientists have participated in science-policy training sessions organized by SPDC annually in various regions.

- The training workshop on “Communicating Forest Science: Making Science Work for Policy and Management” is another module which supports the interactions between forest science and forest policy. The workshop module highlights the importance of the communication of scientific knowledge for policy learning and formulation. Even though communication is a concept that has much resonance and relevance in the scientific world today, in practice scientists rarely pay much attention to communication processes outside the world of science. It is thus very important to bring science professionals closer to communication concepts. Adequate communication, strategic planning, and messages focusing on target groups and evaluation of communication processes through various means (including social media) help bring networks together and spread specific messages. The content of this training is based on manuals on “Public Relations for Forest Science” and “Communicating Forest Science”<sup>7</sup> authored by Daniela Kleinschmit and Max Krott, Germany; and Cindy L. Miner, USA, respectively. This training is similar to the science-policy workshops in the sense that it remains in high demand and is being adapted to emerging communication approaches and tools as they become available.

The training modules for both enhancing core scientific competences and science-society interactions (described above) represent the current range of training opportunities that SPDC can offer on a regular basis. SPDC offers this training in cooperation with its many partners in Africa (FORNESSA), Asia (APAFRI) and Latin America (CATIE).

<sup>6</sup> <http://www.iufro.org/publications/series/occasional-papers/article/2005/01/01/occasional-paper-no-17-working-effectively-at-the-interface-of-forest-science-and-forest-policy/>

<sup>7</sup> <http://www.iufro.org/science/special/spdc/training-resource-centre/>



Training workshops for early and mid-career forest scientists across FORNESSA countries contribute to enhancing research competence and networking. Photo © Michael Kleine, IUFRO



Rainforest destruction in Thailand from aerial view. Photo © Fotolia: khlwangchao

### Thematic networking and information management

Following the establishment of the Global Forest Information Service (GFIS; for more details refer to the chapter on GFIS below) in early 2000, SPDC joined IUFRO's efforts to promote best practices of GFIS information exchange and dissemination in Africa, Asia and Latin America. These activities were made possible through substantial support by the European Commission. Specifically, the European Commission supported a GFIS Africa Project titled "Mobilizing Scientific Information on Forests to Promote Their Sustainable Management in ACP Countries." Over a period of 54 months (January 2000 to June 2004), IUFRO-SPDC acted as project manager and coordinated the activities for the development of GFIS in Africa.

The GFIS is an Internet gateway whose mission is to enhance access to all forest information. It aims to ensure that this information is accessible to all stakeholders - including policymakers, researchers, forest managers, NGOs, rural community groups, and the public at large. With this end in mind, the Forestry Research Network of Sub-Saharan Africa (FORNESSA) acted as a regional project implementer. FORNESSA established five GFIS Service Centers, one each in Gabon, Ghana, Kenya, Senegal and Zimbabwe. These centers were hosted by national forestry research organizations. They served regional needs and assisted in the discovery of information resources, metadata management, GFIS technical maintenance, and communication with GFIS information providers. The project provided the necessary computer hard- and software; it also implemented a comprehensive capacity-building program for nodal staff such as webmasters and content managers. Once established, the centers also organized metadata mobilization campaigns

in various countries through workshops, training courses or individual coaching sessions. More than 3000 meta-data records about unpublished scientific reports were collected and made globally available through GFIS. Major impacts of the project included: (1) enhanced awareness among African forest scientists of the importance of proper information management and sharing; (2) substantial increase in capacities in information management at key institutions; (3) significant contributions to the overall development of GFIS; and (4) strengthening of FORNESSA through intensified collaboration among its scientists both in the region and within the broader global forest science community.

Based on the GFIS work in Africa, in 2009 FORNESSA and IUFRO established the FORNESSA Information Service (FORNIS). FORNIS is a joint gateway for the dissemination of research results generated by African forest science institutions. Over the years, SPDC continued to support FORNIS' development. SPDC helped to support FORNIS' close link to GFIS, and also supported the training of African webmasters and content editors.<sup>8</sup>

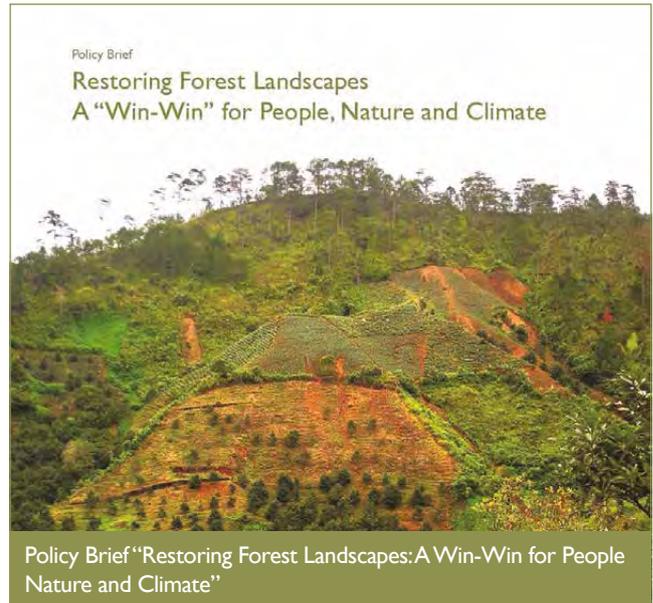
The GFIS Africa Project clearly demonstrated that enhanced collaboration and information sharing added great value to scientific output. Empowered by the success of the GFIS Africa Project, SPDC commenced with the coordination and fund acquisition to support a new stream of thematic synthesis projects. These projects dealt with diverse topics of interest to global, regional and national policymakers and practitioners. SPDC continues to coordinate these projects, and the major outcomes of these initiatives (to date) are summarized as follows:

- Forest Rehabilitation in Sub-Saharan Africa: Funded through the GFIS Africa Project and under the umbrella of FORNESSA, a group of African scientists compiled and published a scientific synthesis on

<sup>8</sup> <https://www.fornis.net/>



Local stakeholders discussing the main causes of forest degradation. Photo © Ernest Foli



Policy Brief "Restoring Forest Landscapes: A Win-Win for People Nature and Climate"

"Rehabilitation of Degraded Lands in Sub-Saharan Africa: Lessons Learned from Selected Case Studies." The study covered all major ecological regions in western- eastern and southern Africa.<sup>9</sup>

- **Keep Asia Green:** This five-year project (2006 to 2010) funded by Yuhan-Kimberly (Korean forestry company) and the ASEAN-Korea Environmental Cooperation Project (AKECOP) brought together around 100 forest scientists from the various regions in Asia and the Pacific region. They jointly produced scientific assessments which addressed major issues including the status of forests in Asia Pacific, causes of forest degradation, as well as past and current rehabilitation efforts and achievements. A total of four IUFRO World Series publications were produced one each for the different Asia Pacific sub-regions<sup>10</sup>.
- **Climate Change and Forests in Africa:** A regional policy brief was produced on "Making African Forests Fit for Climate Change." It was produced in collaboration with the FORNESSA thematic group "Forest and Climate Change." The policy brief was based on a detailed analysis of relevant information contained in the global assessment report, as well as in more than 250 additional literature references identified by African experts. The brief aimed to contribute to the development of effective adaptation strategies in Africa and related international support efforts. The policy brief was formally presented at the 14<sup>th</sup> meeting of the Subsidiary Body on Scientific, Technical and Technological Advice of the UN Convention on Biological Diversity in 2010.
- **Reducing Deforestation and Forest Degradation and Enhancing Environmental Services from Forests in**

Central and West Africa (REDDES): This project was funded by the International Tropical Timber Organization (ITTO). It aimed to contribute to ITTO's "Thematic Program on REDDES" through scientific analysis of specific pilot areas in four ITTO member countries in west and central Africa: Cameroon, Ghana, Liberia and Nigeria. It also engaged in capacity building for improved dissemination of scientific information and for effective interactions with policymakers at national and regional levels. When the project had been completed, scientific analyses and stakeholder consultations were undertaken. They clearly indicated that their awareness was increasing among local communities regarding the severity of land degradation and the need to address this degradation (through a mix of land rehabilitation measures). The stakeholders' views on a wide range of land rehabilitation measures such as wildfire control, agroforestry, establishment of woodlots, sustainable harvest of NTFP and charcoal making were included as REDDES strategies. The strategies were published as factsheets<sup>11</sup>.

- **EcoAdapt Project:** This EU-funded project on "Ecosystem-Based Strategies and Innovations in Water Governance Networks for Adaptation to Climate Change in Latin American Landscapes" was aimed at facilitating the development of a viable, sustainable civil society response to environmental and climatic challenges. It sought to do so by combining different forms of knowledge and promoting collective action in three Model Forests (in Chile, Argentina and Bolivia). This was a four-year joint undertaking by four research institutions (CATIE, CIRAD, SEI, IUFRO) and five civil society organizations from Europe and

<sup>9</sup> <http://www.iufro.org/science/special/spdc/actpro/>

<sup>10</sup> <http://www.iufro.org/science/special/spdc/actpro/keep/>

<sup>11</sup> <http://www.iufro.org/science/special/spdc/actproj/reddes-main/>



Participants of the editorial meeting for the Global Study on Teak Forests held in Vienna in 2016. Photo © IUFRO

Latin America. It was completed in 2015 and its findings were published as IUFRO Occasional Paper 30<sup>12</sup>.

- Forest Landscape Restoration as a Key component of Climate Change Mitigation and Adaptation: This collaborative project (2013 to 2016) with the World Resources Institute was funded by the German Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). It brought together forest scientists from all regions and drew upon latest scientific knowledge. Through an analysis of restoration case studies and review of scientific literature, the project demonstrated how forest landscape restoration (FLR) can contribute to climate change mitigation and adaptation. One of the major results of this study was the identification and detailed description of the many different ways in which FLR contributes to both mitigating climate effects, as well as to helping ecosystems and society to adapt to adverse effects of a changing climate. The outcomes included: a scientific report and policy brief on “Restoring Forest Landscapes: A Win-Win for People Nature and Climate”<sup>13</sup>; a toolbox on “Translating global FLR objectives into local action;” and several FLR training and knowledge-sharing workshops in Asia (Kyrgyzstan, Mongolia and China), Africa (Rwanda) and Latin America (El Salvador)<sup>14</sup>.
- Global Study on Teak Forests: Based on funding from ITTO and FAO in 2016, teak experts from Africa, Asia and Latin America were brought together by a consortium of TEAKNET, FAO and SPDC to work on a scientific synthesis on the conservation of teak genetic resources and the sustainable management of

teak forests. Following a retrospective analysis and evaluation of the ITTO-supported project “*Ex-situ* and *In-situ* Conservation of Teak (*Tectona grandis*) to Support Sustainable Forest Management in Myanmar,” a global evaluation of teak management was conducted. The evaluation addressed best practices and lessons learned on the conservation of teak genetic resources and the sustainable management of teak forests in different country contexts in Africa, Asia and Latin America. The global study was published as IUFRO World Series Volume 36 in 2017<sup>15</sup>.

Overall, the outcomes of the thematic synthesis projects have strengthened collaboration among scientists and forest experts across countries and continents. They have also helped SPDC to mobilize new funding streams for supporting the forest science community in economically disadvantaged countries.

### Providing institutional support to individual forest scientists and regional forest research networks

From its inception in 1983, the Scientist Assistance Program (SAP) has provided forest scientists from economically disadvantaged countries in Africa, Asia and Latin America with financial assistance to participate in scientific meetings and conferences organized by IUFRO’s Divisions, Research Groups and Working Parties. The support is directed to in-service forest scientists working at national or sub-national institutions of research and higher education that are (in one way or another) involved in forest- and tree-related research and academic training programs. In economically disadvantaged countries such institutions have limited means to support their scientists to attend IUFRO conferences, networking meetings and training events.

Over the years, SPDC was able to regularly deliver SAP travel grants. Generations of early to mid-career scientists from IUFRO member institutions benefitted from the program. Every year since 2005, about 100 forest scientists have received support to participate in IUFRO meetings and conferences.

### Acknowledgements

IUFRO is grateful to all partners and donors for the support provided over the past 34 years. Major donors included The World Bank, UN Development Program, USDA Forest Service, the Governments of Austria,

<sup>12</sup> <http://www.iufro.org/publications/series/occasional-papers/article/2015/12/17/iufro-occasional-paper-30-creating-and-sharing-new-knowledge-through-joint-learning-on-water-gover-1/>

<sup>13</sup> <http://www.iufro.org/publications/series/world-series/article/2015/12/01/world-series-vol-34-forest-landscape-restoration-as-a-key-component-of-climate-change-mitigation/>

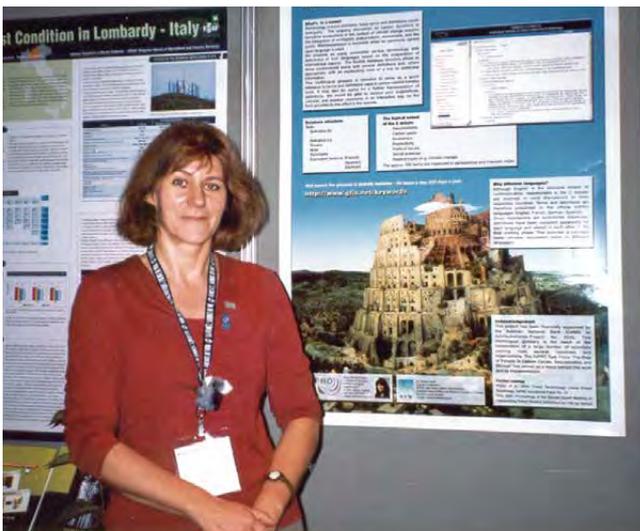
<sup>14</sup> <http://www.iufro.org/science/special/spdc/actproj/flr-ws/rwanda/>

<sup>15</sup> <http://www.iufro.org/publications/series/world-series/article/2017/06/21/world-series-vol-36-the-global-teak-study-analysis-evaluation-and-future-potential-of-teak-reso>

Denmark, Finland, Germany, Japan, Republic of Korea, Switzerland and European Commission as well as national and international agencies such as Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), International Tropical Timber Organization (ITTO), United Nations Food and Agriculture Organizations (FAO), Center for International Forestry Research (CIFOR), and Christensen Fund. Without their generous and continued support, the SPDC would not have been able to achieve results and render services to the forest science community in Africa, Asia and Latin America; the results of which have been highlighted in this section.

## SilvaVoc – IUFRO’s Terminology Project

Terminology work has been a tradition in IUFRO. For over a century, IUFRO has been acquiring experience with terminology work and defined projects. These projects include: the Flury International Bibliography System developed in the 1930s; the Joint IUFRO-FAO Bibliography Committee, which resulted in (seminal) standards; the Terminology of Forest Science, Technology, Practice and Products (F.C.



Renate Prüller, Coordinator of SilvaVoc, at the World Forestry Congress in Quebec in 2003. Photo © IUFRO

Ford-Robertson, 1971); and the Oxford Decimal Classification (ODC) for forestry, which was translated into French, German and Spanish. At the time of the 1990 XIX IUFRO World Congress in Montreal, the need for continuing high quality terminology work was expressed. In February 1995, an IUFRO project for multilingual forest terminology, called SilvaVoc (Silva = forest, and Voc = vocabulary), was introduced. SilvaVoc was based on initial work by T.B. Yerke and R.C. Callaham, from Working Group S6.03-00, and was coordinated by Renate Prüller. In addition to pure terminology work on terms and definitions, it provided a whole framework for terminology services<sup>16</sup>.

### SilvaVoc Mission

To ensure continuity in high-quality terminology work in forestry; to function as a clearinghouse for forest terminology; and to make the results of the cooperation with the IUFRO Units available to the international forestry community, both via traditional means of communication and via modern electronic technology.

## IUFRO’s clearinghouse for multilingual forest terminology

With the participation of an increasing number of non-foresters in the decision-making process in forestry, SilvaVoc was established in 1995 as a clearinghouse for terminology activities in forestry. Since 2006 SilvaVoc has functioned as a service unit within IUFRO Headquarters.

An immense pool of active expert knowledge exists within the IUFRO network. SilvaVoc users and contributors constitute an ideal partner for IUFRO in their shared attempt to define and make accessible the forest technical language to a wider public (M. Kaennel Dobbertin, R. Prüller: How to Do Terminology Work in Forestry, IUFRO XXI World Congress 2000 Kuala Lumpur).

SilvaVoc has received substantial funds from the government of Japan (1996-1999), the European Commission (1996), FAO (1996-1998, 2000-2001), UNEP (1998), China-Taipei (2000), Austrian National Bank (2001-2002, 2006), the Korea Research Institute (2005), and private donors in Switzerland and Czech Republic.

SilvaVoc set as its main activities in the period of 1995-2006:

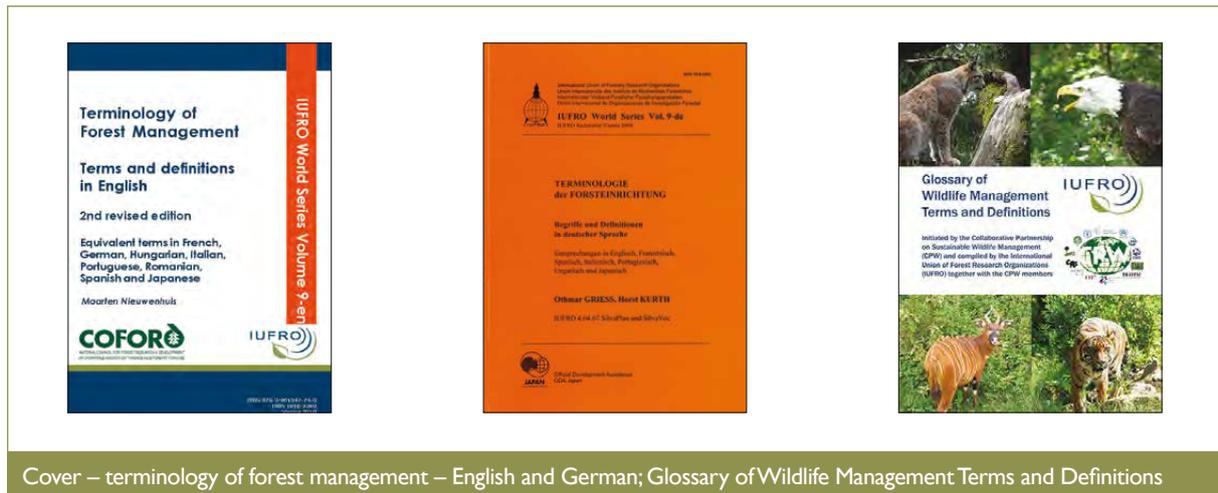
### Information and documentation – Bibliographic and consulting services

The forest terminology library provides more than 200 references to terminology publications, glossaries and vocabularies. These references appear mainly in IUFRO’s official languages (English, French, Spanish and German), but also in 20 other languages from across the globe. In addition SilvaVoc provides an Internet Bibliography of vocabularies and glossaries of forestry and related subjects, and includes links to glossaries and terminology publications on-line.

### Editorial activities – Integration of existing terminological data and production of special glossaries for specific target groups

In order to ensure high quality and continuity of terminology work in international communication, SilvaVoc has built up a strong infrastructure for editorial work and

<sup>16</sup> <http://www.iufro.org/science/special/silvavoc/>



Cover – terminology of forest management – English and German; Glossary of Wildlife Management Terms and Definitions

peer-to-peer discussion. IUFRO officers assist in the definition of terms, as well as information about the particular usage of terms in their subject areas.

In this context and over the years, SilvaVoc cooperated closely with the IUFRO Working Parties 6.03.02<sup>17</sup> “Trends in Forest Terminology.” Together they organized a Workshop on “Multilingualism and Expert Cooperation in Forest Terminology” (MEXFT’98). They also organized terminology sessions at the IUFRO World Congresses in Kuala Lumpur and Brisbane (2000 and 2005), and at the Regional Congress in Copenhagen 2002 - and 4.04.03<sup>18</sup> “SilvaPlan”. They produced an IUFRO World Series Volume (Volume 9) titled “Terminology of Forest Management Planning, Terms and Definitions” which was published in German, English, French, Italian, Japanese, Spanish, Chinese, Romanian and Welsh.

In addition, SilvaVoc developed forest-related glossaries in forest genetics, forest health, urban forestry and carbon-related forest terms and definitions. In 2005, a multilingual Pocket Glossary was prepared specifically for the IUFRO XXII World Congress in Brisbane. The glossary covered 299 terms and definitions in English and equivalent terms in French, Spanish and German.

### Term database SilvaTerm – Making compiled and improved data available electronically

In recent decades English has become the *lingua franca* of science. However, it is crucial that other languages continue to play an active role in science communication. This broadens the horizon of scientific thinking and knowledge, but it also makes unambiguous information more difficult to achieve. The forest terminology database SilvaTerm, designed in close cooperation with the International Information Center for Terminology (Infoterm),

### SilvaVoc examples of success

- International Bibliography of Dictionaries, Glossaries and Terminological Publications in Forestry with links to on-line
- Glossaries
- Guidelines on how to do terminology work in forestry
- Multilingual pocket glossary
- Term database SilvaTerm

#### SilvaVoc website

[www.iufro.org/science/special/silvavoc](http://www.iufro.org/science/special/silvavoc)

was established as a user-friendly home for handling the complicated structure of multilingual forest-related terminology data, as regards concepts, terms and definitions.

More terms and definitions are added to SilvaTerm’s stock of about 10,000 entries. Recently, for example, terms and definitions were added from a collaborative glossary project on wildlife conservation and management<sup>19</sup>. The majority of these terms and definitions are in English, French, Spanish and German; other languages include Italian, Portuguese, Hungarian, Swahili and Japanese.

The revival of IUFRO’s activities in forest terminology and the establishment of the SilvaVoc project came at a moment when forest definitions began to play a role internationally. In this context, SilvaVoc developed as a partner in discussions with other international bodies. FAO was one of the first IUFRO partners to support this project, both financially and intellectually. In the early 2000s FAO and IUFRO, in collaboration with the Intergovernmental Panel on Climate Change (IPCC) and the

<sup>17</sup> IUFRO WP 6.03.02 coordinated by Michèle Kaennel Dobbertin. For history of liaison in the IUFRO Structure, see also Working Party 9.01.01 Library, Information Networks and Terminology <http://www.iufro.org/science/divisions/division-9/90000/90100/90101/>

<sup>18</sup> See also: 4.04.03 (former S4.04-00) coordinated by Othmar Griess - <http://www.iufro.org/science/divisions/division-4/40000/40400/40403/>

<sup>19</sup> Glossary on Wildlife Management Terms and Definitions, 2015, work in progress, [[http://www.iufro.org/download/file/23692/6166/wildlife-glossary\\_pdf/](http://www.iufro.org/download/file/23692/6166/wildlife-glossary_pdf/)] initiated by the Collaborative Partnership on Sustainable Wildlife Management (CPW) and compiled by IUFRO together with CPW members

Center for International Forestry Research (CIFOR), began a joint project. The aim of this process was to enhance common understanding of forest-related definitions which were used internationally or had been developed by various international processes and bodies, such as the environmental conventions, the United Nations Forum on Forests (UNFF), the International Tropical Timber Organization (ITTO) and FAO. Harmonizing these definitions was another desired goal. To that end, three expert meetings on harmonizing forest-related definitions for use by various stakeholders were held at FAO headquarters in Rome in 2002 and 2005; the attendees of these meetings spearheading the process.

Since 2006, SilvaVoc has continued to ensure bibliographical and consultation services about forest terminologies and terminological activities to forest scientists, multilingual translators and information managers as a service of the IUFRO Secretariat. Embedded in the infrastructure of IUFRO headquarters, it currently provides online access to multilingual terms and definitions in the SilvaTerm database, and, if the need arises, it supports the production of special glossaries for specific target groups in an appropriate medium of publication.

## Global Forest Information Service – GFIS

IUFRO has always promoted the exchange and dissemination of scientific information among forest scientists, as well as between the science community and broader society. With the advent of the Internet in the 1990s, which provided accessibility to information on a global scale, IUFRO played an important role in enhancing access to and dissemination of forest-related knowledge and information. In fact, IUFRO was one of the first organizations in the forestry sector to host its information on a website, and was also actively involved in developing the Global Forest Information Service (GFIS).

GFIS is a collaborative effort of forest-related institutions aimed at maximizing the value of all forest-related information resources and providers worldwide. GFIS does so by sharing information through a single gateway<sup>20</sup>. It also promotes the dissemination and sharing of forest-related information and knowledge among the global forest community by: developing common information exchange standards, building capacity, and enhancing partnerships among forest information providers and users.

GFIS has successfully developed a system of partnerships with a variety of organizations, including many IUFRO member institutions to form an online community. Through a bottom-up approach, partners determine the volume, coverage and type of information they would like to share through GFIS. The underlying assumption behind the development of GFIS is that its partners share a common need for information sharing that is addressed most effectively through collaboration.



## The early days of GFIS

Since the 1980s it has become apparent that better access to forest information globally would assist policymakers, researchers, forest managers, conservationists, and others in their efforts to address society's needs regarding sustainable use and management of the world's forest resources. Improving access to forest information was formally recognized as a priority by the United Nations Conference on Environment and Development in 1992. As stated in Agenda 21, Chapter 40: "Existing national and international mechanisms of information processing and exchange, and of related technical assistance, should be strengthened to ensure effective and equitable availability of information generated at the local, provincial, national and international levels..."

In 1997, the Intergovernmental Panel on Forests re-introduced the importance of gaining access to information when it stated: "The Panel emphasized the need to review and improve information systems."

In order to advance this idea, CIFOR hosted a workshop on "Provision of Forest Information on the Web" at the XI FAO World Forestry Congress in Turkey in 1997. The concept of a GFIS was well received there. Subsequently, the Executive Board of IUFRO directed IUFRO Working Party 4.02, which established a Task Force on Information. Its aim was to contribute to the preparation of a strategy for improving access to forest information and development of relevant management systems.

In 1998 an "International Consultation on Research and Information Systems in Forestry" (ICRIS) [see also Chapter 6] was held in Gmunden, Austria. The consultation examined ways and means to implement research support, with particular emphasis on the interface between researchers and the user community, as well as on the role of research in policy formulation. Another goal was to provide background information for future international forest processes. In its conclusions, the meeting recommended to the Intergovernmental Forum on Forests (IFF) to "endorse and promote the development of a global forest information service to enhance access to all forest-related information, ensuring that it is accessible to all stakeholders including policy-makers, forest managers, non-governmental organizations (NGOs), community groups and the public at large."

As a consequence, the IFF called for promoting the provision and efficient sharing of existing information and the strengthening of networks, and specifically "requested



Panelists at “International Consultation on Research and Information Systems in Forestry” (ICRIS). Photo © IUFRO



Data. Photo © Pixabay wokandapix

ITFF (Inter-agency Task Force on Forests) member organizations to work with IUFRO in exploring possibilities for a global forest information service” (IFF, 1999).

GFIS thus began in 1998 as a IUFRO Task Force to address the problem of access to search facilities for forest information. Emphasis was placed on including developing countries into this service. Initially, this was accomplished through a multi-year cooperation project with FAO and African forest research institutions under the umbrella of FORNESSA, which was led by IUFRO SPDC and financed by the European Union (for more details, refer to the section above on SPDC).

With the Task Force as an advisory body, GFIS was upgraded to a Special Program of IUFRO in 2001 to give it a more permanent status and to reflect the progress made in developing the network. In cooperation with FAO, CIFOR and EFI, IUFRO developed a global-scale, metadata-based distributed forest information infrastructure. IUFRO operated the service in accordance with international, open data access standards. The first version of GFIS was presented at the IUFRO European Conference in Copenhagen, Denmark, in August 2002. It was also successfully demonstrated at the XII FAO World Forestry Congress in Quebec, Canada in September 2003. It included contributions from over 60 forestry institutions from across the world. Related projects included a GFIS Thesaurus Project, GFIS Documentation, GFIS Africa Project, GFIS Latin America, and the Network for a European Forest Information Service (NEFIS).

GFIS developed quite successfully, within a very short period of time, and became the primary Internet gateway to forest information resources from around the world. By 2003, users could locate maps, datasets, web resources, journal articles, books and other resources relevant to their forest information needs. GFIS made available over 120,000 records from over 50 forest information providers in Africa, Asia, Europe, and the Americas. It continued to grow rapidly, and access to this information was free. Forest information holders became interested in

promoting their information resources through GFIS. As a distributed network, GFIS only collected metadata such as title, author, year of publication and the Internet link (URL), allowing contributors to retain full ownership of their information resources.

### GFIS today

In 2004, GFIS became a formal initiative of the Collaborative Partnership on Forests (CPF) under the umbrella of UNFF (United Nations Forum on Forests). The initiative was based on a joint proposal developed by IUFRO, FAO and CIFOR. IUFRO was appointed to lead this initiative, but would collaborate and share responsibilities with other partners. As a CPF initiative GFIS achieved high visibility at the global level and became an even more important channel for enhancing access to all forest information to a broad range of stakeholders. The new GFIS was launched at the XXII IUFRO Congress 2005 in Brisbane, Australia. It was introduced as an advanced search service and tool to provide forest-related information to the forestry community. The GFIS gateway catalogued key information resources, such as news, events, publications and job vacancies by information providers.

In 2006, a major change in technology driving the GFIS website took place in order to take advantage of the RSS (Really Simple Syndication) approach. The RSS approach was a standard web feed format designed to automatically pull content from multiple websites. Adopting this technology allowed for an increase in the amount of content made available via the gateway, as partner organizations could autonomously share their content. In the course of this change the upgraded GFIS gateway offered a modern search tool to global forest information resources, as well as windows to latest news, upcoming events, recent publications and job opportunities on the front page. The interface of the gateway was available in English, Spanish, French and German. Partner institutions

from around the world which published their information resources on their websites made this content searchable through GFIS. The main goal was to gather forest information and serve as a tool to explore this information. To make this possible, GFIS needed partners who would provide information feeds about various types of forest information. This GFIS partnership development was implemented through a series of GFIS training workshops. These workshops took place in 2006; Russian partners met in Moscow and Asian partners met in Beijing. Another GFIS training workshop for Latin American partners was held at CATIE in Costa Rica in March 2007.

GFIS launched a new, more user-friendly interface in 2008 and attracted numerous additional international and national partners. GFIS did so through a series of training and partnership development projects. Through the GFIS gateway, partners could achieve more visibility and recognition of information. The gateway was also able to facilitate the increase in the number of potential information users and improve possibilities for networking and cooperation with other forest-related organizations. The GFIS gateway attracted more than 50 new information provider partners during the year and by the end of 2009, it had established 170 partnerships across the globe.

In order to further expand GFIS all over the world, the GFIS gateway and the partnership concept were introduced to potential partners in several global and regional seminars and workshops by the Coordinator Eero Mikkola and the Regional Coordinator for Asia and Russia. Training workshops and side events were held in the UK. These workshops and events also took place at the Second World Congress of Agroforestry in Nairobi, Kenya and the XIII World Forestry Congress in Buenos Aires, Argentina in 2009. More workshops and side events were

and other international and regional forest events, the CPF joint initiative led by IUFRO, grew to encompass over 400 partners who utilize GFIS to help disseminate their information.

Over time, there have been continued technological advances to GFIS. These advances have been carried out by Natural Resources Institute Finland (Luke; formerly the Finnish Forest Research Institute (Metla). Luke is responsible for the technical development and maintenance of the GFIS gateway. It is also responsible for housing the GFIS-IUFRO Coordination Unit. Further development was completed in order to improve options for information provider partners, and create flexibility for them to promote their information resources. Developments focused on improving features for accessing information. The advances at this time included: an improved search tool, and an improved website layout. These helped to increase the visibility of news, events, publications, job opportunities, educational resources and more. Further efforts to enhance the GFIS Portal continued: additional facilities on the GFIS website were developed, including the ability to add metadata (keywords) to information shared on the GFIS gateway. This offered users the possibility to obtain information according to their region or field of specialization, and to group the results according to highlighted topics. In addition, work was completed to streamline the look and layout of the website and improve mobile scalability, thus ensuring easier content navigation.

With an ever-increasing number of organizations and people utilizing the Internet for their information dissemination and access, GFIS has been a valuable service to collect and archive forest-related content. In 2016 for example, more than 6,000 news items, 2,800 publications, 600 job vacancies, and 550 videos were collected and



GFIS Korea Training Workshop, Seoul 2013. Photo © IUFRO



GFIS Coordinator Eero Mikkola (right) and Juha Hautakangas, IT specialist, at IUFRO Board meeting in Vienna, Austria, 2011. Photo © Wolfgang Simlinger

held in Beijing, China in 2011, and in Tsukuba, Japan and Seoul, South Korea in 2013. Through these workshops, as well as through continued presence at IUFRO Congresses

made available via GFIS. These items will be archived, allowing information seekers to access otherwise difficult to find information in the future. The portal has seen



GFIS communications expert Michael Huck at Asia Pacific Forestry Week in Beijing, China, 2011. Photo © Randy McCracken

consistent traffic over recent years. Between 17,000 and 20,000 information seekers utilized GFIS each month, between 2012 to 2016. In addition to experiencing an increase in information and online traffic, GFIS has grown its online presence through providing other websites with tailored information. GFIS has released a popular newsletter and maintained an active presence on social media. Given the above-mentioned achievements to date, hosting the GFIS initiative at Luke was indeed a success story. Stable institutional support has proven to be a precondition to further develop and smoothly operate such a long-term undertaking.

Over the years, GFIS has received support from a wide range of partners around the world, as both in-kind and financial contributions. Major donors for developing and operating GFIS have been the US Forest Service; National Institute of Forest Science in the Republic of Korea (formerly the Korea Forest Research Institute); the Austrian Government through the Ministry of Agriculture, Forestry, Environment and Water Management; and the European Commission. Significant in-kind contributions through expertise and staff-time have been provided by the Forestry Department of FAO in Rome, Italy; Oxford University; CAB International; European Forest Institute (EFI); the Center for International Forestry Research (CIFOR); the European Tropical Forest Research Network (ETFRN); and the National Biological Information Infrastructure (NBII), USA. GFIS has also received support from numerous IUFRO member organizations around the globe.



# CHAPTER 6

## Interconnecting Science and Policy

Since the late 1990s, IUFRO has made increasing efforts to reach out to policymakers and provide relevant scientific input in a timely and efficient manner. IUFRO's activities at the science-policy interface build on the recognition that scientific information "diffuses" into society as a result of long-term interactions between scientists, policymakers and stakeholders. Furthermore, they follow the principle that the role of science is not to determine which choices should be made, but rather to identify the possible choices, constraints and possibilities.

In 1992, the United Nations Conference for Environment and Development (UNCED) in Rio de Janeiro recognized the need to combat deforestation (Chapter 11 of Agenda 21). UNCED developed the first global principles for the management, conservation and sustainable development of forests (the Forest Principles). These documents represented the first global consensus on the multiple benefits provided by forests. It also conveyed the national policies which were needed to sustain these

benefits for future generations, as well as the international cooperation which would be required to support such national efforts.

The Rio Conference also agreed upon the terms of three Conventions, each of which is relevant to forests and forestry. These Conventions were: the Convention on Biological Diversity (CBD), the UN Framework Convention on Climate Change (UNFCCC) and the Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, particularly in Africa (UNCCD).

Following the Rio Conference, the UN established the Intergovernmental Panel on Forests (IPF) and its successor, the Intergovernmental Forum on Forests (IFF), to implement the Forest Principles and Chapter 11 of Agenda 21. This follow-up process also significantly influenced the research agenda regarding forests and forestry worldwide and triggered IUFRO's active participation in international policy processes related to forests and trees.



UNCED 1992 in Rio. Photo © UN Photo/Michos Tzovaras

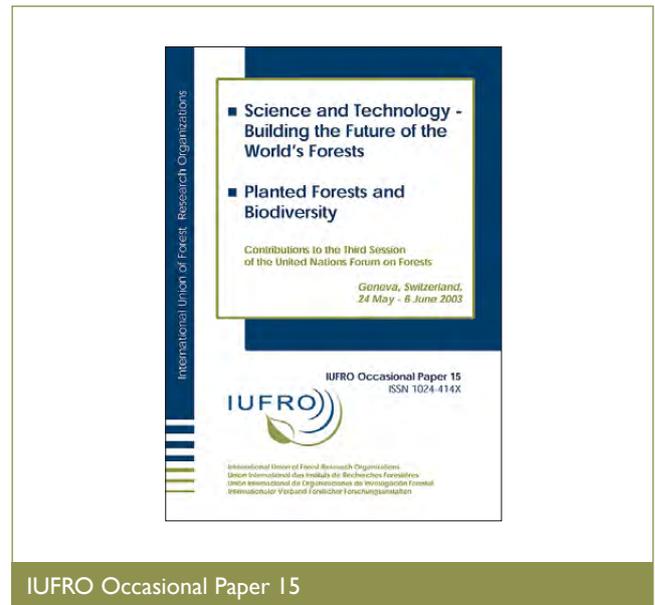
### International Consultation on Research and Information Systems in Forestry (ICRIS)

The first important milestone in this endeavor was reached when IUFRO organized the International Consultation on Research and Information Systems in Forestry (ICRIS). The Consultation took place in September 1998 in Gmunden, Austria, in support of the IFF (see chapter 5.3). It was the first time that IUFRO took a leading role in an international activity at the interface between forest science and policy. It is worth noting that the idea to establish a Global Forest Information Service (GFIS) – now formally recognized as an initiative of the Collaborative Partnership on Forests – originated from ICRIS.

In 2000, the United Nations Economic and Social Council established the United Nations Forum on Forests (UNFF). The UNFF is a holistic policy forum for promoting the management, conservation and sustainable development of all types of forests. It is also aimed at



United Nations Conference. Photo © IUFRO



IUFRO Occasional Paper 15

strengthening long-term political commitment around these issues. As an intergovernmental policy forum, the UNFF is composed of all member states of the United Nations, as well as specialized agencies. As a cross-cutting body, the UNFF also addresses forest-related scientific knowledge.

In 2003 IUFRO (in collaboration with the International Council for Science and CERAD<sup>21</sup>) coordinated the preparation of a discussion paper entitled “Science and Technology: Building the Future of the World’s Forests” as an official document for the third session of UNFF. It was IUFRO’s first substantive contribution to UNFF, and was also published as IUFRO Occasional Paper 15.

### Collaborative Partnership on Forests

Another milestone was reached in April 2003 when IUFRO was invited to join the Collaborative Partnership on Forests (CPF), an informal, voluntary arrangement among 14 international organizations and secretariats with substantial programs on forests. The CPF was established by the UN Economic and Social Council with the objective of supporting the work of the UNFF and its member countries, and of fostering increased cooperation and coordination on forest-related topics. Along with the Centre for International Forestry Research (CIFOR) and the World Agroforestry Centre (ICRAF), IUFRO serves as a focal agency for forest-related scientific knowledge. Its membership in the CPF has since enabled IUFRO to systematically interact with the most important forest-related international partners and has allowed IUFRO to significantly increase its impact on forest-related policy processes.

When the mandate of the CPF was slated for renewal in May 2015, IUFRO called for improved use of the CPF,

to support the coherence of international policies and programs addressing forests. IUFRO also called for further strengthening of the CPF’s role in providing scientific and technical advice. IUFRO’s call was heard by UNFF member states and both requests were included in the resolution adopted at the 11<sup>th</sup> session of UNFF in May 2015.

In 2017 the CPF for the first time agreed on a workplan for the next three years (until 2020). The purpose of this workplan was twofold: to identify the planned activities of CPF over this four-year period and guide their implementation; and to provide information on these intended activities for UNFF member states, CPF members’ governing bodies and stakeholders. The workplan includes no less than three CPF Joint Initiatives led and coordinated by IUFRO, namely, the Global Forest Expert Panels, the Global Forest Information Service, and a newly established Policy Learning Initiative.

### An increasingly fragmented forest regime

The number of international policy processes addressing forests has increased considerably since 1992, resulting in a more fragmented policy agenda. In response to this trend, IUFRO has in past years significantly increased its participation in forest-related intergovernmental policy processes and conventions. In addition to various other policy processes, IUFRO serves as an observer to the CBD, the UNFCCC and the CCD and has made substantial contributions to the work of all these conventions, notably through the Global Forest Expert Panels (see chapter 6.1. below).

In addition to its participation in major multilateral environmental conventions, IUFRO collaborates with numerous international organizations and programs, such as the Food and Agriculture Organization of the United Nations (FAO), the International Tropical Timber Organization

<sup>21</sup> Centre de Recherche et d’Action pour le Développement Durable en Afrique Central



CPF representatives at UNFF II in 2015. Photo © IUFRO



IUFRO Strategy 2010–2014

(ITTO), the United Nations Environment Program and the World Bank. IUFRO is a member of various other global partnerships as well, including the Global Partnership on Forest Landscape Restoration and the Collaborative Partnership on Sustainable Wildlife Management. As described in chapter 3, IUFRO has also contributed to the UN's International Day(s) of Forests and the Global Landscapes Fora.

### Science-policy interfacing as a strategic goal

IUFRO's efforts at the science-policy interface are reinforced by the fact that all IUFRO Strategies since 2006 have included the institutional goal of strengthening the links between science and policy, and enhancing contributions to international policymaking. IUFRO has systematically assessed their progress in achieving this institutional goal, and this has become an important part of IUFRO's process of internally and externally reviewing its strategies. Furthermore, IUFRO's 2010-2014 Strategy was the first to include six thematic research goals. These goals were included with the aim of guiding scientific activities of IUFRO's units, members and officeholders on major themes of international significance. This feature was maintained also in IUFRO's 2015-2019 Strategy, which includes five themes and associated emphasis areas. IUFRO tracks its activities on each theme (through such means as tagging related meetings and events). The five topics also constitute the main general themes of the IUFRO 125<sup>th</sup> Anniversary Congress in September 2017 in Freiburg, Germany.

Two IUFRO-led activities have been particularly instrumental for developing and consolidating the science-policy interface at a global scale and for enhancing IUFRO's impact on forest policy:

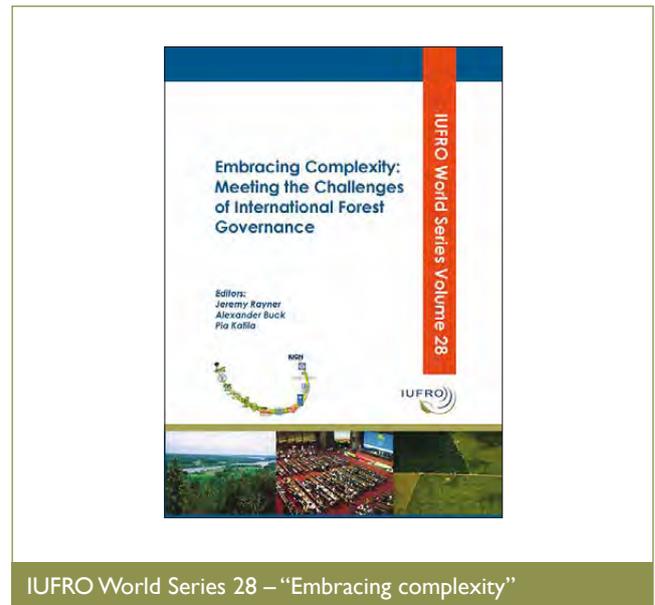
### Global Forest Expert Panels

In the year 2006 IUFRO developed a proposal for a new mechanism designed to support international policy processes. The mechanism would assess available scientific information and produce reports on forest-related issues of high concern. This proposal emerged out of a consensus that there is in fact no shortage of scientific information, and that the real challenge is to effectively disseminate existing information to policymakers and stakeholders. Therefore, rather than conducting new research, the Initiative was designed to consolidate available information and expertise in relevant fields. This "Joint Initiative on Science and Technology" was formally adopted by the CPF in 2007. It was later renamed the "Global Forest Expert Panels" (GFEP)<sup>22</sup>. As recommended by IUFRO, Alexander Buck was approved by the CPF as the GFEP Coordinator.

GFEP produces interdisciplinary scientific assessment reports on key issues emerging from international policy debates. The themes as well as the terms of reference of these scientific assessments are approved by the CPF. The reports are prepared by thematic Global Forest Expert Panels. Each consists of around 30 leading international scientific experts in their field. All reports undergo rigorous peer review. The number and frequency of reports is determined by the information needs and requests coming from the intergovernmental processes. To date, five global assessment reports and corresponding policy briefs as well as one regional assessment have been completed.

The first scientific assessment addressed the "Adaptation of Forests and People to Climate Change" and was successfully completed in 2009. This Expert Panel was chaired by IUFRO Past President Risto Seppälä (who at the time of the assessment worked for the Finnish Forest Research Institute, Metla). The assessment report summarized the scientific knowledge regarding the current

<sup>22</sup> <http://www.iufro.org/science/gfep/>



and projected future impacts of climate change on both forests and people worldwide. It also described possible options for adaptation. The report and a corresponding policy brief were formally launched at the 8<sup>th</sup> session of the UNFF in 2009. Relevant findings were presented also at Conferences of the Parties of UNFCCC and CBD. For example, the policy brief was distributed to the pigeon-holes of all delegates of the 15<sup>th</sup> meeting of the Conference of the Parties to the UNFCCC, held in Copenhagen, Denmark, in December 2009.

Also in 2009, GFEP and IUFRO-SPDC jointly initiated the preparation of a regional policy brief entitled “Making African Forests Fit for Climate Change.” They did so in collaboration with the thematic group Forest and Climate Change of the Forestry Research Network for Sub-Saharan Africa (FORNESSA). By complementing and refining the information contained in the global assessment report, this regional policy brief aimed to support the development of effective adaptation

strategies in Africa and to facilitate related international efforts.

The second Global Forest Expert Panel Assessment addressing international forest governance was initiated in 2009. The Expert Panel carrying out the assessment was chaired by Jeremy Rayner (at the time of the assessment, from the University of Saskatchewan, Canada) and consisted predominantly of political scientists. A report entitled “Embracing complexity: Meeting the challenges of international forest governance” was produced, as was a policy brief summarizing the main findings of the full report. These were both presented during the 9<sup>th</sup> session of UNFF in 2011. Given the political sensitivity of the topic, one out of 14 CPF members decided not to approve the policy brief, and therefore the CPF logo could not be used in the publication. However, the contents of the full report and policy brief remained unchanged. Hence, the assessment successfully demonstrated the scientific integrity and independence of the GFEP mechanism.

In December 2010, Alexander Buck was appointed to the position of IUFRO Executive Director and handed over the coordination of GFEP to Christoph Wildburger with the full approval by the CPF.

Following the successful completion of thematic reports on forest adaptation, and the international forest regime, the CPF unanimously approved “Biodiversity, Forest Management, and REDD+” as the theme of the third GFEP assessment. The assessment was carried out at a time when the international policy deliberations on “Reducing Emissions from Deforestation and Forest Degradation and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries” (REDD+) were about to reach their climax. The Expert Panel, which was chaired by John Parrotta (United States Forest Service), completed its assessment in 2012. The report and policy brief were launched in December 2012 at Forest Day 6, in the framework of the 18<sup>th</sup> meeting of the Conference of Parties to the UNFCCC. More than 500 participants joined the Panel Chair’s presentation.



John Parrotta presenting GFEP results to UNFF. Photo © IUFRO



Launch of Forest and Food Security report at UNFF I. From left to right: Christoph Wildburger (GFEP Coordinator), Mike Wingfield (IUFRO President), Bhaskar Vira (GFEP-FFS Panel Chair). Photo © IUFRO

Preliminary outcomes of the Panel's assessment were presented also to the CBD which acknowledged the Panel's work in Decision XI/19.

In 2013 GFEP embarked on what is arguably its most ambitious assessment to date (in terms of the number of scientific disciplines involved): an assessment on forests and food security. The Panel's work focused on clarifying the role that forests and trees play in food security and nutrition. It was chaired by Bhaskar Vira (Cambridge University, United Kingdom). The assessment report was formally launched at the 11<sup>th</sup> session of UNFF in May 2015. It came at a time when the United Nations General Assembly sought to adopt a set of Sustainable Development Goals (SDGs). In this context, the eradication of hunger, realization of food security and the improvement of nutrition are of particular relevance.

Taking into account the continuous growth of GFEP, Andre Purret was appointed to the newly created position of GFEP Project Manager in 2015. Purret supports the GFEP Coordinator in his task and takes care of the operational planning and execution of the initiative.

Also in 2015, GFEP carried out a new scientific assessment on illegal logging and timber trade, chaired by the Coordinator of IUFRO Division 9 Daniela Kleinschmit (University of Freiburg, Germany). This assessment followed a slightly different format compared to the previous full-scale scientific assessments: It was carried out as a Rapid Response assessment. This approach allowed GFEP to provide a scientific contribution to ongoing discussions on illegal timber trade in international policy fora. The assessment report entitled "Illegal Logging and Related Timber Trade – Dimensions, Drivers, Impacts and Responses" was launched during the high-level segment of the 13<sup>th</sup> CBD Conference of the Parties in Cancun, Mexico in December 2016. The launch was attended, among others, by the CBD Executive Secretary at that time, Braulio Ferreira de Souza Dias, and by UNEP Executive Director Erik Solheim, who stated that "when the scientific evidence is clear, as it is in this report, it enables policymakers to act."



Participants of the 1st Meeting of the Expert Panel on Forests and Water; Cambridge, June 2017. Photo © A. Hackett-Pain

In March 2017, GFEP initiated a new fully-fledged scientific assessment on forests and water, which is due for completion in mid-2018. For the first time, the assessment will be included in the CPF work plan (see above).

In the course of the ten years since its establishment, GFEP has developed into an internationally respected mechanism with a significant impact. All GFEP reports received significant international media coverage. GFEP outcomes have served as background information for discussions, as briefing documents for negotiators, and as guidance for strategic policy development. For example, the GFEP report on forests and food security served as basis for a thematic report by the High Level Panel of Experts on Food Security and Nutrition (HLPE) on sustainable forestry for food security. This report was published in June 2017. It was the first time that the HLPE addressed the role of forests in its work. The HLPE was established in 2010 as the science-policy interface of the UN Committee on World Food Security (CFS).

## Special Project: “World Forests, Society and Environment” (IUFRO-WFSE)

“World Forests, Society and Environment” (WFSE)<sup>23</sup> was initiated in 1996 as a collaborative, international research project. It was a collaborative effort between the Finnish Forest Research Institute (Metla), European Forest Institute (EFI) and United Nations University Institute of Advanced Studies (UNU/IAS). Matti Palo, Professor of



forest economics in Metla, founded WFSE and was the coordinator of the project until 2000. WFSE was developed to respond to global forest-related environmental problems, such as decline of biological diversity, climate change, desertification, forest degradation and deforestation, as well as issues related to economic development and human wellbeing. It situated forests and the forest sector within wider societal and environmental contexts. From the beginning WFSE introduced a novel approach to research by linking researchers from around the world into a global network. The mission of WFSE was to carry out globally relevant research, aid in effective dissemination, and develop capacities on the interrelationships between forests, society and environment. All of these activities supported sustainable forest management and human wellbeing.

In 2000 five partners joined the network: Center for International Forestry Research (CIFOR) in Indonesia, Center for Research and Higher Education on Natural Resources of Tropical America (CATIE) in Costa Rica, International Center for Research in Agroforestry (ICRAF) in Kenya, World Forestry Center in Oregon, USA and Institute for World Forestry in Germany.

During its first years WFSE coordinated and produced several publications. Kluwer Academic Publishers established a new book series, *World Forests* (editors: M. Palo, and J. Uusivuori), to publish the major books produced by WFSE. This collaboration resulted in the publication of three WFSE volumes. The first volume, “World Forest, Society and Environment”, was published in 1999; the second, “World Forests from Deforestation to Transition?” in 2000; and the third, “World Forests, Markets and Policies”, in 2001.

Gerardo Mery from Metla became the coordinator of WFSE in 2000. Under his stewardship the network was approved as a Special Project of IUFRO in 2001. In the



WFSE Steering Committee meeting in 2014 with current Coordinator Pia Katila and former Coordinator Gerardo Mery next to her on her right-hand side. Photo © IUFRO

following years new organizations, such as Natural Resources Canada (NRCan) and International Network for Bamboo and Rattan (INBAR) contributed to the network. While the participation of some earlier partners decreased, these new partners strengthened the project. Many of the partner organizations have contributed to WFSE activities for more than a decade. The long term partners are CATIE (Tropical Agricultural Research and Higher Education Center), CIFOR (Center for International Forestry Research), CIRAD (Centre de Coopération Internationale en Recherche Agronomique Pour le Développement), EFI (European Forest Institute), FAO (Food and Agriculture Organization of the United Nations), Luke (Natural Resources Institute Finland, formerly Finnish Forest Research Institute) and vTI (Thünen Institute of International Forestry and Forest Economics). VITRI (Viikki Tropical Resources Institute, University of Helsinki), CIAS (Centre for Integrated Area Studies, Kyoto University) and the University of Florida joined the WFSE network in 2012. With Renming University from China joining in 2016, the WFSE now includes 11 partner organizations. In addition, many scientists and experts from outside these partner organizations as well as scientists from different IUFRO Divisions and Task Forces have actively contributed to the project’s activities.

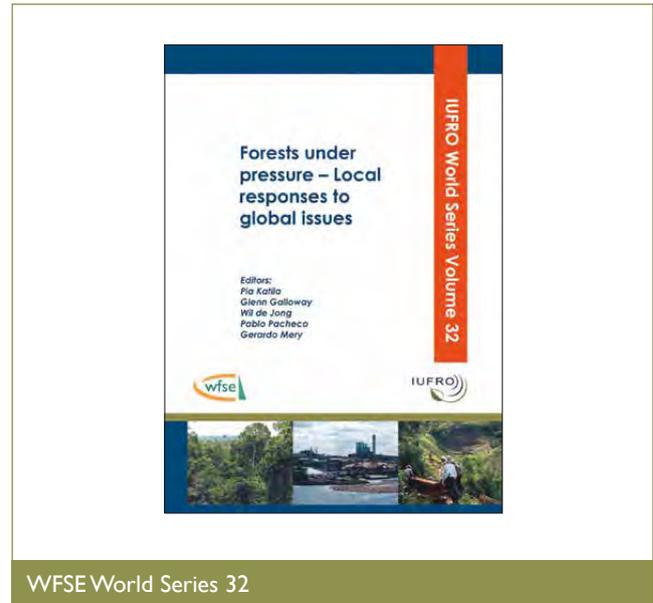
IUFRO-WFSE is directed by the Steering Committee that consists of the representatives of the partner organizations. The Committee meets once a year to discuss and plan the project’s activities. Markku Kanninen from CIFOR was the chair of the Steering Committee until 2010, followed by the current chair: Glenn Galloway from University of Florida.

Gerardo Mery coordinated WFSE for 14 years. During this time, WFSE developed into an open, global, independent network of scientists and practitioners. Acknowledging the constantly accumulating, extensive amount

<sup>23</sup> <http://www.iufro.org/science/special/wfse/>



IUFRO-WFSE side event at World Forestry Congress in Argentina. Photo © IUFRO-WFSE



WFSE World Series 32

of existing scientific information on forest-related issues and the increasing demand for science-based information for policy-making, WFSE concentrated on critically analyzing and synthesizing existing scientific information. WFSE looked for innovative solutions to support and advance the formulation and implementation of forest-related policies that promote sustainable development and human well-being. The core activities of the project centered on identifying topics of global and regional concern in the forests, society and environment interface. Collaborative groups of authors led by convening lead authors were formed to produce objective evaluations and critical analyses on the crucial forest-related issues.

The editors of the WFSE publications have convened regularly to discuss and advance the project activities and publications. In each phase of the project, large workshops have been organized for the convening lead authors. These workshops have taken place with the support of partner organizations, including Metla in Finland, UNU in Japan, NRCan in Canada, vTI in Germany and CATIE in Costa Rica.

The results of WFSE have been published as comprehensive volumes in the IUFRO World Series: “Forests in the Global Balance - Changing Paradigms” (IUFRO World Series Vol 17, 2005) and “Forests and Society - Responding to Global Drivers of Change” (IUFRO World Series Vol 25, 2010). Policy-relevant messages from these scientific, peer reviewed volumes were presented in two global policy briefs: “Forests for the New Millennium - Making Forests Work for People and Nature” (in English, French and Spanish, 2005) and “Making Forests Work for People and Nature - Responding to Global Drivers of Change” (in English, 2010, in French and Spanish, 2011). The main findings and policy-relevant messages of these publications were also published in power point presentations designed for capacity building and education.

With contributions from different partner organizations, WFSE published a series of regional policy briefs that focused on regionally specific forest-related

challenges. This series of regional policy briefs included “Making European Forests Work for People and Nature” (2007), “Making Latin American Forests Work for People and Nature” (in English and Spanish 2009), “Making Sub-Saharan African Forests Work for People and Nature” (2009), “Asian Forests: Working for People and Nature” (2010) and “Making Boreal Forests Work for People and Nature” (2012).

Upon Gerardo Mery’s retirement in 2014, the former deputy coordinator Pia Katila from Metla became the coordinator of WFSE. At the beginning of 2015 Metla, MTT Agrifood Research Finland, the Finnish Game and Fisheries Research Institute and the statistical services of the Information Centre of the Ministry of Agriculture and Forestry were merged into Natural Resources Institute Finland (Luke). Since then, the coordination of the project has continued under Luke.

Since 2014 WFSE’s work has not only involved analyzing and synthesizing existing scientific knowledge; it has also included undertaking new research to fill in crucial gaps in existing knowledge on topics of international relevance in the forest, society, and environment interface. In order to draw out important lessons learned, WFSE addresses these topics in a cross-sectoral, holistic, and interdisciplinary fashion. WFSE has successfully anticipated conditions that will influence future forest-related development at different scales, both local and global. The work focuses on topics which the scientific community has recognized as having significant policy implications, but which appear not to be receiving adequate attention from the policy community.

The newest publications have included or been fully based on new research. The publication “Forests under Pressure – Local Responses to Global Issues” (IUFRO World Series Volume 32, 2014) was the result of collaboration between over 140 scientists and experts. Building on 27 case studies from different parts of the world, the book focused on conditions that foster or hinder progress towards SFM and forest-related development. The Special



WFSE at the IUFRO Regional Congress for Asia and Oceania in 2016. Photo © IUFRO



Panelists of WFSE Side event at UNFF I I. Photo © IUFRO

Issue “Incentives and Constraints for Community and Smallholder Forestry” (Forests, 2016) further analyzed the same theme. However, it focused more specifically on community and smallholder forestry. Policy-relevant information from these scientific publications has been published in short Issue Briefs, and also in a policy brief titled “Building on synergies: Harnessing community and smallholder forestry for Sustainable Development Goals” (forthcoming in 2017). The forthcoming Special issue, “Shifting Global Development Discourse - Implications for Forests and Livelihoods” (International Forestry Review, 2017), aims at increasing the understanding of the scope and horizon of the new environmental development discourses—and how they may influence forestry and forest-related livelihoods.

The IUFRO-WFSE publications have been distributed free of charge. Since the development of IUFRO website, these have been freely available for download online. The first WFSE Newsletter was published in 2012. Since then two issues of the Newsletter have been published every year. The Newsletter shares the latest news and information about the project’s activities. Recipients of the newsletter include IUFRO officeholders, member organizations, WFSE partners, donors, and the members of the WFSE network from research organizations and universities around the world.

Since its establishment IUFRO-WFSE has actively participated in international scientific seminars and conferences. IUFRO-WFSE has also participated in policy processes by organizing sessions and side events to disseminate research findings and share policy-relevant messages. These events have also often included the launch of a new publication.

WFSE has organized a side event in the three latest IUFRO World Congresses: XXII IUFRO World Congress in Brisbane, Australia, 2005; XXIII IUFRO World Congress in Seoul, Korea, 2010; and XXIV IUFRO World Congress in Salt Lake City, USA, 2014. WFSE was also actively engaged in the organization of the Second Latin America

IUFRO Congress in La Serena, Chile (IUFROLAT II), 2006. WFSE also organized a technical session at the third IUFROLAT Congress in San Jose, 2013, as well as a session at the IUFRO Regional Congress for Asia and Oceania in Beijing, 2016. Furthermore, WFSE organized a Session at the 1<sup>st</sup> IUFRO Conference on Forests for People in Alpbach, Austria in 2012.

WFSE has also organized side events for disseminating policy relevant information for decision-makers during the Sessions of the United Nations Forum on Forests (UNFF3 2003, UNFF5 2005, UNFF8 2009, UNFF9 2011, UNFF11 2015). It also organized sessions in the FAO World Forestry Congresses (XII World Forestry Congress in Quebec, Canada, 2003; the XIII World Forestry Congress in Buenos Aires, Argentina, 2009; and the XIV World Forest Congress in Durban, South Africa, 2015).

Furthermore, in 2016 WFSE and FAO Finland Forestry Program jointly organized an international seminar in Helsinki, Finland. They did so with the support of the main donor of WFSE: the Ministry for Foreign Affairs of Finland. This full-day event focused on the theme “Forests and Development: From Development Discourses to Providing Data for Decision-Making.”

WFSE presents a unique story of a long-term international research project which for more than 20 years has focused on and addressed pressing challenges related to forests and sustainable development. During this time it has developed into a vast, global network of scientists and experts. It has provided an independent platform for participation, stimulated an exchange of ideas, and developed collaboration among organizations and individuals from different countries, as well as across IUFRO Divisions and Task Forces.





# CHAPTER 7

## From IUFRO Secretariat to IUFRO Headquarters

### The moving period

Since its founding days, IUFRO has considered itself an international forum for scientists to share their knowledge and experience, in order to coordinate and standardize research work. Administrative affairs used to play only a minor role in the organization's activities. The respective Presidents therefore handled all routine work on their own. At the end of the 1920s however, the number of member organizations had doubled (as compared to the period preceding World War I), with all five continents represented in IUFRO. In response to this development, the position of Secretary General was created to assist the presidents. The first was Sven Petrini from the Forest Research Station in Stockholm, Sweden. He guided the international research work which was done during World War II, and he stayed in this position until 1949.

In 1949, IUFRO worked out agreements with the Forestry Department of the Food and Agriculture Organization

of the United Nations (FAO) to establish a Secretariat at FAO Headquarters in Rome, Italy. The Secretariat was managed by R.G. Fontaine, I.T. Haig and L.J. Vernell from 1949 to 1957. In 1957 the FAO asked to be released from the obligation to provide a Secretariat. The Presidents had to once again deal with the increasing number of administrative tasks by themselves, unless they received voluntary support from their respective member organizations. During those years, IUFRO experienced rapid growth: the number of member organizations, scientists, meetings and conferences increased to an unprecedented extent, and forest science stepped into a new phase of its history. This development called for a restructuring of the organization. A committee chaired by Ivar Samset, who was to become President in 1972, was entrusted with this task at the Munich Congress in 1967. Because of the committee's work, new Statutes were approved in 1971. They provided, among other responsibilities, for the establishment of a Secretariat. It was to be organized by the President with the agreement of the Executive Board. At first the Secretariat was not assigned any independent functions. The position was simply intended to take the burden of administrative tasks off the President's shoulders, to allow him to dedicate himself to actual coordination and management work.

### Establishment of a permanent Secretariat in Vienna

Several organizations offered to host the Secretariat and provide it with a staff. In 1972 the Austrian offer was accepted, and on 26 June 1973 an agreement was drafted between IUFRO and the Austrian Government. The agreement concerned the establishment of a permanent Secretariat at the Austrian Federal Forest Research Centre (now: the Federal Research and Training Centre for Forests, Natural Hazards and Landscape - BFW) in Vienna; it



Signing of the agreement between the Austrian government and IUFRO in 1973. From right to left: Oskar Weihs (Austrian Minister of Agriculture and Forestry); Ivar Samset (IUFRO President); Walter Liese (Regional Member of the IUFRO Executive Board at the time) Photo © IUFRO



Otmar Bein, IUFRO Secretary from 1973-1987. (left). © BFW Archive; Heinrich Schmutzenhofer, IUFRO Secretary/Executive Director from 1988–2003 (right). Photos © IUFRO



IUFRO Secretariat team in 1992. Photo © IUFRO

was undersigned by the Austrian Minister of Agriculture and Forestry, Oskar Weihs and the Union's President, Ivar Samset from Norway.

The Secretariat started its activities on 1 July 1973 under the management of Otmar Bein. A foreign language correspondent was employed to assist him. President Samset hoped that this Secretariat would serve as a new tool to help to carry out the Union's important work of developing international cooperation between research workers and scientists in forestry, forest operations and forest products. He also established a centralized library of all IUFRO publications at the permanent Secretariat in Vienna. The library included the reports, proceedings and other scientific or organizational literature, from IUFRO meetings and activities. The Austrian Federal Forest Research Centre played an instrumental role in the development and professionalization of the Secretariat. Since 1981, the BFW has provided IUFRO with several professional and administrative staff as an in-kind contribution to the Union. While most joined IUFRO on a temporary basis, two staff members have been part of the IUFRO team in Vienna ever since.

Otmar Bein retired on December 1987 after almost 15 years as Secretary. Heinrich Schmutzenhofer succeeded Mr. Bein in 1988, and stayed in this position until his retirement in 2003. By 2003, the Secretariat comprised 10 staff members as well as various short-term contractors and it has become an outstanding service center to IUFRO's almost 300 units and over 800 officeholders. This service center not only provided professional administrative support to the IUFRO network, but also led three Special Programs and Projects, including the Special Programme for Development of Capacities (at that time called Special Programme for Developing Countries), SilvaVoc Terminology Project, and the Global Forest Information Service. Heinrich Schmutzenhofer strongly promoted the technological development of the Secretariat, which used the latest communication and information technology. IUFRO therefore became one of the first international organizations to have its own website.

The development and expansion of the Secretariat was supported by an external review conducted in 1999 by a panel which was chaired by former Vice-President James Cayford. This exhaustive review made specific recommendations for the future structure and organization of the Union, particularly regarding the organization of the Secretariat and the composition of the Executive Board. It resulted in a revision of the Statutes and Internal Regulations of IUFRO. The term IUFRO Headquarters was introduced in order to reflect this significantly expanded scope of work. The financial management activities were transferred from Switzerland to Vienna, and the position title of the Secretary was changed to Executive Secretary to reflect the changes that had taken place in his duties. The expansion of the Secretariat is also captured in several amendments to the contract between the Government of Austria and IUFRO. The contract guaranteed the provision of increased office space and support for additional staff. This amended contract also reaffirmed Austria's strong commitment as the host of IUFRO Headquarters.

In 2002 the Secretariat moved to new, bigger premises in Mariabrunn; this was the same site where the idea to create IUFRO was born in 1890. In October 2002, in presence of IUFRO President Risto Seppälä, the Union celebrated its 110<sup>th</sup> anniversary. It also celebrated the 30<sup>th</sup> anniversary of the IUFRO Secretariat in Vienna and the presentation of the Union's new headquarters in Mariabrunn. In honor of these milestones, a symposium took place in cooperation with the BFW. The meeting was attended by more than 120 participants from 20 countries in three continents.

In November 2003, an international symposium "From national forest protection to international forest research" was organized in Mariabrunn in honour of Heinrich Schmutzenhofer's scientific accomplishments and his longlasting services to IUFRO.

Following an international selection process, Peter Mayer assumed the position of IUFRO Executive Director in December 2003. He emphasized the importance



IUFRO Secretariat at the Austrian Federal Forest Research Centre in Vienna, Schönbrunn, between 1973 and 2002. Photo © IUFRO



Peter Mayer, IUFRO Executive Director from 2003 to 2010 (left), Alexander Buck, IUFRO Executive Secretary since 2010. Photos © IUFRO

of science for supporting policymaking on forests. Peter Mayer promoted systematic strategic planning within IUFRO and the identification of changing research needs. In 2005 the name of his position was changed to Executive Director to match with the title of similar posts in other international organizations. Peter Mayer served as IUFRO's Executive Director for almost seven years, assisted by Deputy Executive Director, Alexander Buck. In August 2010, Peter Mayer became Head of the Federal Research and Training Centre for Forests, Natural Hazards and Landscape (BFW) in Vienna.

Alexander Buck succeeded Peter Mayer as Executive Director in December 2010 after an international selection process. Since his appointment Alexander Buck and his team have placed strong emphasis on further enhancing the level and quality of support to members and officeholders while at the same time promoting the dissemination of scientific information required for solving key forest problems of the present and future. Alexander Buck promoted professional communication both within the IUFRO network and with external stakeholders and the public at large. As a result of these efforts, the IUFRO network has further expanded geographically such that it now includes member organizations and officeholders in 126 countries. Nowadays, IUFRO is also represented in an unprecedented number of international policy processes (see Chapter 6).

### A new legal status for IUFRO

A new contract between the Austrian Government and IUFRO was signed by the Austrian Federal Minister of Agriculture, Forestry, Environment and Water Management, Nikolaus Berlakovich, and by IUFRO President Niels Elers Koch in September 2012. Through this contract, the Austrian Government renewed its commitment to provide office space for IUFRO Headquarters, and to cover the salary costs of headquarters staff. Thus, after ten

years of operation on the premises of the Austrian Federal Research and Training Centre for Forests, Nature Hazards and Landscape (BFW) in Vienna-Mariabrunn, IUFRO Headquarters moved to a new location in central Vienna in February 2013.

Despite the outstanding support provided by the government of Austria, the further development of the Secretariat continued to be limited by existing legislation regarding the employment of non-EU citizens. This limitation was successfully overcome in 2016 when the Government of Austria granted IUFRO the legal status of a "Quasi-International Organization," and with that came certain privileges. To date, IUFRO is one of only five international non-Governmental organizations in Austria upon which this special status has been conferred. This new legal status has significantly enhanced IUFRO's "standing" in its host country Austria and increased its visibility vis-à-vis relevant authorities.

In 2017, IUFRO Headquarters consisted of 11 staff directly employed by IUFRO, as well as four part-time secondments from two member organizations, and several supporting experts hired through long-term contracts. Out of the 11 staff members, seven are employed on a part-time basis.

### Reaching out to the next generation

Over the course of more than 40 years, the International Forestry Students' Association (IFSA) has evolved to reach its current status as a worldwide organization that involves forestry students across a wide scope of activities. Its vision is global cooperation between forestry science students, with the aim of increasing knowledge and understanding of forestry processes in order to achieve a sustainable future. IFSA also serves to represent youth in international forestry policy processes, providing a voice for new and innovative ideas. In 2017 IFSA was represented in about 45 countries by local student committees



IUFRO Headquarters team in 2016. Photo © IUFRO



IUFRO President Mike Wingfield (center) together with former IFSA Presidents May Ann Then (left) and Jesse Mahoney (right). Photo © IUFRO

at about 90 universities with programs in forestry and related sciences, for undergraduate and graduate students.

After the IUFRO World Congress 2000 in Kuala Lumpur, several requests to involve students more deeply in the Union were received. In response a Memorandum of Understanding was signed with IFSA in 2002. The Board also approved the creation of a new IUFRO Student Award for Excellence in Forest Science and the first two awards were presented at the XXII IUFRO World Congress held in Brisbane in 2005.

Subsequently, the IUFRO Presidents regularly participated in the annual IFSA Symposia (IFSS). IFSA students periodically completed internships at IUFRO Headquarters and contributed to IUFRO meetings and events in various ways. One of the recent examples of such involvement was the co-organization of a sub-plenary session by IFSA as well as a series of “Student Incubator Sessions” during the XXIV IUFRO World Congress in Salt Lake City in 2014. About 40 IFSA students supported the Congress organizers as volunteers.

In June 2013 the Presidents of IUFRO and IFSA signed an agreement which, among other things, provided the legal foundation for a new joint IUFRO/IFSA position. The position would be hosted by the IUFRO Headquarters in Vienna, Austria. The purpose of this full-time position as “Junior Professional Officer – Joint IFSA/IUFRO Position” was to support both organizations in their operations and to advance collaborative activities of the two organizations. From early 2016 Janice Burns from Canada has served as the Junior Professional Officer. She is the third holder of the IFSA/IUFRO Joint Position, following Hugo Pierre from France and Andre Purret from Estonia.

The collaboration between IFSA and IUFRO has been taken to the next level with the creation of a joint Task Force on Forest Education in 2015. Forest education is core to both organizations, and their collaboration will create important synergies (see Chapter 4).





# CHAPTER 8

## Getting the Word Out Information – Publication – Communication

IUFRO is a network that advocates global collaboration and knowledge sharing. As such, it relies on efficient methods and tools to convey messages and information - not only between its members, but also between the organization and external audiences such as academia, policymakers, and the public.

Initially, communication in IUFRO focused on official reporting, sharing meeting outcomes and informing relevant parties about the availability of scientific publications. This was done primarily through Annual Reports, IUFRO News, and Congress Proceedings. IUFRO began its first publications series, IUFRO World Series, in 1990 in order to give IUFRO officeholders an opportunity to make their expertise known to a larger audience.

Forest scientists are faced with the challenge of communicating their findings (in an ever more competitive environment) to diverse target groups. Since 2005, IUFRO has responded to this growing need to share forest-related knowledge with internal and external audiences by making communication goals an inherent part of its Strategies.

IUFRO also started to place greater emphasis on translating the language of science to non-scientists and on improving communication capacities. Consequently, IUFRO communication activities have increased considerably in scope and intensity. The range of communication tools being expanded by new internet-based media and the web has undoubtedly become IUFRO's primary communication vehicle.

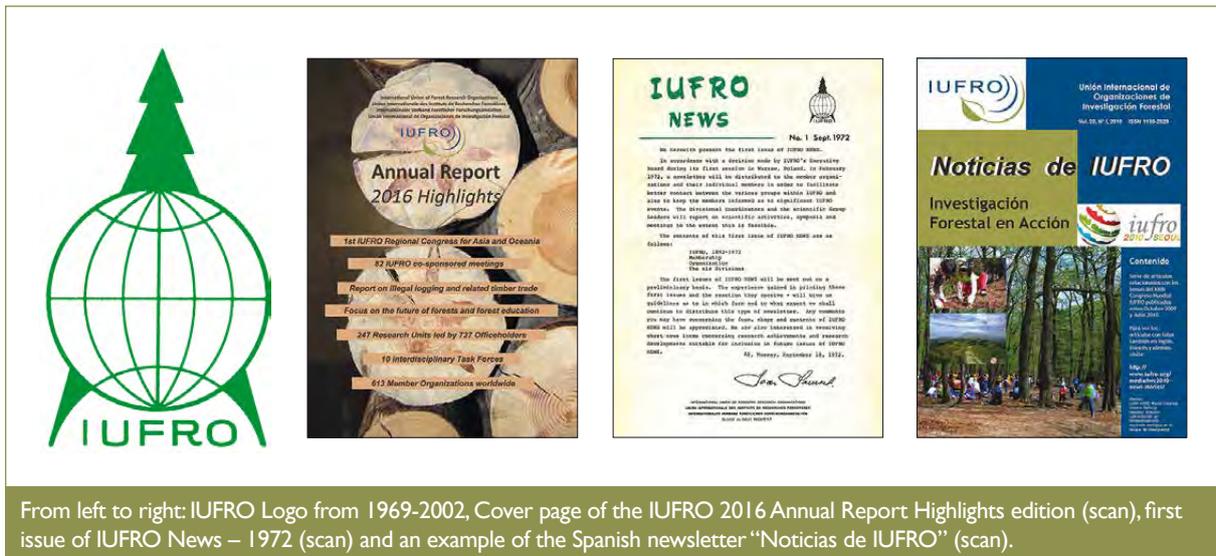
In addition, IUFRO has continuously modernized the visual appearance of its communication and information products. The current IUFRO logo and the two new corporate colors were introduced in 2002. This, however, was not IUFRO's first logo. IUFRO's first logo was published on the cover page of the Congress Proceedings of the XIII IUFRO Congress held in Vienna, Austria, in September 1961. It was replaced in 1969 by a logo that remained in use until 2002. The current logo, which was designed at a Canadian IUFRO Member Organization, aims to represent sustainable development through global scientific knowledge. It appears on all IUFRO publications, brochures and promotional materials.

The responsibility for planning and implementing communication and public relations activities and tools rests predominantly with IUFRO Headquarters. IUFRO Headquarters collects, edits and shares information from officeholders, Member Organizations, sources outside IUFRO, and many partner organizations. Among other activities, IUFRO compiles and maintains a Calendar of Events and a Proceedings Archive on its website. A literature database was introduced in 1998.

IUFRO Headquarters also provides scientific publications, promotion material and general information on IUFRO in printed and electronic form. Electronic versions of IUFRO materials have been available since 1994; printed versions, clearly, were available much earlier. IUFRO frequently contracts freelance science writers and communication experts for specific projects. By participating in forest communicators' networks, IUFRO has also managed to enhance its outreach.



Communicating forest science - photo taken during the 2003 meeting on "The Protection and Preservation of Forest Biodiversity in the Carpathian Gene Bank. The Role of Norway Spruce and Other Species in the Conservation of Forest Ecosystems in the Carpathian Mts." (Photo provided by Eric Teissier du Cros)



From left to right: IUFRO Logo from 1969-2002, Cover page of the IUFRO 2016 Annual Report Highlights edition (scan), first issue of IUFRO News – 1972 (scan) and an example of the Spanish newsletter “Noticias de IUFRO” (scan).

## Information

### The Annual Report

Between World Congresses, IUFRO members used to communicate with each other by letter or telephone; and Congress reports and proceedings were shared by post. However, the growing number of members in different parts of the world eventually called for a more systematic approach to information sharing. Thus the first Annual Report was published in 1931. It documented the state and affairs of the Union between August 1929 to January 1931. The reports were printed and disseminated to members and officeholders in English, German and French. IUFRO members managed to keep their primary communication channels open during World War II and the publication of Annual Reports was not interrupted.

Until 2001, Annual Reports were printed in English, German, French, and (starting 1990) in Spanish; and mailed to IUFRO members and officeholders. Their main purpose continued to be to document the organizational structure and activities in detail. In 2001, however, the Annual Report was redesigned to become a communication tool for external audiences as well. The time-consuming translations into German, French and Spanish were discontinued. Until 2014, Annual Reports were printed and distributed by post. The 2015 report was the first one to be made available online only, although a concise four-page printed version was produced for promotional purposes.

### IUFRO News

The first issue of IUFRO News was published in 1972, just prior to the IUFRO Secretariat’s move to its permanent location in Vienna.

“We herewith present the first issue of IUFRO NEWS. In accordance with a decision made by IUFRO’s Executive Board during its first session in Warsaw, Poland, in

February 1972, a newsletter will be distributed to the Member Organizations and their individual members in order to facilitate better contact between the various groups within IUFRO, and also to keep the members informed as to significant IUFRO events.” (IUFRO President Ivar Samset)

After 32 years of continuous publication of three to four issues per year, the last printed IUFRO News was distributed in December 2004. By 2001, the Secretariat had already begun to publish the bimonthly electronic E-Notes. In 2005, the printed IUFRO News and the electronic E-Notes were merged into an electronic newsletter with the objective of enhancing the outreach of this information bulletin. Since then the electronic newsletter has been distributed ten times per year. It features recent scientific IUFRO activities and informs about new publications, upcoming meetings, awards, positions and more. The newsletter also reaches out to a wider range of interested persons and organizations outside of IUFRO.

Along with the electronic newsletters, the *Scientific Summaries* were launched to highlight meetings or events of relevance in IUFRO Divisions, Task Forces, Projects and Programs.

To address regional needs, IUFRO newsletters were also produced in languages other than English. Between 1983 and 1996, IUFRO News was translated into Spanish with the help of the Spanish National Institute for Agricultural and Food Research and Technology (INIA). Between 2001 and 2008 the bulletin *Noticias de IUFRO* was issued by IUFRO Headquarters four times per year (two more issues were published in 2009 and one in 2010). This initiative was linked to the creation of an information network for Latin America and the Caribbean. The idea for this initiative dated back to 1972, when the Interamerican Information System for Agricultural Sciences (AGRINTER) was established. Following a decision at the IUFRO Centennial, the first meeting of the *Latin American and Caribbean Information Systems Network* (RIFALC) took place in Madrid in 1992. This new network aimed to foster information and knowledge

exchange in the region and has meanwhile become an IUFRO Working Party.

*IUFRO Japan News* is an activity led by the Forestry and Forest Products Research Institute (FFPRI). Located in Tsukuba, Japan, FFPRI has been cooperating with IUFRO since 1970. The cooperation with the IUFRO Secretariat finally led to the formal establishment of the IUFRO-J Committee in 1976. In order to give IUFRO-J members up-to-date information regarding international forest issues, the IUFRO-J Secretariat has published IUFRO-J NEWS three times per year since 1977. IUFRO-J NEWS usually includes issues concerning IUFRO Headquarters, announcements from IUFRO officeholders, introduction of IUFRO conferences by attendees, and the IUFRO-J annual report (which contains financial information). IUFRO-J also maintains a website that was redesigned in 2016.

Between 1988 and 2005 a Chinese language version of IUFRO News entitled *IUFRO News ROC* was also published in China-Taipei.

### The IUFRO Website and Social Media

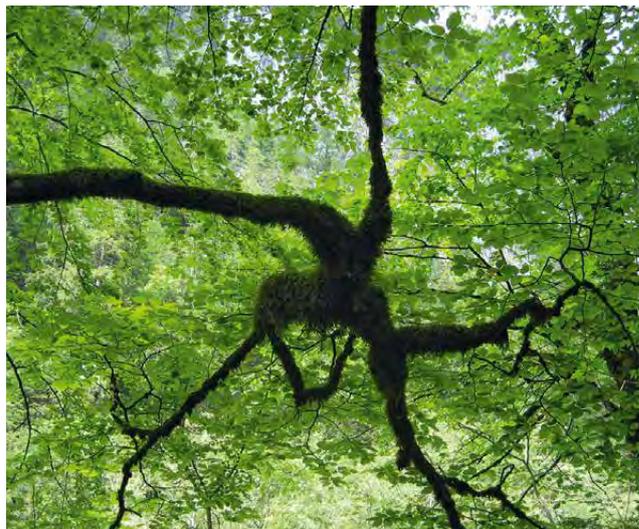
A major step forward in communication was made in 1995 when the IUFRO Secretariat launched a website on the Internet. At the XX IUFRO World Congress 1995 in Tampere, Finland, the efficiency of the use of Internet tools was demonstrated and a proposal was made by the Secretariat to place IUFRO on the Internet. The Union was one of the first international NGOs to take this important step.

IUFRO decided to “Encourage the use of innovative technology to increase data sharing and research efficiency, and to optimize timely delivery of research information to the widest array of users by projects such as the Silvavoc project.” (XX IUFRO World Congress Resolutions)

In the following years the IUFRO Task Force on Internet Resources, along with the Secretariat, made prodigious efforts to establish and expand the IUFRO homepage system. All the details of the structure and activities of the Union were available on a central page. In addition, over 60 IUFRO units created their own homepages for information and communication. The IUFRO system was mirrored on servers in six other countries, in order to facilitate more rapid access. Furthermore, there was extensive cross-linking to the homepages of related organizations. The entire facility significantly enhanced the work and visibility of the Union.

Over the years the IUFRO website underwent regular restructuring and updates. The first major restructuring process was started in 2004. The two aims of this process were to make the website more user-friendly and to reflect benefits from IUFRO membership more clearly. Accordingly, a Members section and a non-Members section were added to the website.

In 2009 IUFRO introduced a social media section on its website to open additional channels of communication. The social media section was designed to reach out to new target groups and raise awareness of IUFRO



This image is used for the IUFRO Facebook group and Twitter pages. Photo © IUFRO



This is one of the images used for the current IUFRO homepage. Photo © stockstudioX

activities and issues. IUFRO accounts for Facebook and Twitter were created. A blog was also set up, and podcasts and videos were placed on iTunes and YouTube, respectively. At the end of the year IUFRO launched the Featured IUFRO Member section on its homepage. This section was designed to introduce IUFRO Member Organizations to website visitors. A media corner was also added to the website.

Without a doubt, a major highlight for IUFRO in 2014 was the launch of the highly attractive and more functional new website. Particular emphasis was placed, among other things, on improving the visibility and accessibility of publications and on integrating news from Member Organizations.

The IUFRO World Congress 2014 in Salt Lake City, USA was the first major IUFRO event which made use of a fully-fledged social media communication strategy. The strategy was devised by IUFRO Headquarters in cooperation with the Congress organizers. It

involved a concerted and intensive use of new media such as Twitter, Facebook, YouTube, and blogging. The strategy markedly increased the visibility of IUFRO and helped enormously to raise the presence of IUFRO in the world of social media. Diverse forms of social media have meanwhile turned into successful and absolutely indispensable communication outlets.

## Publication

### IUFRO World Series

The IUFRO World Series was launched in 1990. As previously stated, the series was designed to give IUFRO officeholders the opportunity to make their expertise known to a larger public. This IUFRO in-house publication aims at presenting topics of far-reaching importance to the international forest and forest-related community, as well as to the IUFRO network. Some of the World Series publications, in particular those produced by GFEP and IUFRO-WFSE, are accompanied by Policy Briefs. World Series publications can be downloaded from the IUFRO website.

### IUFRO Occasional Papers

The IUFRO Occasional Paper Series was initiated in 1994. It allows for the rapid dissemination of various materials, including: short publications reflecting IUFRO activities, summarized IUFRO Task Force reports, and discussion papers. Since 2005 this in-house publication has been a purely electronic series, underscoring its ambition of bringing forward IUFRO's immediate contribution to important forest-related issues. Occasional Papers can be downloaded from the IUFRO website.

### IUFRO Research Series

Between 1999 and 2005, 11 volumes of the IUFRO Research Series, covering a wide variety of topics, were edited and published in cooperation with CAB International. The series provided an outlet for major publications arising from major IUFRO meetings and other products of IUFRO's research units. The IUFRO Board formed the Editorial Advisory Board for the Series and provided the monitoring and uniformity required for such a high-quality series in addition to the editorial work of conference organizers.

### IUFRO Research Letters

Created for the IUFRO World Congress 2014, the "Research Letters" or synthesis papers were designed to provide information, in a concise and attractive format, about the six thematic areas of IUFRO. They also conveyed the work that had been done since 2010 by the IUFRO Task Forces to meet the related research goals.



Latest IUFRO World Series publication: Volume 36 "The Global Teak Study", 2017 (left) and Training manual for "Communicating Forest Science" (right).

## Communication

### IUFRO Units with a focus on communication

A report by the IUFRO Task Force titled "Information Technology and the Forest Sector" was published in 2005 as IUFRO World Series 18. The report reveals the fundamental changes that the forest sector underwent as a result of the emergence of new information and communication technologies.

It became obvious that in addition to access to information, communication between forest scientists and various stakeholder groups, especially policymakers, was indispensable. Furthermore, in a world of limited research funding, communicating with the general public and the media became an essential means of legitimizing research in the eyes of society.

To that end, in 2005 the IUFRO Task Force on "Public Relations for Forest Sciences" prepared a manual intended for use by forest scientists who wished to learn how to communicate successfully by means of public relations, media and internet communication. The Task Force also considered the communication behavior of forest scientists concerning the public and the media and came to the following conclusions:

- Forest scientists concentrate mainly on their research work. Communication with the general public beyond peers and students is quite low. This is not only due to the restricted time available to the researchers but also to a lack of awareness of the benefits of talking to the public.
- On the organizational level, the importance of communicating with the public is well acknowledged. The majority of research organizations assign financial resources to public relation activities, like PR units or media officers.

In 2007 the Task Force developed "Strategic Guidelines for IUFRO Communications". The Guidelines were meant to

increase awareness and knowledge about IUFRO in the scientific world, and also to increase public awareness about IUFRO and forest science. One of the first results of implementing these guidelines was the development of so-called “Fact Sheets” on topics of importance to IUFRO.

In August 2014, Working Party 9.01.02 Communication and Public Relations, which was established in 2011, published a manual on “Communicating Forest Science.” The manual supported scientists and professional communicators alike in their efforts to communicate beyond the scientific community. The manual includes concepts, approaches, and methods for communications. Examples from around the world provide success stories in communicating forest science. Based on the manual, a training module was developed. It was implemented for the first time in a course which was sponsored by IUFRO-SPDC and was held prior to the 2014 IUFRO World Congress.

“The language of science translated and brought to non-scientists can transform confusion into understanding. When communicated well - whether in a forest, in a meeting room, or across the miles electronically - science information helps people sort out complex situations and changing conditions related to forests.” (Cynthia L. Miner, Introduction to the Manual on Communicating Forest Science)

### IUFRO Spotlight, blog posts and press releases

When the United Nations General Assembly proclaimed 2011 as the International Year of Forests (IYF) under the theme “Forests for People,” forest-related organizations and stakeholders were encouraged to highlight forest issues at all levels, from local to international. They were urged to raise awareness on the ecological, economic and social dimensions of forests. This was, of course, an excellent opportunity for IUFRO to increase the visibility of forest science and promote science-based knowledge to a wider audience.

IUFRO stepped up its communication activities by preparing press releases for the IYF, in cooperation with the Collaborative Partnership on Forests (CPF), following the UN General Assembly’s decision to celebrate an International Day of Forests annually on 21 March as of 2013. To help promote the International Day of Forests, IUFRO intensified its cooperation with the CPF in the field of communication. In general, IUFRO published press releases - as it had even before 2011 - to announce new publications or activities and to promote major events. IUFRO usually contracted professional science communicators to prepare these press releases.

In 2010 IUFRO cooperated with a professional science writer to produce a series of blog stories to promote the IUFRO World Congress in Seoul, Republic of Korea. These stories were written in close collaboration with forest scientists and translated into Spanish, French and German. Similar stories prepared for subsequent major IUFRO events were published on the IUFRO Blog either before, during, or after the event.



Participants of IUFRO World Congress 2014 Pre-Congress Training Session on Communicating Forest Science.  
Photo © Ramin Khorchidi

During the International Year of Forests (2011) IUFRO launched a new communication initiative/series called “IUFRO Spotlights”. The cooperation with the professional science writer was extended in order to make this possible. The aim of this series was to introduce, in a timely fashion, significant findings in forest research made by IUFRO Member Organizations and/or involving IUFRO officeholders to a worldwide network of decision-makers, policymakers and researchers.



# CHAPTER 9

## Annexes

### Annex I

#### Acronyms

<b>ACP</b>	African, Caribbean and Pacific Group of States
<b>AFF</b>	African Forest Forum
<b>AGRINTER</b>	Interamerican Information System for Agricultural Sciences
<b>AGRIIS</b>	International System for Agricultural Science and Technology
<b>AHTEG</b>	Ad hoc Technical Expert Group (established by the CBD)
<b>AKECOP</b>	ASEAN-Korea Environmental Cooperation Project
<b>APAFRI</b>	Asia Pacific Association of Forestry Research Institutions
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>BIO-REFOR</b>	Biotechnology-Assisted Reforestation in Asia (project)
<b>BFW</b>	Bundesforschungszentrum für Wald, dann: Bundesforschungs- und Ausbildungszentrum für Wald, Naturgefahren und Landschaft; Austrian Federal Research Centre for Forests, now: Federal Research and Training Centre for Forests, Natural Hazards and Landscape
<b>BMUB</b>	Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit; German Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
<b>CATIE</b>	Tropical Agriculture Research and Higher Education Centre
<b>CBD</b>	Convention on Biological Diversity
<b>CERAD</b>	Centre de Recherche et d'Action pour le Développement Durable en Afrique Central
<b>CFS</b>	Committee on World Food Security
<b>CGIAR</b>	Consultative Group on International Agriculture Research
<b>CIAS</b>	Centre for Integrated Area Studies, Kyoto University
<b>CIB</b>	Commission International du Bois or Timber Commission
<b>CIF</b>	Canadian Institute of Forestry
<b>CIFOR</b>	Centre for International Forestry Research
<b>CIS</b>	International Centre of Silviculture
<b>CIRAD</b>	French Agricultural Research Centre for International Development
<b>COC</b>	Congress Organizing Committee
<b>COP</b>	Conference of the Parties (see UNFCCC)
<b>COST</b>	European Cooperation in Science and Technology
<b>CPF</b>	Collaborative Partnership on Forests
<b>CPW</b>	Collaborative Partnership on Sustainable Wildlife Management
<b>CSC</b>	Congress Scientific Committee
<b>DANIDA</b>	Danish Development Agency
<b>EB</b>	Enlarged Board (earlier Executive Board)
<b>EFI</b>	European Forest Institute
<b>ETFRN</b>	European Tropical Forest Research Network
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FEC</b>	Forest Engineering Conference
<b>FFPRI</b>	Forestry and Forest Products Research Institute, Tsukuba, Japan

<b>FLR</b>	Forest Landscape Restoration
<b>FORMEC</b>	Symposium on Forestry Mechanization
<b>FORNESSA</b>	Forestry Research Network of Sub-Saharan Africa
<b>FORNIS</b>	FORNESSA Information Service, gateway for dissemination of research results generated by African forest science institutions
<b>FORSPA</b>	Forestry Research Support Programme for Asia and the Pacific
<b>FORSTAT</b>	Self-learning course on basic Statistics for Forestry researchers
<b>FRIM</b>	Forest Research Institute of Malaysia
<b>GFEP</b>	Global Forest Expert Panels
<b>GFIS</b>	Global Forest Information Service
<b>GIS</b>	Geographic information system
<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, German Corporation for International Development Cooperation
<b>GLF</b>	Global Landscapes Forum
<b>GM</b>	Genetically Modified
<b>GTZ</b>	Deutsche Gesellschaft für Technische Zusammenarbeit, German Corporation for Technical Cooperation, now GIZ
<b>HLPFE</b>	High Level Panel of Experts on Food Security and Nutrition
<b>IC</b>	International Council
<b>ICRAF</b>	World Agroforestry Centre
<b>ICRIS</b>	International Consultation on Research and Information Systems in Forestry
<b>ICSU</b>	International Council for Science
<b>IFF</b>	Intergovernmental Forum on Forests
<b>IFSA</b>	International Forestry Students' Association
<b>IFSS</b>	IFSA International Forestry Students' Symposium
<b>INBAR</b>	International Network for Bamboo and Rattan
<b>INIA</b>	Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria, Madrid, Spain; Spanish National Institute for Agriculture and Food Research and Technology
<b>IPBES</b>	Intergovernmental Platform on Biodiversity and Ecosystem Services
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IPF</b>	Intergovernmental Panel on Forests
<b>ITFF</b>	Inter-agency Task Force on Forests
<b>ITTO</b>	International Tropical Timber Organization
<b>IUCN</b>	International Union for Conservation of Nature
<b>IUFROLAT</b>	IUFRO Regional Congress in Latin America
<b>IWCS</b>	International Wood Culture Society
<b>IYS</b>	International Year of Soils
<b>KEFRI</b>	Kenya Forestry Research Institute
<b>LUKE</b>	Natural Resources Institute Finland, former Metla
<b>MC</b>	Management Committee
<b>MCPFE</b>	Ministerial Conference on the Protection of Forests in Europe
<b>METLA</b>	Finnish Forest Research Institute, merged into Luke
<b>MoU</b>	Memorandum of Understanding
<b>NBII</b>	National Biological Information Infrastructure
<b>NEFIS</b>	Network for a European Forest Information Service
<b>NGO</b>	Non-governmental Organization
<b>NRCan</b>	Natural Resources Canada
<b>NTFP</b>	Non Timber Forest Products
<b>NWFP</b>	Non Wood Forest Products
<b>ODC</b>	Oxford Decimal Classification
<b>REDD</b>	Reducing Emissions from Deforestation and Forest Degradation
<b>REDD+</b>	Reducing Emissions from Deforestation and Forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
<b>REDDES</b>	Reducing Deforestation and Forest Degradation and Enhancing Environmental Services from Forests
<b>RIFALC</b>	Red de Información para América Latina y El Caribe; Forestry Information Network for Latin America and the Caribbean
<b>RSS</b>	(Web-Feed) Rich Site Summary, later Really Simple Syndication
<b>SAP</b>	Scientist Assistance Programme
<b>SDGs</b>	Sustainable Development Goals
<b>SFM</b>	Sustainable Forest Management

<b>SilvaVoc</b>	Special Project on Multilingual Forest Terminology
<b>SPDC</b>	Special Programme for Development of Capacities, former Special Programme for Developing Countries
<b>TF</b>	Task Force
<b>UNCCD</b>	United Nations Convention to Combat Desertification
<b>UNEP</b>	United Nations Environment Programme
<b>UNCED</b>	United Nations Conference on Environment and Development, commonly referred to as the Earth Summit
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UNFF</b>	United Nations Forum on Forests
<b>UNU</b>	United Nations University
<b>UNU/IAS</b>	United Nations University Institute for Advanced Studies
<b>VITRI</b>	Viiikki Tropical Resources Institute, University of Helsinki
<b>vTI</b>	Thünen Institute of International Forestry and Forest Economics
<b>WFC</b>	(FAO) World Forestry Congress
<b>WFSE</b>	IUFRO Special Project on World Forests, Society and Environment
<b>WRI</b>	World Resources Institute
<b>WWD</b>	World Wood Day
<b>WWF</b>	World Wide Fund For Nature



## Annex 2

### IUFRO's governing bodies

The IUFRO Statutes & Internal Regulations (2001, latest update 2016) describe the duties and powers of the main governing bodies of IUFRO, partly summarized below:

#### International Council (IC)

The IC is IUFRO's supreme body and legislative organ. The members of the IC – one representative and one alternate representative selected by the member organizations of each country - advise the President and the Board on major issues concerning IUFRO's policy and strategy. They also serve as IUFRO's "ambassadors" in their respective countries and hence play a key role in ensuring a strong and active participation of forest-related research organizations and scientists in IUFRO. The IC meets when a World Congress is in session, and at other times when need arises.

#### President, Vice-Presidents and Immediate Past President

The President has the overall responsibility for the Union. He presides over the IUFRO World Congress, meetings of the International Council, and the Board and Management Committee. In addition, the President serves IUFRO in an ambassadorial capacity and provides intellectual leadership to the Union. He/she represents the Union in international policy fora and other external relations.

The Vice-Presidents support the President in leading and representing IUFRO. A second Vice-President was first introduced in 1990 to guide IUFRO's administrative affairs. Since 2009, one Vice-President oversees the Divisions and the other oversees the Task Forces, Special Programmes, Projects and IUFRO-led Initiatives.

The statutes do not define any special assignment to the Immediate Past President. However, as a member of the Board and the Management Committee, the Immediate Past President ensures continuity and advises the President and the Board. More particularly, it has become a tradition that the Immediate Past President chairs the Nominating Committee, which manages nominations for the IUFRO Voting Board.

#### Board

The IUFRO Board (former Executive Board) is the executive organ of the Union; it takes any necessary action to ensure IUFRO's functioning. The voting Board is composed of the President, two Vice-Presidents, the Immediate Past President (ex officio), the Division Coordinators, the IUFRO HQ Host Country Representative (since 2003), and up to five President's Nominees. The Executive Director, the Chair of the Congress Organizing Committee (COC) and the Chair of the Congress Scientific Committee (CSC) are non-voting ex officio Board members. The Board meets whenever a Congress is in session, and also at least once a year between Congresses. In recent periods, strong efforts were made to ensure a geographically and gender balanced composition of the Board.

#### Management Committee (MC)

The MC was established in 1995 as a permanent committee comprised by eight members of the Board (President, Vice-Presidents, Immediate Past President, Executive Director, one of the Division Coordinators, one of the President's Nominees and, as observers, the Chair of the COC and the Chair of the CSC). The Management Committee plays a key role in identifying overall policy and assisting the Board. In taking up the role of the former Treasurer and Finance Committee, the MC also oversees the finances of the Union.



## Annex 3

### (Executive) Board Meetings (from 1992 onwards)

Number	Place	Country	Date
27	Valdivia	Chile	7–13 March 1992
28	Warsaw and Kórnik	Poland	25–29 August 1992
29	Ouagadougou	Burkina Faso	6–11 December 1993
30	Beijing	China	4–8 October 1994
31	Madrid	Spain	22–29 April 1995
32	Helsinki	Finland	4–5 August 1995
33	Tampere	Finland	12 August 1995
34	Vienna and Sopron	Austria Hungary	23–26 February 1996
35	Pretoria and Sabie	South Africa	5–13 December 1996
36	Rome	Italy	16–19 September 1997
37	Turrialba	Costa Rica	14–21 September 1998
38	Sjoldenaesholm and Copenhagen	Denmark	6–13 September 1999
39	Awana Genting Highlands	Malaysia	4–5 August 2000
40	Prague	Czech Republic	27–28 March 2001
41	Vancouver	Canada	14–21 June 2002
42	Quebec	Canada	26–27 September 2003
43	Seoul	Korea	13–14 October 2004
44	Brisbane	Australia	5–6 August 2005
45	Vienna	Austria	3–5 May 2006
46	Beijing	China	29–31 May 2007
47	Marrakech	Morocco	28–29 April 2008
48	Buenos Aires	Argentina	15–17 October 2009
49	Seoul	Korea	19–20 August 2010
50	Vienna	Austria	23–25 February 2011
51	Nairobi	Kenya	25 June 2012
52	San Jose and Turrialba	Costa Rica	10–11 June 2013
53	Salt Lake City	USA	3–4 October 2014
54	Vienna	Austria	15–16 April 2015
55	Beijing	China	20–22 October 2016
56	Freiburg	Germany	17 September 2017



## Annex 4

### Composition of IUFRO Boards (from 1992 onwards)

#### Board 1992–1995

**President:** Salleh Mohd Nor, Malaysia

**Vice-President Programme:** Jeffery Burley, United Kingdom

**Vice-President Administration:** James H. Cayford, Canada

**Immediate Past President:** Robert E. Buckman, USA

**Secretary:** Heinrich Schmutzenhofer, Austria

**Treasurer:** Franz Schmithüsen, Switzerland

#### **Division Coordinators:**

Division 1: Jacob L. Whitmore, United States

Division 2: Howard B. Kriebel, United States

Division 3: Per Olov Nilsson, Sweden

Division 4: Axel Roeder, Germany

Division 5: Amantino R. de Freitas, Brazil

Division 6: Harold F. Kaiser, United States

#### **Members from Regions:**

Roger T. Bradley, United Kingdom; Andras Winkler, Hungary; Jan Van den Bos, Netherlands; Alejandro Lopez de Roma, Spain; Jerry SESCO, United States; Jusheng Hong, China; José Antonio Prado, Chile; Marcia Lambert, Australia; Edouard G. Bonkoungkou, Burkina Faso

#### **President's Nominees:**

Pentti T. Hakila, Finland; Anatoly Petrov, Russia; Wartono Kadri, Indonesia; Satohiko Sasaki, Japan

**Special Programme for Developing Countries:** Lorne F. Riley, Canada

#### **Task Force Coordinator:**

Forest, Climate Change and Air Pollution: Rodolphe Schlaepfer, Switzerland

**FAO Representative:** Hollis C. Murray, FAO Rome

**Congress Organizing Committee Chair:** Risto Seppälä, Finland

**Centennial Meeting 1992:** Hans-Friedrich Joachim, Germany

#### Board 1996–2001

**President:** Jeffery Burley, United Kingdom

**Vice-President Programme:** Risto Seppälä, Finland

**Vice-President Administration:** Jerry A. SESCO, United States

**Immediate Past President:** Salleh Mohd Nor, Malaysia

**Executive Secretary:** Heinrich Schmutzenhofer, Austria

**Treasurer:** Rodolphe Schlaepfer, Switzerland

#### **Division Coordinators:**

Division 1: Jacob L. Whitmore, United States

Division 2: Eric Teissier du Cros, France

Division 3: Dennis P. Dykstra, Indonesia

Division 4: Klaus von Gadow, Germany

Division 5: Christian G. Sales, France

Division 6: Niels Elers Koch, Denmark

Division 7: David F. Karnosky, United States

Division 8: Kyoji Sassa, Japan

**Members from Regions:**

Birger Solberg, Finland; Karel Vancura, Czech Republic; Valentine V. Strakhov, Russian Federation; Ramón Elena Rosselló, Spain; Fred Pollet, Canada; José Antonio Prado, Chile; Fred J. Kruger, South Africa; Hong Jusheng, China; David Flinn, Australia

**President's Nominees:**

Prem Kumar Khosla, India; Don K. Lee, Korea; Pape Ndiengon Sall, Senegal; Rubén Guevara Moncada, Costa Rica

**Special Programme for Developing Countries:** Brian R. Payne, United States, followed by Robert Szaro, United States

**Task Force Coordinators:**

TF Environmental Change: John Innes, Switzerland  
 TF Forests and Mountain Development: Martin Price, United Kingdom  
 TF International Relations: Rubén Guevara Moncada, Costa Rica  
 TF Internet Resources, IUFRO Net: Lauri Valsta, Finland  
 TF Sustainable Forest Management: Alain Franc, France

**FAO Representative:** David Harcharik, FAO Rome

**Congress Organizing Committee Chair:** Abdul Rahim Nik, Malaysia

**Congress Scientific Committee Chair:** Eric Teissier du Cros, France

**Board 2001–2005**

**President:** Risto Seppälä, Finland

**Vice-President Policy:** Don K. Lee, Republic of Korea

**Vice-President Science:** Eric Teissier du Cros, France

**Immediate Past President:** Jeffery Burley, United Kingdom

**Executive Secretary:** Heinrich Schmutzenhofer (until 2003) and Peter Mayer, Austria (as of December 2003)

**Division Coordinators:**

Division 1: John Parrotta, United States (until October 2004), Björn Hånell (since October 2004)  
 Division 2: Ladislav Paule, Slovakia  
 Division 3: Dennis P. Dykstra, United States  
 Division 4: Klaus von Gadow, Germany  
 Division 5: Hsui H. (Cathy) Wang, China-Taipei  
 Division 6: Niels Elers Koch, Denmark  
 Division 7: Kazuo Suzuki, Japan  
 Division 8: Alain Franc, France

**General Members:**

Vitor Afonso Hoefflich, Brazil; John Innes, Canada; Gordon Miller, Canada; Zhang Shougong, China (as of 2003); Karel Vancura, Czech Republic; Rubén Guevara Moncada, Honduras; Iba Kone, Kenya; Ali Abd. Mohd Razak, Malaysia; Victor K. Teplyakov, Russian Federation; Susan G. Conard, United States (until October 2004)

**FAO Representative:** Hosny M. El-Lakany, FAO Rome

**Congress Organizing Committee Chair:** Gary J. Bacon, Australia

**Congress Scientific Committee Chair:** John Innes, Canada

**IUFRO Headquarters Host Country Representative:** Gerhard Mannsberger, Austria (as of July 2003)

**Board 2006–2010**

President: Don K. Lee, Republic of Korea

Vice President Policy: John Innes, Canada

Vice President Science: Niels Elers Koch, Denmark

Immediate Past President: Risto Seppälä, Finland

Executive Director: Peter Mayer, Austria

**Division Coordinators:**

Division 1: Björn Hånell, Sweden  
 Division 2: Bailian Li, USA  
 Division 3: Hans Rudolf Heinemann, Switzerland  
 Division 4: Margarida Tomé, Portugal  
 Division 5: David Cown, New Zealand

Division 6: Perry J. Brown, USA  
 Division 7: Mike Wingfield, South Africa  
 Division 8: Alex Mosseler, Canada

**General Members:**

Vitor Afonso Hoeflich, Brazil; Roberto H. Ipinza, Chile; Shirong Liu, China; Heinrich Spiecker, Germany; Tohru Nakashizuka, Japan; Su See Lee, Malaysia; Mohammed Ellatifi, Morocco; Piotr Paschalis-Jakubowicz, Poland; Victor K. Teplyakov, Russia

**FAO Representative:** Jan Heino, FAO

**Congress Organizing Committee Chair:** Jung-Hwan Park, Republic of Korea

**Congress Scientific Committee Chair:** John Parrotta, USA

**IUFRO Headquarters Host Country Representative:** Gerhard Mannsberger, Austria

## Board 2011–2014

**President:** Niels Elers Koch, Denmark

**Vice-President Divisions:** Michael Wingfield, South Africa

**Vice-President Task Forces, Special Programmes, Projects and IUFRO-led Initiatives:** Su See Lee, Malaysia

**Immediate Past President:** Don Koo Lee, Republic of Korea

**Executive Director:** Alexander Buck, Austria

**Division Coordinators:**

Division 1: Björn Hånell, Sweden  
 Division 2: Yousry El-Kassaby, Canada  
 Division 3: Hans Rudolf Heinemann, Switzerland  
 Division 4: Margarida Tomé, Portugal  
 Division 5: Andrew Wong, Malaysia  
 Division 6: Tuija Sievänen, Finland  
 Division 7: Eckehard Brockerhoff, New Zealand  
 Division 8: Jean-Michel Carnus, France  
 Division 9: Daniela Kleinschmit, Sweden

**President's Nominees:**

Ulrike Pröbstl, Austria; José J. Campos Arce, Costa Rica; Ben Chikamai, Kenya; Elena Kulikova, Russian Federation; Shirong Liu, China

**FAO Representative:** Eduardo Rojas Briales, Italy

**IUFRO Congress Organizing Committee Chair:** Richard Guldin, USA

**IUFRO Congress Scientific Committee Chair:** John Parrotta, USA

**IUFRO Headquarters Host Country Representative:** Gerhard Mannsberger, Austria

**Task Force Coordinators\***

TF Resources for the Future: John Innes, Canada  
 TF Forest and Water Interactions: Tony Simons, Kenya  
 TF Biodiversity and Ecosystem Services: Eckehard Brockerhoff, New Zealand  
 TF Forest Bioenergy: Rolf Björheden, Sweden  
 TF Forests for People: Ulrike Pröbstl, Austria  
 TF Forests and Climate Change: Markku Kanninen, Finland  
 TF Forests and Human Health: Hannu Raitio, Finland  
 TF International Forest Governance: Ben Cashore, USA  
 TF Education in Forest Science: Piotr Paschalis-Jakubowicz, Poland

**Special Programmes, Projects and Initiatives\***

IUFRO Special Programme for Development of Capacities (IUFRO-SPDC) and IUFRO Deputy Executive Director: Michael Kleine, Austria

IUFRO World Forests, Society and Environment (IUFRO-WFSE): Gerardo Mery, Finland

Global Forest Information Service (GFIS): Eero Mikkola, Finland

CPF Global Forest Expert Panels (GFEP): Christoph Wildburger, Austria

\*Since 2009, Coordinators of IUFRO Task Forces and Special Programmes, Projects and Initiatives are non-voting members of the IUFRO Board

## Board 2015

**IUFRO President:** Mike Wingfield, South Africa

**IUFRO Vice-President:** Björn Hånell, Sweden

**IUFRO Vice-President:** John Parrotta, United States

**Immediate Past President:** Niels Elers Koch, Denmark

**Executive Director:** Alexander Buck, Austria

### Division Coordinators

Division 1: Jens Peter Skovsgaard, Sweden

Division 2: Yousry El-Kassaby, Canada

Division 3: Woodam Chung, United States

Division 4: Jean-Luc Peyron, France

Division 5: Pekka Saranpää, Finland

Division 6: Tuija Sievänen, Finland

Division 7: Eckehard Brockerhoff, New Zealand

Division 8: Jean-Michel Carnus, France

Division 9: Daniela Kleinschmit, Germany

### President's Nominees

Shirong Liu, China; John Innes, Canada; Ben Chikamai, Kenya; Jung-Hwan Park, Republic of Korea; Manuel Guariguata, Venezuela

### FAO Representative: vacant

**IUFRO Congress Organizing Committee:** Joberto Veloso de Freitas, Brazil

**IUFRO Congress Scientific Committee:** Jerry Vanclay, Australia

**IUFRO HQ Host Country Representative:** Gerhard Mannsberger, Austria

Task Force Coordinators:

TF Contribution of Biodiversity to Ecosystem Services in Managed Forests: Hervé Jactel, France

TF Sustainable Planted Forests for a Greener Future: Christophe Orazio, France

TF Sustainable Forest Biomass Network: Viktor Bruckman, Austria

TF Forest Adaptation and Restoration under Global Change: Andreas Bolte, Germany

TF Climate Change and Forest Health: Elena Paoletti, Italy

TF Forests and Biological Invasions: Andrew Liebhold, United States

TF Forests, Soil and Water Interactions: Richard Harper, Australia

TF Resources for the Future: Transformation in Forest Use: John Innes, Canada

TF Foresight for Forest Sector Planning: Jerry Vanclay, Australia

TF Joint IUFRO-IFSA Task Force on Forest Education: Sandra Rodríguez-Piñeros, Mexico, Magdalena Lackner, Austria

### Special Programmes, Projects and Initiatives

IUFRO Special Programme for Development of Capacities (IUFRO-SPDC) and IUFRO Deputy Executive Director: Michael Kleine, Austria

IUFRO World Forests, Society and Environment (IUFRO-WFSE): Pia Katila, Finland

Global Forest Information Service (GFIS): Eero Mikkola, Finland

CPF Global Forest Expert Panels (GFEP): Christoph Wildburger, Austria





## Annex 5

### IUFRO Headquarters staff 2017

Alexander Buck, Executive Director

Michael Kleine, Deputy Executive Director, IUFRO-SPDC Coordinator

Brigitte Burger, Web Management, Communication and Social Media

Janice Burns, Junior Professional Officer, Joint IFSA/IUFRO Position

Daniel Boehnke, Junior Officer

Sylvia Fiege, Database Management and Membership Issues (part-time secondment by Austrian Federal Research and Training Centre for Forests, Natural Hazards and Landscape)

Renate Prüller, Senior Officer, Terminology Services

Eva-Maria Schimpf, Project Management and Translation Services

Judith Stöger-Goiser, Project Finances

Astrid Tippel, Finances and Administration

Gerda Wolfrum, Communication and Public Relations

### Global Forest Information Service (GFIS)

Eero Mikkola, GFIS Coordinator (part-time secondment by Natural Resources Institute Finland)

Juha Hautakangas, System Analyst (part-time secondment by Natural Resources Institute Finland)

### Global Forest Expert Panels (GFEP)

Christoph Wildburger, GFEP Coordinator

Andre Purret, GFEP Project Manager

### Special Programme for Development of Capacities (IUFRO-SPDC)

Michael Kleine, IUFRO-SPDC Coordinator

Margareta Khorchidi, Project Management and Translation Services (part-time secondment by Austrian Federal Research and Training Centre for Forests, Natural Hazards and Landscape)

### Special Project “World Forests, Society and Environment” (IUFRO-WFSE)

Pia Katila, IUFRO-WFSE Coordinator (part-time secondment by Natural Resources Institute Finland)



## Annex 6

### IUFRO Honours & Awards

IUFRO recognizes selected individual members and member organizations that contribute significantly to achieving its aims or to advancing forest research.

The **IUFRO Distinguished Service Award (DSA)** and the **IUFRO Special Recognition Award (SRA)** are both recognitions for those whose work has significantly contributed to furthering the aims and objectives of IUFRO and its strategy within and outside IUFRO respectively.

At each Congress and in addition to the **IUFRO World Congress Host Scientific Award**, up to 10 **IUFRO Scientific Achievement Awards (SAA)**, up to 9 **Outstanding Doctoral Research Awards (ODRA)**, and a number of **Best Poster Awards (BPA)** are presented to recognize distinguished scientific achievement within fields covered by IUFRO. The **IUFRO Student Award for Excellence in Forest Science (ISA)** recognizes outstanding individual achievements in forest science made by Masters' degree students (or equivalent) and encourage their further work within the fields of research covered by the Union.

**IUFRO Honorary Membership** is IUFRO's highest award and acknowledges persons who have rendered particularly important and outstanding services to IUFRO.

Su See Lee	Malaysia	2016	William Edwin Hillis	Australia	1986
Don Koo Lee	Republic of Korea	2014	Ivan S. Melekhov	U.S.S.R.	1986
Eric Teissier du Cros	France	2010	Robert Z. Callaham	U.S.A.	1982
Risto Seppälä	Finland	2010	Walter Liese	Germany	1982
Jeffery Burley	United Kingdom	2005	Jean Parde	France	1982
Heinrich Schmutzenhofer	Austria	2005	Auguste Oudin	France	1976
Jacob L. Whitmore	U.S.A.	2005	Douglas R. Redmond	Canada	1976
Franz Schmithüsen	Germany	2000	Ivar Samset	Norway	1976
Salleh Mohd Nor	Malaysia	1999	Alessandro De Philipps	Italy	1971
Howard B. Kriebel	U.S.A.	1998	Verne Leslie Harper	U.S.A.	1971
James Cayford	Canada	1995	Julius Speer	Germany	1971
Oscar Fugalli	Italy	1995	George M. Jemison	U.S.A.	1971
Richard K. Hermann	U.S.A.	1992	Eino Saari	Finland	1967
Riccardo Morandini	Italy	1992	Maksymilian Kreutzinger	Poland	1967
Robert L. Youngs	U.S.A.	1992	James MacDonald	United Kingdom	1962
Robert E. Buckman	U.S.A.	1992	Heinrich Van Vloten	Netherlands	1962
Marten M.G. Bol	Netherlands	1990	Hanns Burger	Switzerland	1959
Richard Plochmann	Germany	1990	Philibert Guinier	France	1953
Dusan Mlinsek	Yugoslavia	1989	Gyula Roth	Hungary	1953
Ulf Sundberg	Sweden	1989	Erik Lönnroth	Finland	1953



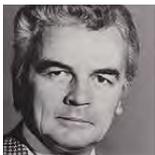
## Annex 7

### Important events – an overview and timeline

Time	Place	IUFRO – World Congress	Event	Outcome (result)	Presidents
1890	Vienna, Austria		Congress of Agriculture and Forestry	K. Böhmerle, Austria, put forward a proposal to invite all forest experiment stations of all European countries to cooperate	
1892	Eberswalde, Germany		Foundation of the International Union of Forest Experiment Organisations	Founded by three members: Association of German Forest Experiment Stations and the Experiment Stations of Austria and Switzerland	
1893	Vienna, Austria	I Congress			 <p>Josef Friedrich, Austria, 1892-1893</p>
1896	Braunschweig, Germany	II Congress	Formation of a committee (one of the first working units) influence of forests on water balance		 <p>Bernhard Danckelmann, Germany, 1894-1896</p>
1900	Zurich and Bern, Switzerland	III Congress	Starting point of growth increment research on individual trees (influence of weather on tree-increment, presentation of "auto-graph" (Friedrich)		 <p>Conrad Bourgeois, Switzerland, 1897-1900</p>
1903	Vienna, Austria	IV Congress	Delegates agreed on the publication of a "Guide for thinning and incremental felling trials" based on a joint German-Austrian proposal which served as a guide for the next half century		 <p>Josef Friedrich, Austria, 1901-1903</p>

1906	Stuttgart, Germany	V Congress			 Anton Bühler, Germany, 1904-1906
1910	Spaa, Brussels, Belgium	VI Congress			 N. I. Crahay, Belgium, 1907-1910
1914	Budapest, Hungary		Completely organized, but cancelled due to World War I	General mobilization made further cooperation impossible. IUFRO's work was halted by World War I	 Jenö Vadas, Hungary, 1911-1914
1926	Rome		First (FAO) World Forestry Congress	First possibility of forest scientists to meet again in an international forum, decision to reconstitute the Union	
1929	Stockholm, Sweden	VII Congress	Reconstitution and change of name to "International Union of Forestry Research Organizations." New organs: International Committee, Working Committee, Secretary-General		 Henrik Hesselmann, Sweden, 1929
1931				First Annual Report printed	
1932	Nancy, France	VIII Congress			 Philibert Guinier, France, 1929-1932
1936	Budapest, Hungary	IX Congress			 Gyula Roth, Hungary, 1933-1936
1947	Helsingfors		Meeting of representatives of experimental stations of Denmark, France, Germany, Norway, Sweden, Switzerland	Decision to revive IUFRO	

1948	Zürich, Switzerland	X Congress	Organization of the Union in the form of eleven research sections	Membership was half of what it was before the war. Some former members were unable to raise the annual subscription	 Erich Lönnroth, Finland, 1937-1948
1949			Agreements with the Forestry Department of the Food and Agriculture Organization of the United States (FAO) to establish a IUFRO-Secretariat at FAO-Headquarters in Rome, Italy		
1953	Rome, Italy	XI Congress		more than 100 members	 Hans Burger, Switzerland, 1949-1953
1956	Oxford, UK	XII Congress			 Aldo Pavari, Italy, 1954-1956
1961	Vienna, Austria	XIII Congress	Establishment of the Enlarged Committee composed of the 12 Leaders of Research Sections	New Statutes and Internal Regulations	 James McDonald, United Kingdom, 1957-1961
1967	Munich, Germany	XIV Congress		10 volumes of proceedings	 Julius Speer, Germany, 1962-1967
1970			Committee set up to work out new Statutes	Comprehensive reorganization: introduction of an Executive Board with Programme and Administration Committees. Transformation of sections into six scientific Divisions	

1971	Gainsville, USA	XV World Congress "Research's Role in the Intensification of Forestry Practises and Activities"		First "World" Congress outside Europe New Statutes provided for the establishment of a Secretariat	 George M. Jemison, USA, 1968-1971
1972			Agreement between IUFRO and the Austrian Government to establish a permanent Secretariat at the Austrian Forestry Research Institute Schönbrunn, Vienna	Office run by Otmar Bein Start of a quarterly published Newsletter	
1976	Oslo, Norway	XVI World Congress "Forestry in a World of Limited Resources"			 Ivar Samset, Norway, 1972-1976
1981	Kyoto, Japan	XVII World Congress "Research Today for Tomorrow's Forests"		First Congress outside the Western hemisphere: 1300 participants from 73 countries	 Walter Liese, Germany, 1977-1981
1983			Establishment of the Special Programme for Developing Countries SPDC in the Secretariat in Vienna	Oscar Fugalli, first SPDC Coordinator	
1986	Ljubljana, Yugoslavia	XVIII World Congress "Forest Science Serving Society"			 Dusan Mlinsek, Yugoslavia/Slovenia, 1982-1986
1987			First IUFRO "Review"	Retirement of O. Bein in December 1987. Heinrich Schmutzenhofer followed him on January 1, 1988	
1988			Establishment of IUFRO Task Forces		
1990	Montreal, Canada	XIX World Congress "Science in Forestry: IUFRO's Second Century"		Introduction of Second Vice-President for administrative affairs	 Robert Buckman, USA, 1987-1990
1992	Berlin and Eberswalde, Germany	"100 Years of IUFRO"			

1995	Tampere, Finland	XX World Congress "Caring for the Forest: Research in a Changing World"		About 3000 participants	 M. N. Salleh, Malaysia, 1991-1995
1996			Revision of IUFRO structure	Reorganization of Divisions 1 and 2 into four Divisions (1,2,7 and 8)	
1999			IUFRO Review	Chaired by Jim Cayford, former Vice-President, Canada	
2000	Kuala Lumpur, Malaysia	XXI World Congress "Forests and Society: the Role of Research"		First IUFRO World Congress in a developing country Nearly 2000 participants from 93 countries	 Jeffery Burley, United Kingdom, 1996-2000
2001			IUFRO Philosophy and Strategic Plan with a Vision and Mission	Publication IUFRO Annual Report in new, streamlined format	
2002			Presentation of new logo and new corporate image		
2002	Copenhagen, Denmark Vienna, IUFRO HQ	IUFRO European Regional Congress "Forestry Serving Urbanised Societies"	Launch of the Global Forest Information Service (GFIS) Symposium "Forest Research – Challenges and Concepts in a Changing World" and celebration of 110th Anniversary of IUFRO	120 participants from 20 countries and three continents	
2003			Signing of a Memorandum of Understanding with the International Forestry Students' Association (IFSA)	Executive Secretary Heinrich Schmutzenhofer retired in November 2003.  Peter Mayer, IUFRO Executive Secretary since 1 December 2003	
2004			IUFRO Review Panel	Chaired by Jagmohan S. Maini, Canada	
2005	Brisbane, Australia	XXII World Congress "Forests in the Balance: Linking Tradition and Technology"	IUFRO Strategy 2006-2010 "Global Science Cooperation for the Benefit of Forests and People"	Over 2100 participants from 90 countries	 Risto Seppälä, Finland, 2001-2005

2006	La Serena, Chile	IUFRO Regional Congress IUFROLAT II "Supporting Forests and People through Networking"			
2007	Bali, Indonesia		United Nations Climate Change Conference Bali, Indonesia	Launch of the Global Forest Expert Panels (GFEP)	
2008			IUFRO Review Panel	Chaired by Jan Heino, Assistant Director General FAO	
2009	Buenos Aires, Argentina		FAO XIII World Forestry Congress "Forests in Development: A Vital Balance"	FAO and IUFRO celebrate 60 years of collaborative partnership and sign an agreement for continued collaboration	
2010	Seoul, Republic of Korea	XXIII World Congress "Forests for the Future: Sustaining Society and the Environment"	Strategy 2010-2014 "Reading the pulse of forest science for the benefit of forests and people"	2700 participants from 100 countries Alexander Buck Executive Director on 1 December 2010	 Don Koo Lee, Republic of Korea, 2006-2010
2012	Nairobi, Kenya	IUFRO Regional Congress in Africa "Serving the People of Africa and the World"		First IUFRO Regional Congress organized on the African continent: 300 participants	
			IUFRO Review Panel	Chaired by Eduardo Rojas Briaies, Assistant Director General of FAO	
2013	San José, Costa Rica	IUFRO Regional Congress in Latin America IUFROLAT III "Forests, competitiveness and sustainable landscapes"	IUFRO SPDC receives a new name: Special Programme for Development of Capacities. IUFRO HQ moved to a new location in central Vienna in February 2013	A milestone as regards participation of Latin American scientists is reached – 600 participants	
2014	Salt Lake City, USA	XIV World Congress "Sustaining Forests, Sustaining People: the Role of Research"	IUFRO Strategy 2015-2019 "Interconnecting Forests, Science and People"	2500 scientists attend, from more than 100 countries	 Niels Elers Koch, Denmark, 2011-2014
2015	Durban, South Africa		FAO XIV World Forestry Congress		

2016	Beijing, China	IUFRO Regional Congress for Asia and Oceania "Forests for Sustainable Development: The Role of Research"		First IUFRO Regional Congress in Asia - 800 participants	
2017	Freiburg, Germany	125-year Anniversary of IUFRO	IUFRO Review Panel	Chaired by Tim Christophersen, Chief Terrestrial Ecosystems Unit, UN Environment	
2019	Curitiba, Brazil	XXV World Congress			 <p>Michael J. Wingfield, South Africa, 2015-</p>





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