

INTERNATIONAL ACADEMY OF WOOD SCIENCE

BULLETIN 2017-II



December 2017

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Vice-President: Yoon Soo Kim, Gwangju
Secretary: Lloyd Donaldson, Rotorua
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End of terms: 1 June

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<http://www.iaws-web.org/>

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MESSAGE FROM THE PRESIDENT

Many thanks to Fellow Uwe Schmitt for his excellent leadership over the past three years. Among his numerous achievements as President are the updating of our website, four new Affiliate Members (through Frank Beall's sub-committee), a Memorandum of Understanding with the Vietnam National Forestry University, and the very successful Plenary Meetings in Sopron/Vienna, Québec City and, in particular, our 50th Anniversary Meeting in Paris, June 2016. Fellow Schmitt remains on the EC as Past President and continues to oversee the IAWS website in Hamburg.

Fellow Yoon Soo Kim is the elected Vice President, having served with distinction as Secretary since 2014. We are fortunate to have Fellow Lloyd Donaldson (Scion, Rotorua, New Zealand) join us as Secretary and Bulletin Editor. Thanks again to Fellow Roberta Farrell for her exemplary work on the Bulletin and for injecting new ideas. Fellows Howard Rosen (Treasurer) and Pieter Baas (Board Chair) continue in their EC roles. Special thanks to long-serving EC member Lennart Salmén, who has completed his term as Past President. The IAWS has greatly benefited from his leadership, knowledge and council.

We were very pleased to welcome two new Affiliate Members to our Academy: The University of British Columbia Department of Wood Science and The International Wood Culture Society. These institutions will further strengthen our connection with young researchers and the broader community.

Our Academy was involved in three very successful meetings in 2017. The Executive committee meeting in Hamilton, and workshop in Rotorua, New Zealand hosted by Fellows Farrell and Donaldson, the IUFRO All-Division 5 Conference, "Forest Sector Innovations for a Greener Future", in Vancouver, and the 9th Pacific Regional Wood Anatomy Conference organised by the International Association of Wood Anatomists (IAWA), the International Academy of Wood Science (IAWS), and the Indonesian Wood Research Society (IWoRS) in Denpasar, Indonesia. In addition, we were pleased to contribute to World Wood Day in California.

Several Fellows received awards in 2017. Fellow Ron Sederoff was awarded the 2017 Marcus Wallenberg Prize in October for his path-breaking achievements in forest molecular genetics. Fellows Ian de la Roche and Arno Fröhwald were each awarded our highest honor - the Academy Lecture - which they presented at the Vancouver and Bali meetings. The IAWS Distinguished Service Award was presented *in absentia* to Fellow Frank Beall at the PRWA Conference in Indonesia. Fellow Dave Cown was recognized with a Science New Zealand Lifetime Achievement Award.

The 6th World Wood Day will be held during March 20-25 at Angkor Wat, Siem Reap, Cambodia. Fellow Howard Rosen (IAWS Treasurer) Chairs the Board of the World Wood Day Foundation which holds this important annual event to raise public awareness and understanding of the importance of wood in society. The previous five celebrations were in Tanzania, China, Turkey, Nepal and USA.

An Executive Committee meeting and one-day workshop will be held in May at Oregon State University. More information will be circulated soon.

The next IAWS Plenary Meeting will be held in association with the IAWA in Guadalajara, Jalisco, Mexico, during the week October 15-19, 2018. The meeting is sponsored and hosted by the Department of Wood, Cellulose and Paper, “*Ing. Karl Augustin Grellmann*”, University of Guadalajara.

We wish you all a happy and safe 2018

Robert Evans
Melbourne

TREASURER'S REPORT

Following is the audited Treasurer's Report for the calendar year 2017, dated September, 2017. The dues have been broken down into categories. The net change for 2017 was \$7,205. In September 2017, 102 of the 122 (84%) Active and Retired fellows and 25 of the 26 Affiliate Members were current in their dues. Our CD's and mutual fund totals \$99,454 and have been invested in less secure and longer-term investments to obtain higher rates of return. The strength of the US dollar over many other currencies, especially the Euro, means our funds have increased in buying power in those countries.

We continue to pursue creative avenues to continue the financial support from Fellows and organizations. With revisions to a new more professional looking IAWS Website; regular technical meetings; the PhD Thesis/Dissertation Awards; the Distinguished Service Award; and inflation; continued revenue is essential to preserve our quality programs.

So far in 2017, we have approximately \$39,045 in Capital One Bank and \$77 in our PayPal account. Added to our \$94,063 in savings, we have a total of approximately \$133,185 in assets. We need to contact delinquent members and actively encourage perspective Affiliate Members. All but 1 of our 26 Affiliate Members have paid 2017 dues and 84% of our Active and Retired members have paid this year. Our finances continue to be very sound.

Howard Rosen, IAWS Treasurer

EC MEETING - BALI

There was a short EC meeting during the Bali conference. Discussion was primarily on the need to increase fellow nominations particularly for females and for colleagues in South America and Africa. Fellow Pieter Baas proposed formation of a working group to address this issue. The upcoming plenary meeting in Mexico later this year may contribute to progress in addressing imbalances.

IAWS MEMBERSHIP REPORT

Distribution of Fellows by Country: 39 Countries, 378 Fellows.

Australia	10	Greece	2	Russia	10
Austria	6	India	3	Slovakia	2
Bangladesh	1	Indonesia	1	Slovenia	1
Belgium	2	Israel	3	South Africa	2
Brazil	3	Italy	2	Spain	2
Canada	35	Japan	42	Sweden	15
Chile	3	Korea	6	Switzerland	6
China	21	Latvia	2	Turkey	1
Denmark	4	Netherlands	1	Taiwan	5
Egypt	1	New Zealand	10	United Kingdom	6
Finland	11	Philippines	1	USA	107
France	21	Poland	2	Mexico	0
Georgia	1	Portugal	1	Norway	0
Germany	26	Romania	1	Total	382

Distribution of Fellows by Continent

Continent	No. of Countries	No. of Fellows
Africa & Israel	3	6
Asia	9	81
Australia & New Zealand	2	19
Latin America	2	6
Europe	21	124
North America	2	142
Total	39	378

Affiliated Members elected in 2016

Vietnam Forestry University, Hanoi, Vietnam

Seoul National University, Seoul, Korea

International Center for Bamboo & Rattan, Beijing, China

Göttingen University, Göttingen, Germany

Fellows elected in 2017

Umesh Agarwal (USA)

Junyou Shi (China)

Alain Celzard (France)

Nicolas Brosse (France)

Youngcan Jin (China)

Yuzou Sano (Japan)

Andrey Pranovich (Finland)

Fellows elected in 2016

Joris van Acker Belgium

Katarina Cufar Slovenia

Phillipe Gerardin France

Yonghao Ni Canada

Byung-Dae Park Korea, South

Xiping Wang USA

Cordt Zollfrank Germany

Chair of Academic Board elected in 2016

Pieter Baas The Netherlands

New Board Members elected in 2016

Geoffrey Daniel Sweden

Ana Gutierrez Spain

Alfred Teischinger Austria

Siqun Wang USA

Fellows deceased in 2017

Peter ALBERSHEIM, USA

Kazumi FUKAZAWA, Japan

Takayoshi HIGUCHI, Japan

Peter NELSON, Australia

Derek PAGE, Canada

Fellows deceased in 2016

Ants TEDER, Sweden

Emmanuel POPPEL, Romania

Josef SCHURZ, Austria

John David BARRETT, Canada

Ramon ECHENIQUE-MANRIQUE, Mexico

Kunio HATA, Japan

Deceased Fellows (2010 -2015)

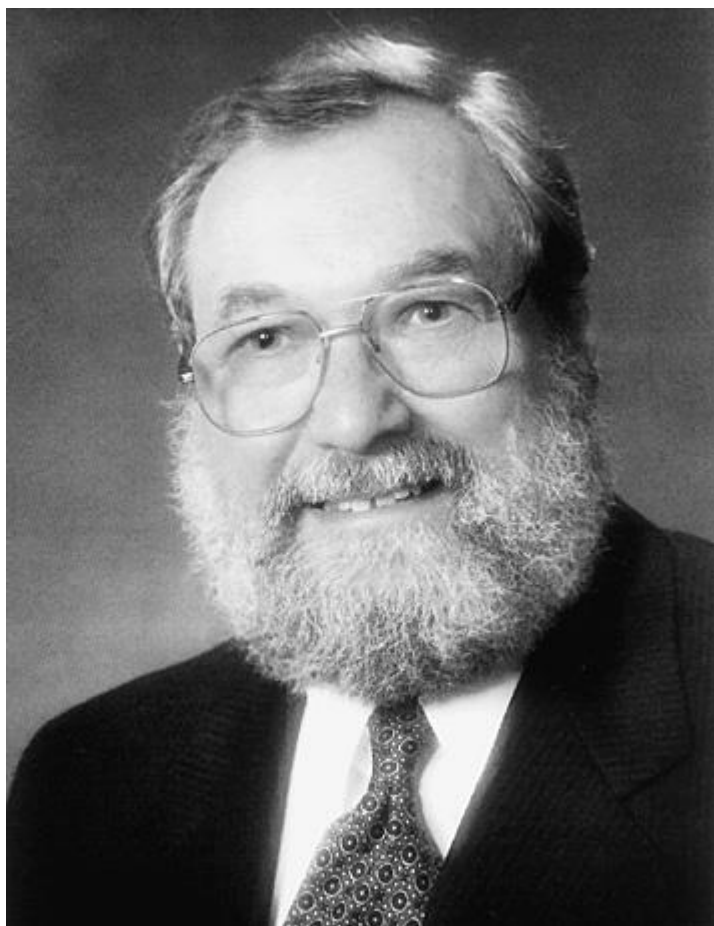
John M. HARRIS (2010), New Zealand
Shinji HIRAI (2010), Japan
Tamio KONDO (2010), Japan
Otto R. GOTTLIEB (2011), Brazil
Huntly HIGGINS (2011), Australia
Knut O. LUNDQUIST (2011), Sweden
Hubert POLGE (2011), France
Stanley K. SUDDARTH (2011), USA
Jerzy WAZNY (2011), Poland
Abraham FAHN (2012), Israel
Wolfgang KNIGGE (2012), Germany
Harold TARKOW (2012), USA
Anne-Marie CATESSON (2012), France
Eugene ZAVARIN (2012), USA
B.J. ZOBEL (2012), USA
Wilfred A. CÔTÉ (2012), USA
Horst H. NIMZ (2013), Germany
John D. BRAZIER (2013), United Kingdom
Fernand BARNOUD (2013), France
Gösta BRUNOW (2013), Sweden
Shigeo ISHIDA (2013), Japan
Thomas M. MALONEY (2014), USA
Sandor MOLNAR (2014), Hungary
Geza IFJU (2014), USA
John ERICKSON (2014), USA
Paul KIBBLEWHITE (2015), New Zealand
Börje K STEENBERG (2015), Sweden
Boris N. UGOLEV (2015), Russia
Rolf BIRKELAND (2015), Norway

Compiled by Yoon Soo Kim, Gwangju

OBITUARIES

Dr Derek H. Page [1929 – 2017]

It has recently been announced that on Friday, April 7th, Dr. Derek H. Page died in his sleep at his home in Baie-D'Urfé at age 87 after a long illness. Derek was a member of the FRC for many years and he contributed to many of the Fundamental Research Symposia both by submitting his own work and by discussing the contributions of others. He also contributed in many other ways to paper science and, more specifically, paper physics, not least as founding scientific editor of the Journal of Pulp and Paper Science. He will be much missed by all in our scientific community.



Derek H. Page
2003 Paper Industry
International Hall of Fame
Inductee

Derek Page was born November 22, 1929, in Sheffield, England. He attended Gonville & Caius College, Cambridge, England, where he received a bachelor of arts degree in physics, with honors, in 1953, followed by a master of arts in 1957, and his doctorate in 1968. In 1953, he joined British Insulated Cables as a physical chemist, and in 1955, the British Paper and Board Industry Research Association as principal research officer.

In 1964, he joined the Pulp and Paper Research Institute of Canada as section head in fibre physics, followed by division director of materials science, and then served as director of research for physical sciences until his retirement in 1993, when he was appointed distinguished professor of physics at the IPST. He is currently scientific editor of the Journal Pulp and Paper Science and is a consultant to the industry.

Since 1955, Dr. Page has applied his skills as a physicist and a microscopist to the understanding of the structure and properties of fibers and of paper. He and the teams he led have produced classical work in the fields of fiber structure; effects of beating and refining; strength of wet webs; fiber-fiber bonding; image analysis; printing; paper permanence; and the stress-strain curve and tensile strength of single fibers and of paper.

Dr. Page, who holds two patents and has authored or co-authored 112 published articles, was best known for his development of a theory for the tensile strength of paper in terms of the properties of the fibers and the structure of the sheet. The “Page equation” has been used extensively in industry to explain the processing change effects on paper strength

A founding member of the TAPPI paper physics committee, Dr. Page subsequently became chairman. He was also chairman of the 1972 Gordon Research Conference on the Chemistry and Physics of Paper and founded and became the first chairman of the PAPTAC committee on recycling. He chaired the International Paper Physics Conference in 1973. Dr. Page edited the proceedings of the TAPPI seminar “The Physics and Chemistry of Wood Pulp Fibers”, Appleton, Wisconsin, in 1969. and served on the editorial advisory board of Pulp and Paper Canada from 1983 to 1993. He has served on the program committee of Oxford and Cambridge Fundamental Symposia since 1970.

Dr. Page was elected Fellow in the following organizations: TAPPI; International Academy of Wood Science; Royal Microscopical Society; and Institute of Physics. He is also a member of several other technical societies. In 1999, he received the highest honor granted by PAPTAC, the John S. Bates Memorial Gold Medal.

A member of the “Magic Circle” as an undergraduate student at Cambridge, he continued to give magic shows for children at PAPRICAN’s Christmas party until his retirement.

Dr. Page is married to Louise Auclair. He has three children by his first marriage, Susan, Ruth, and Elizabeth, and four stepchildren by his second marriage, Kathline, Jonathan, Elizabeth, and Marc. He has 13 grandchildren.

Derek H. Page awarded Tappi Gold Medal PITA Silver Medal and Van Den Akker Prize

Abstract

In 2005 Derek H. Page has received three prestigious awards; the Tappi Gold Medal, the PITA Silver Medal (2004) and the Van Den Akker Prize for best paper in paper physics.

“Its like winning the U.S. Open, the Australian Open and Wimbledon, all in one year! It’s the Grand Slam of paper physics!” , Derek Page comments. Derek Page, industry consultant and Scientific Editor of the Journal of Pulp and Paper Science, has during his career highly contributed to the pulp and paper industry.

At the Tappi Annual Meeting in February, he received the Gunnar Nicholson Gold Medal. On September 15, he was awarded the PITA Silver Jubilee Medal, which was presented at the FRC Symposium banquet in Cambridge, UK. The 2005 Van den Akker Prize for Advances in Paper Physics was given to Derek Page and John F. Waterhouse for their paper

“The contribution of transverse shear to wet fiber deformation behavior” published in Nordic Pulp and Paper Research Journal, Vol. 19, No. 1, pp. 89-92, (2004). Retired as professors from the Institute of Paper Science and Technology, IPST, they have published extensively and are renowned experts in the area of paper physics.

Dr Peter Albersheim [1934 – 2017]

Peter Albersheim, distinguished professor emeritus at the University of Georgia (UGA), has passed away after a long battle with Parkinson's disease. He is survived by his wife Ivana, his first wife Joyce and their son James Walter, and daughters Renée and Stephi, his grandchildren Anthony Peter and Katie Lynn, and his sister Anne Gertrude. Peter received his B.S. in plant pathology in 1956 from Cornell University and his Ph.D. in biochemistry in 1959 from the California Institute of Technology.



He and Dr. Alan Darvill founded the Complex Carbohydrate Research Center (CCRC) in September 1985. Dr. Albersheim spent 21 years as a professor of biochemistry in the Departments of Chemistry and Molecular, Cellular and Developmental Biology at the University of Colorado in Boulder, prior to coming to the University of Georgia. Dr. Darvill and Dr. Albersheim co-directed the CCRC as well as their combined research teams. Peter Albersheim was also co-director of the Department of Energy-funded Center for Plant and Microbial Complex Carbohydrates. From 1990 to 2002, he was director of the National Institutes of Health-supported Resource Center for Biomedical Complex Carbohydrates. Dr. Albersheim was the 1973 recipient of the Charles A. Shull award of the American Society of Plant Physiologists and in 1984 of the Kenneth A. Spencer award of the American Chemical Society. He was a frequently invited speaker to special symposia, meetings of scientific societies, and to civic, commercial, and academic organizations in the U.S and around the world.

Dr Kazumi Fukazawa [1932 - 2017]

Dr. Kazumi Fukazawa, Professor Emeritus of Hokkaido University, passed away on 19 October 2017 at the age of 85 in a hospital in Sapporo, Japan after a valiant fight against leukemia. He was elected as IAWS Fellow in 1984. In October 2007, he was honored to give an Academy Lecture of IAWS entitled as "Histochemical studies on wood" at Kyoto University, Japan. He felt immensely proud of it. He was also honored to be elected as an Honorary Member of IAWA (International Association of Wood Anatomists) in 2002 because of his great contributions he made to Wood Science and to the IAWA.



Fukazawa was born in Manila, the Philippines in 1932. After receiving a BS degree in Agriculture at Hokkaido University in 1953, he began his academic career at Gifu University. In 1968 he moved to be appointed an associate professor in the Department of Forest Products at Hokkaido University, and then promoted to full professor in 1984.

He spent one year (1980-81) at McGill University in Montreal, Canada, studying lignin histochemistry at the laboratory of Dr. Goring. When he retired in 1995, he was awarded the title Professor Emeritus by Hokkaido University.

In his early years at Gifu University, Fukazawa carried out studies on variation in the wood quality of *Cryptomeria japonica* and *Chamaecyparis obtusa* planted in central Honshu Japan and he obtained his PhD with that research in 1967 from Hokkaido University. Afterwards, his interests were directed towards various topics related to wood anatomy including heartwood formation, lignin histochemistry, and tree ring analysis. In collaboration with his colleagues and students he published a total of 98 peer-reviewed papers and 9 books on these topics. Due to his continuous application to research grants during his academic career, he was able to award the budgets to install new lab equipment. Thanks to his commitment, his colleagues and students were always able to work under the excellent research conditions.

Fukazawa was a very enthusiastic participant in international conferences from the time when many of Japanese wood scientists stayed in his country. He also was keen to invite famous foreign professors and researchers to Japan. He strongly encouraged younger colleagues and his students to go abroad and to communicate each other with different cultures. He demonstrated what a global citizenship was. His gentle and warm characters can not be forgettable.

Fukazawa's accomplishments in his extracurricular activities were also noticed. In his student days he was an excellent field hockey player at Hokkaido University. Due to that experience, he continued to support his Alma Mater's field hockey club, and supported the Japanese Association of Field Hockey, over the course of his career at Hokkaido University. During the last two years before his retirement, he served as Dean of the Bureau of Student Affairs at Hokkaido University, and played an important role in the university administration..

Fukazawa is survived by his wife, son and three grandsons. He and his wife were well-known as a happily married couple. Along with all the others who knew him, we will miss Professor Fukazawa and his warm personality.

Yuzou Sano

MEETINGS OF INTEREST

4th International CITES workshop in Hamburg (08 - 09 June)

The identification of internationally traded timber is of prime importance in enforcing CITES policies regarding protected species, especially with focus on the new *Dalbergia* = rosewood listings. In this context, the 4th International CITES workshop was organized by the Thünen Institute of Wood Research, Hamburg and the Federal Agency for Nature Conservation (BfN, Germany), hosted at the premises of the Thünen Institute. In total 55 participants from 26 countries representing environmental and customs authorities as well as wood anatomists were practically trained in the macroscopic identification and recognition of CITES protected timber by using the database *CITESwoodID*. The database has recently been updated and adapted to the new CITES timber listings, with focus on *Dalbergia* and *Guibourtia* species. It contains descriptions and an interactive identification system for all trade relevant CITES listed (44) timbers, known for their use as lumber and downstream processing into products.



In addition, the database covers more than 30 traded timbers which can be mistaken for CITES taxa due to a very similar appearance and/or structural pattern. The practical exercises of the highly motivated participants have demonstrated, that the database is ideally suited for all institutions and individuals involved in controlling the import and export of wood and wood products which are regulated by CITES. Furthermore, the database offers a useful tool for educational facilities active in teaching wood anatomy and wood identification. The program of the workshop also included individual presentations regarding the European Timber Regulation (EUTR), applications of DNA fingerprints to control tree species and geographic origin, and a non-destructive wood identification of music instruments based on 3D-reflected-light microscopy.

These presentations can be downloaded, see:

<https://www.thuenen.de/en/infrastructure/the-thuenen-centre-of-competence-on-the-origin-of-timber/auswirkungen-der-neuen-cites-listungen/>.

Gerald Koch, Germany



IUFRO Division 5 Conference

Many IAWS Fellows were among the 445 delegates, representing 49 countries, at the 2017 IUFRO All-Division 5 Conference, “Forest Sector Innovations for a Greener Future”, which was held in Vancouver in June 12-16. It is encouraging to note that more than 90 of the delegates were students, as the future of wood science depends on attracting our best young researchers to bring new ideas and lead the way in the application of new techniques to our most important renewable resource.

Plenary topics were:

Forest Sector Innovation – How can innovative forest sector based environmental and social approaches assure a greener future for our global society?

Innovations in Forest Products and Services – How will fibre and forests be used in the near- and long-term (focus on bioenergy, biomaterials, biofuels, biochemicals, carbon and non-timber forest products)?

Innovations in Wood Building and Design – What will the next generation’s needs for shelter and buildings be and how will they be met?

Innovations in Forest Management, Policy and Markets – Will there be enough biomass and sustainable products to support the growing global population?

Innovations in Business Models and Management – What will the businesses of forestry look like in the near- and long-term

The In-Conference tours highlighting innovation, culture and nature were well conceived and informative. The tours included Brock Commons, the world’s tallest wood building, the Museum of Anthropology and the UBC Botanical Garden, to name only a few.

Fellow Ian de la Roche, UBC Forestry, presented his Academy Lecture entitled “Renaissance of Wood Building Design and Construction in North America” New engineered wood materials, innovative construction systems and practices and growing consumer concern regarding green alternatives have generated new opportunities and momentum for wood- based solutions in multi-residential, commercial and institutional buildings. This presentation considered these recent trends and opportunities as well as the important roles played by the research community, regulatory bodies, and government promotional initiatives.

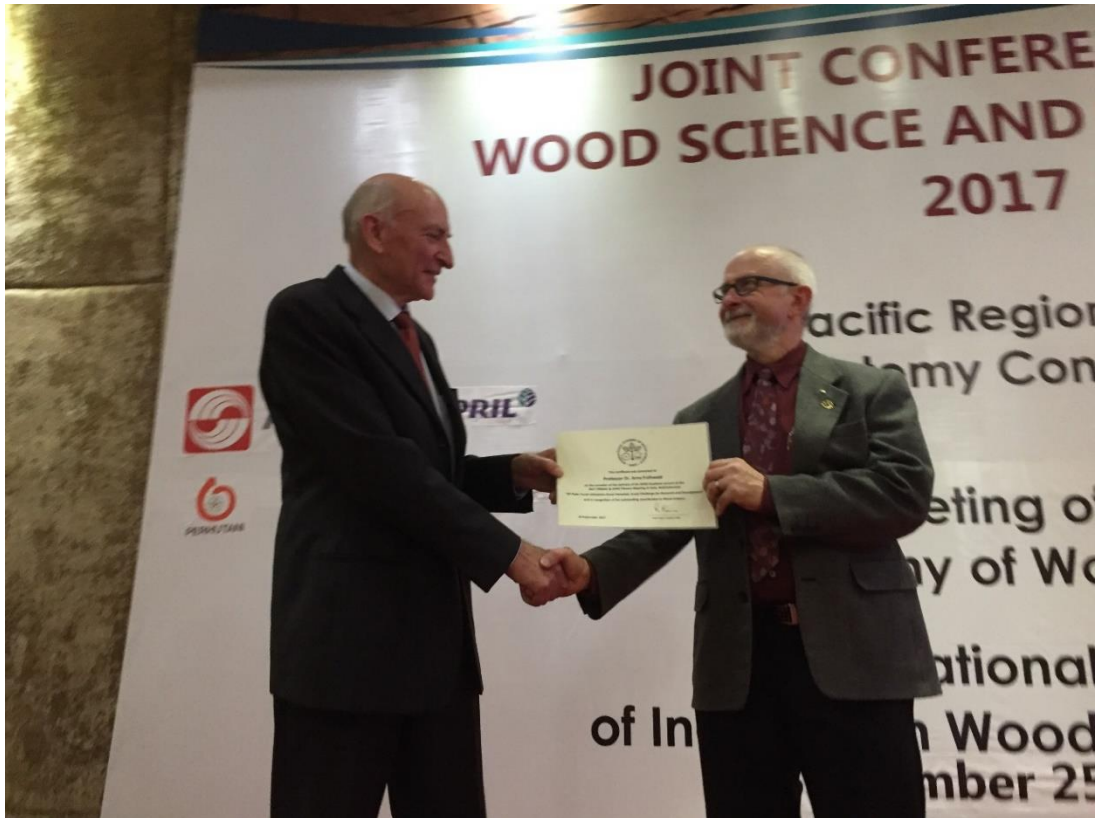


Dr. de la Roche's career spans almost 40 years of experience in plant genetics research, strategic planning, and creation of partnerships between government and industry. He joined the forest sector in 1992 and has served as CEO of Forintek, FERIC and Paprican. In 2006, he merged the three national institutes into FPInnovations. As its first President, he also had oversight responsibility for the Canadian Wood Fibre Centre. Fellow de la Roche is Principal of DELAROCHE Consultancy, Adjunct Professor at the Forest Resource Management Department at the University of British Columbia and Business Associate of Timwood Strategic Consulting, specializing in identifying strategic opportunities for the wood products sector.

A wrap-up of the conference can be found at <http://www.iufrodiv5-2017.ca/>

Pacific Regional Wood Anatomy Conference (26-29th September)

As part of the 9th PRWAC meeting in Bali, Indonesia, IAWS held a symposium including an Academy Lecture presented by Fellow Arno Frühwald from University of Hamburg shown below receiving his Academy Lecture certificate from the president Rob Evans.



**Oil Palm Trunk Utilization - Great Potential, Great Challenge
for Research and Development
Arno Frühwald
Wood Science and Technology Univ. of Hamburg, Germany**

Project Background

The total plantation area for oil palms amounts to over 20 million hectares worldwide and is expected to further increase. Oil palm plantations are exclusively planted for palm oil which is used in the food and biochemical industries as well as for energy. Forest destruction, loss of bio diversity and human rights violations through massive and partly illegal planting of oil palm plantations have been widely reported on.

However, this present project does not deal with palm oil but with the utilization of an up to date disregarded but valuable raw material – the wood from oil palm trunks.

When oil palm plantations were originally established, the question of what would happen to the biomass, especially the oil palm trunks, after replanting was not an issue. The fact is, oil palm plantations exist and they are gradually being replanted after a palm age of 25 years when palm oil yield is no longer economic. Based on a planted area of about 20 million ha, an average of 0.8 million ha annually will be replanted on a long term basis. As a result, large volumes of the resource oil palm wood will accrue worldwide, primarily in Asia. Estimates forecast 100 to 120 million cubic meters of trunks per year.

Presently, oil palm trunks are left to decay naturally, in some cases chipped as fertilizer (with subsequent insect and fungal attack) or even illegally burnt. All three procedures are highly detrimental for the environment due to rapid CO₂ emissions and in case of burning severe smoke and haze development. Furthermore a valuable resource which accrues in any case remains unused with the consequent economic and ecological disadvantages. The main reasons for the non-utilization is that oil palm wood significantly differs from “normal” wood in terms of extreme density variation within the trunk, the very high contents of water, silicates, sugar and starch. This results in a very different structure and properties of oil palm wood and processing requirements in comparison to “normal” wood species. Botanically, an oil palm is not a tree (dicotyledon) but a grass (monocotyledon). To date, the required knowhow and technology for an efficient use of oil palm wood are not available. However, the use of oil palm trunks could significantly reduce the pressure on natural forests by replacing the timber extracted. In Asia, the ongoing dramatic decrease in available timber from natural forests and relatively small volumes from plantations (e.g. Rubberwood, *Acacia mangium*, *Albizzia falcata*) have already lead to wood shortages. Illegal harvests further aggravate the situation. In the future, population and economic growths is expected to convert Asia into one of the largest importers of wood and wooden products.

At this point, it must be emphasized again that the wood of oil palm trunks never was and never will be the production target of oil palm plantations as revenues from wood fall far below those of palm oil. Nevertheless, the utilization of an anyhow existing resource is an ecologic and economic imperative.

Brief Project Description and Outlook

Earlier studies and pilot projects on the utilization of oil palm trunks for products have shown high technical and economic potentials. However, due to the afore mentioned reasons there are no industrial implementations yet. The overall project objective is the best possible use of timber from unproductive, over-aged oil palms for the production of high value-added products, e.g. one-layer and multi-layer panels, blockboards, gluelam in standard dimensions and cross laminated timber (CLT) in Malaysia and Thailand. The project is to develop comprehensive solutions for a sustainable use of oil palm wood taking into account technical, economic, ecologic and social aspects. Conservation of resources and tropical forests, climate protection, generation of jobs and income in the resource countries and new market development are objectives pursued by the project. Only plantation holders who have certified a substantial share of their plantation areas according to international standards can participate in the project. In the framework of this project a Chain-of-Custody system for oil palm wood which corresponds to that for “normal” wood products is being developed. Oil palm wood is not subject to the European Timber Trade Regulation (EUTR), however certificates of origin through the above certification system are possible without difficulty. For implementing the project, different companies and institutions have joined in the international network “PalmwoodNet” in a multi-stakeholder approach. Members of the network PalmwoodNet are the five core partners Jowat SE, Detmold; Minda Industrieanlagen GmbH, Minden; Möhringer Anlagenbau GmbH, Wiesentheid; Leitz GmbH + Co. KG, Oberkochen together with Boehlerit GmbH & Co. KG, Kapfenberg/Austria and Palmwood R+D, Freiburg. Furthermore, equipment manufacturers and universities from Europe and industry partners, R+D institutions as well as sector associations and institutions from Malaysia and Thailand have become associated partners of the network, each assuming specific development and implementation tasks. The PPP-Project „Oil Palm Wood“ sponsored by DEG (Deutsche Investitions- und Entwicklungsgesellschaft mbH) with funds of the German Federal Ministry for Economic Cooperation and Development was officially started in November 2015.

In the meantime work results and solutions are available from the following areas:

- Raw material supply
- Suitable products from oil palm wood
- Primary and secondary processing techniques incl. wood preservation and drying
- Machines and tools
- Adhesive technology
- Ecology and sustainable supply as well as
- Financial evaluation for assessing performance and competitiveness

These project results were presented to the public at LIGNA 2017 in Hannover/Germany and have gained huge interest.

One of the project outcomes related to knowledge was that technical aspects like sawing, drying, gluing or further processing is possible when employing new techniques, machines and tools. But the knowledge about the material itself, like structure, chemical, biological, physical-technical properties and their implication for process and product development still needs improvement for getting best possible products and processes.

Intensive R&D paves the way for competitiveness on the market with Oil Palm Wood based products in the near future.

Other presentations in the IAWS session included:

- Byung-Dae Park: "Wood Adhesion of Low Emission Urea Formaldehyde Resin Adhesives"
- Tobias Keplinger: "The potential of Raman spectroscopy and Atomic Force microscopy for the analysis of modified wood"
- Yoon Soo Kim: "Description of Soft Rot Cavity First by Japanese Wood Anatomist"
- M. Pramaditya: "Characterizations of Hydrochars Produced by Hydrothermal Carbonizations of Lignin Isolated from Black Liquor"
- W. Willems: "Application of Van Krevelen's Graphical-Statistical Method for The Study of Thermal and Fungal Degradation of Wood"

In addition, Fellows Baas, Donaldson and Yamamoto gave keynote lectures during the conference and several other fellows presented during the meeting.

Conference abstracts can be found on line at

<http://www.woodconference.fkt.ugm.ac.id/9th-prwac/>



Wim Willems receiving his PhD award lectureship certificate from president Rob Evans

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HONOURS AWARDED TO FELLOWS

In addition to the IAWS Lectureships to Fellows Arno Fröhwald and Ian de la Roche, and the Distinguished Service Award to Fellow Frank Beall, we are pleased to note the following:

Fellow Ron Sederoff, was awarded the 2017 Marcus Wallenberg Prize. The photo below shows Ron receiving the prize from His Majesty The King of Sweden.



The purpose of the prize is to recognise, encourage and stimulate path breaking scientific achievements which contribute significantly to broadening knowledge and to technical development within the fields of importance to forestry and forest industries.

Better quality and higher productivity are the incentives for molecular genetics of forest trees. Ronald R. Sederoff is awarded the 2017 Marcus Wallenberg Prize for his breakthroughs in developing methods for gene discovery in conifer species and exploiting new breeding technologies for improved properties.

Professor Ronald R. Sederoff, North Carolina State University, USA, was one of the first scientists in the field of molecular genetics of forest trees. From the early 1990s he was involved in almost all the early studies on genetic modification of conifer trees, quantitative genetic studies and later also tree genomics.

For his discoveries Ronald R. Sederoff is awarded the 2017 Marcus Wallenberg Prize of SEK 2 million.



Ron Sederoff with Jack Saddler, member of the MWP selection committee.

Innovations for the forest industry

Ronald R. Sederoff has explained that the purpose of his work is to better understand the biology of forest trees and to use this information to accelerate breeding.

He established in 1988 the Forest Biotechnology Group at North Carolina State University to concentrate on the genetic basis of quantitative traits in trees.

Until then tree breeding had focused on understanding the inheritance of different traits, without directly caring about the actual genes that determined these traits. Ronald R. Sederoff was one of the first tree geneticists trying to link biological properties with genetic information in trees, so called genetic mapping, using the newest markers available to identify important properties like rust resistance, tree growth and wood quality. His group has been actively working on sequencing pine and American chestnut genomes.

His group has also specialized on the molecular basis of the structure of wood to investigate the biochemical and genetic basis of cell wall formation.

Their focus is on the pathway for lignin biosynthesis and cell wall structural proteins.

Ronald R. Sederoff has provided the forestry sector with new methods and applications for tree breeding and valuable information to be used in the restoration of for example the American chestnut, which is today on the verge of extinction due to a devastating fungal disease.

Several of the inventions in his group have been granted patents in the US.

A rapidly developing field

The Prize Selection Committee of the Marcus Wallenberg Foundation states in its motivation that Ronald R. Sederoff's work has a major impact on the field of forest molecular genetics. Improvements in forest tree breeding for enhanced productivity resulting in a more rapid genetic gain are among the most obvious benefits of the work in his group.

"Forest biotechnology is a rapidly developing field with many bright investigators, new innovations and highly interesting publications. Recent advancements in genomics and gene editing technologies will make the field even more important in the future", says Professor Gunilla Jönson, chairperson of the Marcus Wallenberg Prize Selection Committee.

The Marcus Wallenberg Prize 2017 was presented by HM the King of Sweden to Ronald R. Sederoff at a ceremony in Stockholm during October.

The Laureate

Ronald R. Sederoff, born in 1939, received a Bachelor of Arts in Zoology in 1961 at the University of California, USA, where he also received a Master of Arts in Zoology in 1963 and a Doctor of Philosophy in Zoology in 1966 – both in Genetics.

He was 1967-1969 a Post-doctoral Fellow at the University of Geneva, Switzerland, and 1969-1975 Assistant Professor at Columbia University and in 1975-1978 held Associate and Assistant Professor positions at the University of Oregon. For the next two years he held a Senior Scientist and Plant Molecular Geneticist position at the USDA Forest Service. In 1987 he became a Professor in the Department of Forestry and Environmental Resources at North Carolina State University, where he also held associated faculty status in Genetics and in Molecular and Structural Biochemistry. He is currently Emeritus Distinguished University Professor and Edwin F. Conger Professor of Forestry and Environmental Resources at North Carolina State University.

Professor Sederoff was in 1995 elected to the National Academy of Sciences, USA, appointed Adjunct Professor Nanjing Forestry University in 1997, appointed as an Honorary Research Professor, Chinese Academy of Forestry in 1998, elected as a Fellow of the International Academy of Wood Science in 2000, became a Fellow of the American Association for the Advancement of Science in 2003 and was awarded an Honorary Doctorate from the Swedish University of Agricultural Sciences in 2004.

Fellow Dr Dave Cown, was awarded a lifetime achievement award at the Science New Zealand awards for his work in wood science and understanding the sources of wood quality variation and how to control it. In the 40 years Dave spent at Scion, Dave was responsible for creating the Wood Processing Research Group that developed the drying schedules now used by most of the softwood industries across the southern hemisphere, such as the Dryspec™ Control system. Their work played a vital role in growing the \$2.9 billion added-value wood products industry.



Dave has also authored over 140 refereed publications, been on every major forestry journal editorial board and received many awards including the Distinguished Service Award from the International Union of Forest Research Organisations for his contribution to forestry science in 2013.

Fellow Junji Sugiyama

Since 1962, the American Chemical Society (ACS) Cellulose and Renewable Materials (CELL) Division has honored outstanding professional contributions to the chemical science and technology of cellulose and renewable materials with the prestigious Anselme Payen Award. The 2017 Anselme Payen Award winner is Dr. Junji Sugiyama, Professor at Professor in the Research Institute for Sustainable Humanosphere (RISH) at Kyoto University. Dr. Sugiyama will be presented with the award at the ACS Division Cellulose and Renewable Materials Awards Banquet following a symposium in his honor during the 2018 ACS Spring National Meeting in New Orleans, Louisiana, U.S.A.



Dr. Sugiyama's research interests include structure, biogenesis, biochemistry, and biophysics of cellulose microfibrils, in particular the use of the state-of-art techniques of electron microscopy and crystallography. He was the first to visualize cellulose crystal lattices by high-resolution electron microscopy, under the supervision of Prof. Harada and Dr. Fujiyoshi. The images clearly eliminated previous current concepts of "chain folding" and the "universal elementary fibril", which had been intensely discussed in meetings at that time. He began interested in crystallography of native celluloses that have continued to date when he joined Prof. Okano, and Dr. Chanzy. One of his most important discoveries is the seminal definition of the two lattices of cellulose I α (alpha) and I β (beta). Later, Sugiyama and his group developed a way to determine the molecular directionality of a cellulose microfibril, successfully and unambiguously demonstrating how the addition of monomers occurs during the biosynthesis of cellulose microfibrils. The technique was extended to explore the reaction patterns of degrading enzymes of cellulose and other related polysaccharides, in collaboration with world-wide biochemists such as Dr. Henrissat, Prof Samejima, and Prof. Watanabe. Dr. Sugiyama received his B.S. in Agriculture from Kyoto University and his Ph.D. in Agriculture from the University of Tokyo. He was first appointed to the Department of Forest Products, Faculty of Agriculture in the University of Tokyo, he continued his research at the Wood Research Institute, and now at RISH in Kyoto University. He has served on the editorial board of Cellulose (since 1994). Dr. Sugiyama has co-authored over 200 publications, and 15 patents; he has co-authored several textbooks in the field of wood science and technology. Dr. Sugiyama has held several elected positions in domestic societies including vice-President and President of the Japan Wood Research Society. "Social implementation of wood science and technology" is the word addressed at the 60th anniversary of JWRS ceremony. Besides holding leadership positions in the domestic society, Dr. Sugiyama became a fellow of International Academy of Wood Science after 2008. More recently, apart from the above cellulose related activities, he intensively works for Xylarium, as a curator of wood collections, including the development of computer vision technology in wood anatomy and wood identification.

IAWS Distinguished Service Award

Fellow Frank Beall was awarded the IAWS Distinguished Service Award in 2017.



As an internationally recognised leader in research, education and management, Frank has made extraordinary contributions to wood science with over 170 technical publications, 10 patents and numerous honours. He was elected to the IAWS in 1994 and was appointed Secretary/Treasurer in 1995, elected as Vice President in 2005 and became President in 2008. Frank continued to contribute on the Executive Committee as Past President then founded the highly successful IAWS Affiliates Membership Sub-Committee which he still chairs. Fellow Beall's service to the Academy is exemplary.

The IAWS Distinguished Service Award is in recognition of an individual's distinguished service to "any aspect of the broad field of wood science. Such service may have been made in any relevant research, educational, or leadership area that furthers the objectives of the Academy." It should be noted that Fellow Beall's award is in recognition of his exceptional service in all of these areas.

NEW AFFILIATE MEMBERS

International Wood Culture Society

The International Wood Culture Society (IWCS) is a non-profit and non-governmental international organization established in California, United States of America in 2007. The IWCS is dedicated to the research, education and promotion of wood culture by participating in IUFRO Division 5, holding international forums and exhibitions, conducting documentary film projects, and organizing World Wood Day events with the World Wood Day Foundation (WWDF) annually since 2013.

- Promote the concept 'Wood is Good' and advocate a harmonious coexistence between nature and people.
- Explore the value and usage of wood from a cultural perspective.
- Provide a platform for people to study wood culture.
- Develop the theory and methodology of wood culture and encourage the active practice and promotion of wood culture.
- Commemorate World Wood Day (March 21st) and create an environment for people to celebrate and appreciate wood and wood for everyday use in life.

International Wood Culture Society (IWCS), a young but expanding non-profit organization, has been developing an integrated operation of promoting wood culture since 2001 and is currently working on three crucial projects. The Knowledge project is the first IWCS project that leads to two other projects and its programs - Wood Culture Tour of the Experience project, and World Wood Day of the Life project.

The Knowledge Project focuses on academic efforts and general knowledge of wood culture. Our approach is to encourage more research on wood culture and welcome active participation in our organized conferences where we aim to promote the cultural approach of researching on wood. Alongside academic effort, we provide general information of wood culture across different continents in an intermittent basis. Following the Knowledge Project, we keep working on our biggest program of Experience project entitled Wood Culture Tour, which has been planned, executed and presented on the website.

Wood Culture Tour embodies the simple but valuable concept of 'Wood is Good!', which will hopefully proliferate across continents in the future.

In addition to our programmes, IWCS also participates and organizes different types of activities, woodwork competitions, wood products and crafts exhibitions, and such with our cooperative organizations.



INTERNATIONAL WOOD CULTURE SOCIETY

A non-governmental organization and worldwide network
of wood enthusiasts, committed to the research,
education and promotion of wood culture.

www.iwcs.com



(Top) Villagers are dragging a wooden boat in Dang, Nepal.

(Upper Right) The wooden windmill is built in Nashtifan, close to the border of Iran and Afghanistan.

(Upper Left) Lakhe Dance performance with wooden masks in Bhaktapur, Nepal

(Lower Right) Students at a special educational school in Wenzhou, China, experienced music through the vibrations of wooden alphorns during the 2014 World Wood Day event.

(Lower Left) The making of Huēhuētl, a percussion instrument from Mexico.

Department of Wood Science – UBC

The Department of Wood Science (www.wood.ubc.ca) is one of the three departments in the Faculty of Forestry, University of British Columbia. It includes 18 faculty members working across a range of disciplines, namely, from wood cell wall ultrastructure to tall wood building engineering, and from cellulose and lignin-based renewable materials and biofuels, to advanced processing systems for manufacturing wood products, just to name a few. The Department runs the BSc (Wood Products Processing) program – the largest such program in North America and one of the largest in the world – which fosters direct contacts with industry stakeholders through a vibrant co-op program. In September 2018, a new undergraduate program in biomaterials and bioenergy science and technology will be offered to. Under the Department, the Centre of Advanced Wood Processing (www.cawp.ubc.ca) through its extension and applied research programs offers extensive links with Canadian and international wood products manufacturers and opportunities to work with existing and emerging companies and organizations.



AFFILIATE MEMBERS

Affiliate Members shall be educational, research, industrial, or governmental organizations and individuals, who are actively engaged in carrying out or promoting research in wood science or the enhanced utilization of wood on the basis of scientific or technological principles and practices. The importance of Affiliate to the Academy is two-fold:

- The Academy derives direct contact with organizations and individuals actively engaged in the utilization of wood and wood products
- The Academy receives financial support for its activities from these members.

Contact Details are available on the IAWS website.

AFFILIATE MEMBERS LIST

Contact Details are available on the IAWS website.

CHINESE ACADEMY of FORESTRY (CAF) www.caf.ac.cn

CIRAD FORETS (French Agricultural Research

Center for International Development) ur-bois-tropicaux.cirad.fr

DEPARTMENT OF WOOD SCIENCE – UBC, Canada www.wood.ubc.ca/

ESB- ECOLE SUPÉRIEURE DU BOIS, France www.ecoledubois.com

FORESTRY & FOREST PRODUCTS

RESEARCH INSTITUTE, Japan www.ffpri.affrc.go.jp

FP INNOVATIONS, Canada www.fpinnovations.ca

FRAUNHOFER-INSTITUTE OF WOOD RESEARCH, Germany www.wki.fraunhofer.de

HOLZFORSCHUNG MÜNCHEN, Germany www.holz.wzw.tum.de

INNVENTIA AB, Sweden www.innventia.com

INTERNATIONAL CENTRE OF BAMBOO AND RATTAN, China www.icbr.ac.cn/en

INTERNATIONAL WOOD CULTURE SOCIETY, USA www.iwcs.com

KYOTO UNIVERSITY, Japan www.rish.kyoto-u.ac.jp

MISSISSIPPI STATE UNIVERSITY, USA www.cfr.msstate.edu/forestp

MOSCOW STATE FOREST UNIVERSITY, Russia www.mgul.ac.ru/en

OREGON STATE UNIVERSITY, USA www.woodscience.oregonstate.edu

SCION, New Zealand www.scionresearch.com

SEOUL NATIONAL UNIVERSITY, Republic of Korea www.adhesion.org

STATE UNIVERSITY OF NEW YORK, USA www.fl.aesf.edu

TECHNICAL UNIVERSITY in ZVOLEN, Slovakia www.tuzvo.sk/en

THÜNEN INSTITUTE, Germany www.ti.bund.de

UNIVERSITE LAVAL, Canada www.xylo.sbf.ulaval.ca

UNIVERSITY OF GÖTTINGEN, Germany www.holz.uni-goettingen.de

UNIVERSITY OF MINNESOTA, USA www.bbe.umn.edu

US FOREST PRODUCTS LABORATORY, USA www.fpl.fs.fed.us

VIETNAM NATIONAL UNIVERSITY OF FORESTRY www.vfu.edu.vn

WOOD TECHNOLOGY INSTITUTE, Poland www.itd.poznan.pl

GUIDELINES FOR HIGHLIGHTS

The purpose of the Highlights, published in the Bulletin, is to promote the integration of the fields of wood science. Fellows are encouraged to submit Highlights to any of the Officers.

Highlights should:

- Be free of jargon and highly technical language and (unexplained) acronyms, and be readily understood by wood scientists in other fields
 - Be no more than 1000 words (roughly 4 pages in the Bulletin)
 - Begin by providing a brief background or framework to put the report in perspective
 - Give due credit to the work of others in the field, not just summarise the author's work
 - Contain important references to the literature for further reading
- Finish with a statement of future direction in the area

NOMINATION PROCEDURE FOR ELECTION OF FELLOWS

The nomination process is relatively simple; all you need to do is fill in the Nomination form and send it to me. For those to be considered in the next election, the deadline for receipt of nominations is 30 September.

I then contact the nominee, confirm their willingness to stand for election, and then have them complete the more detailed application form. The Executive Committee reviews the nominees to determine if their applications are complete, and then, in early November, submits the completed applications to the membership for ballot.

Typically, scientists who are nominated are either mid-career, showing great promise and accomplishments, or near the end of their career, when their peers feel that they have made major continuing contributions over their professional life.

There are two areas of Fellowship that are under-represented in IAWS. One is Fellows from developing countries, where the number of refereed scientific contributions, as viewed by the developing world, may be somewhat lacking because of the past or current inability to publish in the leading journals, and/or difficulty with the English language. The other area relates to the few numbers in certain scientific disciplines; if you are in one of those, you are aware of that. The Executive Committee is also interested in election of wood science managers who have had a major impact through their oversight of research activities, without necessarily having the expected number of refereed publications.

Please spend some time thinking about potential nominees, perhaps looking through the Directory and the listing of Fellows by countries. Since we do not “promote” ourselves to gain members, it is up to the Fellows in the Academy to provide the basis for this recognition.

Robert Evans

NOMINATION FORM

Nomination for Fellowship of the International Academy of Wood Science

Name of Candidate:

Position of Candidate:

Candidate Mailing Address:

Candidate email address (required!):

Candidate's Background (maximum 100 words):

Reasons for the candidate's nomination (outstanding in his/her field; substantial contributions to wood science; major results in management of research; etc):

Date:

Nominator name:

Email address:

Telephone:

Please return to: Robert Evans robertxevans@gmail.com

Imprint**Editorial**

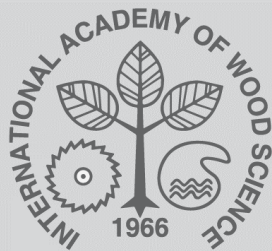
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Dr. Robert Evans - President
Dr. Lloyd Donaldson - Secretary

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