

**INTERNATIONAL
ACADEMY
OF
WOOD SCIENCE**

**BULLETIN
2006-II**



www.bfafh.de/iaws/

December 2006

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MESSAGE FROM THE PRESIDENT

This year we have celebrated the 40th anniversary of the foundation of IAWS on the 2nd June 1966 in Paris. To celebrate this event and in the honour of one of our earliest Fellows, Ted Hillis, the 2006 Academy meeting was organized in Melbourne/Australia on the topic “Wood Science in the Future”. This was the first time in the history of the Academy that a Fellow has been honoured with a second Academy Lecture. The meeting was a remarkable success and those who could not attend the meeting missed a great event. Fellow Rob Evans is to be congratulated on organizing an excellent programme.



EC during the Melbourne meeting - from left to right: Deglise, Rosen, Schmitt, Beall

Unfortunately, during the meeting Fellow Anders Björkman passed away at home in Denmark. Of particular importance for IAWS was his prominent role in the early history of our Academy and in its management. He was directly active at the Executive level as President, Vice-President and Secretary-Treasurer for 13 years.

Next year, the 2007 meeting will be organised in Kyoto from October 25-27, just before the IUFRO All Division 5 conference in Taipei/Taiwan.

This year's Fellowship election resulted in nine new Fellows from six countries. Fourteen nominations were received for fellowship and the names of the nine elected are included in

this Bulletin. Congratulations and a warm welcome, are due to each of the successful candidates. Sadly, during the process of the election one of the elected fellows, Gregory Shubin passed away.

All nominators of successful and unsuccessful candidates are to be thanked for the work they put into writing the nominations. To help nominators in the future, in Melbourne the Executive Committee discussed a proposal from the VP aimed at improving the nomination process to ensure more and better prepared nominations, with less work required of nominators. This proposal has been submitted to the Academy Board and to the Fellowship Committee for further discussion.

For the 40th Anniversary, we are preparing a new and more interactive version of the Web page. We will need the participation of all the Fellows to develop it and ensure its content remains up-to-date.

We have also decided to increase the impact of IAWS by welcoming new Supporting Members. Two new members have been elected in 2006, by the Academy Board.

An important effort to increase the worldwide scientific impact of IAWS is necessary. We are waiting for your help. Do not hesitate to contact the Executive Committee to submit proposals!

I wish you and your families a happy and successful New Year!

Xavier Deglise/Nancy

IAWS BUSINESS MEETING, NOVEMBER 15, 2006, MELBOURNE/ AUSTRALIA

The meeting was called to order at 17.45 h by President Xavier Deglise. Fellows Deglise (President), Beall (Vice President), Rosen (Treasurer), Schmitt (Secretary), Donaldson, Robert Evans, Franich, Higgins, Kibblewhite, Lachenbruch (formerly Gartner), Michell, Niemz, Petty, Schultze-Dewitz, Singh and Wallis were present.

President Deglise opened the meeting at St. Hilda's College, welcomed Fellows and thanked them for attending the 2006 IAWS Plenary Meeting. With its title "Wood Science and Technology in 2100" the meeting provides a very suitable forum to discuss strategies and recent developments on future aspects of wood science and technology. He also reminded Fellows on delivering their meeting presentations electronically for access at the new IAWS web page which will be soon available (see below).

Treasurer Rosen reported on the financial situation of the Academy. He commented on the situation of dues payment of active and retired Fellows as well as of Supporting Members. Fellow Rosen also reported on non-paying Fellows and suggested contacting Corresponding Fellows in some cases to assist the Treasurer.

President Deglise reminded Fellows to be responsive very quickly in nominating new fellows, since the deadline for sending materials to Vice President Beall is December 15.

Vice President Beall suggested having a new committee, named the “Certification Committee”, which was addressed in the last Bulletin. This committee would play an international role in evaluation of educational or research programs at the request of the particular institution. Since there was no negative feedback to the published message, the attendees recommended that a committee be formed to develop the procedure for such certifications.

There was a short discussion on upcoming IAWS annual meetings. As directed at the last EC meeting in April 2007, President Deglise contacted Japanese Fellows for organizing the 2007 meeting. In the meantime Fellow Kawai on behalf of the Japanese colleagues confirmed to host the 2007 meeting in Kyoto from October 25-27, just before the IUFRO All Division 5 conference in Taipei/Taiwan (October 29 – November 2). The preliminary program is as follows:

Venue: Shiran Kaikan, Kyoto University

October 25: Presentations of Scientific Research and Industrial Approach on Wood Science and Technology

October 26: Presentations, IAWS Business Meeting, Academy Lecture, Conference Banquet

October 27: Excursion

The meeting agreed to hold the 2008 IAWS meeting in London as a joint meeting with the Linnéan Society and IAWA (International Association of Wood Anatomists). For 2009 there is an option to hold the annual meeting in Russia, but it is not yet decided whether to hold the meeting in Moscow or in Saint Petersburg. A contact will be made soon with the Technical Academy of Forestry in Saint Petersburg. For the following years, Vancouver, Hamburg and Madison are options for the annual meetings.

President Deglise again raised the question how to improve the position of IAWS. As already discussed above, IAWS could act as a certifying organization as a future option. In addition, IAWS would need an updated Expertise Directory for all Fellows. President Deglise therefore asked Secretary Schmitt to send out a request for information to all Fellows. Also, the question was discussed, whether IAWS should be more active in specific scientific top-

ics. There might be an option to participate in meetings dealing with those specific topics. Finally it was also referred to the objectives of the constitution, which clearly indicate the purpose of IAWS.

President Deglise and Treasurer Rosen asked the audience of any suggestions for new Supporting Members. There was a short discussion on which type of organization is of benefit to IAWS. It was referred to Article 4 of the Constitution, where it is written down that Supporting members should be "...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." Applications are therefore to be checked carefully by Academy Board members for this purpose. Presently, two new applications were recently submitted and are sent out for approval by the Academy Board members.

The President finally indicated that the new web page of IAWS is now designed and nearly ready for replacing the old. The draft web page can be visited under the following address:

<https://194.254.100.117/iaws/>

There being no other business, the meeting was adjourned at 18.45 h.

Uwe Schmitt/Hamburg

TREASURER'S REPORT AUGUST 26, 2006

The details of the 2005 Treasury Report are on a subsequent page. The dues have been broken down into categories and the E is for "extra" years payment. The net change for 2005 (\$4191.53) was more than that for 2004 (\$2581.72). At the end of 2005, 122 of the 148 (82%) Active and Retired Fellows were current in their dues. The current \$30,000 CD expired in March 2006 and has been renewed at 4.9% interest rate. PayPal has been useful with 22 of our members using this new credit card method in 2005. The cost for PayPal was only 5% of the revenue collected. One of the 21 supporting members has not paid 2005 dues. We are pursuing avenues to continue the support from this organization.

So far in 2006, we have received payments from 15 of 21 supporting members, 36 of 49 retired members, and of 59 of 82 active members. In 2006 PayPal has already been used by 41 members.

If you are able, please try PayPal—the process is simple and efficient.

Howard Rosen/Silver Spring

NEWLY ELECTED FELLOWS FOR 2006**Prof. Dr. H. Michael BARNES**

Mississippi State University, USA

For major contributions toward advancing our basic understanding of the effect of heat/moisture conditions on the strength properties of preservative and fire retardant treated wood. Also cutting edge research leading to the development of diffusion coefficients for the movement of boron in wood. Development of data base information leading to proper redrying schedules for wood and wood-based materials treated with waterborne preservatives. Adding to the knowledge base on the effect of biocides and fire retardants on the properties of wood and wood-based materials, including roof temperature histories used in modeling effects on roof sheathing. Pioneered work on treatment of wood with copper naphthenate and resultant properties. Development of data on the durability of wood-based composites including durability modeling (current) for engineered composites. Ground-breaking work on the development of diffusion coefficients for the movement of boron in wood. Work on new technologies for treatment of wood and treatment mechanics.

Prof. Dr. Colette BREUIL

University of British Columbia, Vancouver, Canada

Professor Colette Breuil has made important research contributions in two general areas: the identification and biology of wood-inhabiting fungi, and the understanding and analysis of extractives in wood. In the first area, Dr. Breuil's group has applied molecular tools in identifying many wood-inhabiting sapstaining and decay fungi. Using biochemical and molecular techniques, her group has also elucidated 1) the metabolic pathway for melanin pigment production, 2) gene mutations in albino fungal strains 3) how sapstain fungi retrieve nitrogen from wood, and 4) which of these fungi use wood extractives as a carbon source. Currently, her group is using genomic approaches to investigate genes involved in a) mycelial and yeast-like growth, b) secreted enzymes involved in nutrient acquisition, c) pigmentation, and d) pathogenicity.

Prof. Dr. Nam-Seok CHO

Chungbuk National University, Cheongju, Korea

Dr. Cho has studied the heterogeneity of lignin structure, mainly compound middle lamella (CML) lignin in hardwood cell walls. Film-like substances derived from CML fraction during high yield sulfite pulping were isolated by his unique decantaion technique, and firstly provided significant information in 1980 about the presence of guaiacyl-rich lignin structure in CML region compared to secondary wall of hardwood cell wall. He also developed new

pollution-free high-yield pulping processes, such as nitric acid, alkali-urea, two stage sulfite-NaOH and sulfomethylated pulpings using alkali-aldehydes. Since 1996, his research has been focused on application of fungal enzymes, mainly laccase, to pulp and paper industry, *e.g.*, biobleaching, decolorization of bleaching plant effluent and biodetoxification of phenolic pollutants from the pulping and bleaching industries, production and purification of laccase enzymes from basidiomycetes, and its immobilization. Recently he has reported a new low molecular mediated system using acetovanillone (4-hydroxy-3-methoxyacetophenone, AV) and acetosyringone (3,5-dimethoxy-4-hydroxyacetophenone, AS) with fungal laccase for depolymerization of lignin derivatives. Fungal laccase can cooperate with AV and AS in degradation of high molecular fraction of lignosulfonates (LSA) and non-phenolic lignin model dimer, veratrylglycerol- β -vanillate ether (VVE). These compounds are produced in the process of wood (or lignin) degradation and much cheaper than conventional expensive mediators, ABTS, HBT and HAA. Thus, those approaches could be applicable to efficient and environmentally friendly methods for pulp and paper industry, bioremediation and others. His recent studies using x-ray photoelectron spectroscopy (XPS) and water contact angle measurements identified the effect of heat treatment on sizing development of alkylketene dimer (AKD). XPS analysis of AKD/2,3-dimethyl cellulose (23MC) and hydrolyzed AKD/23MC(0.3/99.7, w/w) blend films showed that hydrolyzed AKD/23MC blend films had much more distribution of alkyl chains on its surface than AKD/23MC blend films. Its means that hydrolyzed AKD/23MC blend film showed higher hydrophobicity than AKD/23MC blend film.

Prof. Dr. Paul A. COOPER

University of Toronto, Canada

Investigation of the chemistry of waterborne preservative fixation in wood, evaluation of factors that affect the processes and their practical implication for the wood preservation industry. Investigated the fundamental chemistry of preservative reaction with wood, effects of wood species and properties on fixation and the effects of processing conditions on fixation. Contributed to the development of improved technologies for optimizing CCA and ACQ fixation processes and reducing health and environmental impacts of treated wood at the treatment plant. Developed quality control procedures for monitoring CCA fixation. Developed a predictive model for the extent of CCA fixation from the time-temperature history of wood after treatment. Investigated waste management of treated wood removed from service and other wood preservative wastes. Diffusion and interaction of wood treating chemicals in the wood cell wall/lumen/bound water matrix, providing a fundamental understanding of how cationic, anionic and neutral chemicals diffuse in the bound water/free water system in wood and equalize between the two water phases in wood. This helps clarify the mechanism of fixation of these components and how they are distributed on the microscopic scale. It leads to understanding of the relative effectiveness of different systems and provides insight into how efficacy may be enhanced.

Dr. Gordon James LEARY

Silverstream, New Zealand

Dr. Leary began his career with two experiences that led him directly to lignin and its colour chemistry – a doctoral degree on phenol chemistry and a post doctoral year with Nobel laureate George Porter studying the photochemistry of quinones. As a result, in the 1960s, he pioneered research on the yellowing of wood and mechanical pulps by light. These studies defined a number of parameters and mechanisms of yellowing and set the stage for many subsequent investigations of yellowing by other workers. Later, Gordon Leary broadened his interest in chromophores and lignin colour chemistry to examine mechanical pulp bleaching of both wood and straw pulps and the mechanism of alkaline darkening. Mechanical pulp bleaching, of course, aims to retain the lignin but remove or modify its chromophores. Gordon Leary has also contributed to lignin structural investigations, particularly the role of reactive intermediates – mainly radicals and quinone methides – in lignin biosynthesis, lignin degradation and lignin-carbohydrate bonding. In some topochemical studies carried out at STFI in the 1970s Gordon Leary confirmed that lignin structure varies with its location in the different cell wall layers or middle lamella. Wishing to study *in situ* lignin, he also pioneered early studies into solid state ^{13}C MAS nmr of wood. In a series of papers Gordon Leary showed that quinone methides might be the reactive species involved in lignin-carbohydrate bond formation that it could also occur by exchange of lignin benzylic hydroxylic groups for sugars confirming, Freudenberg's proposal. He discovered that addition of hydroxyl compounds, like water, to quinone methides is reversible and model lignin-carbohydrate bonds are readily formed at neutral pHs by exchange of the benzylic hydroxyl group in p-hydroxybenzyl alcohols with sugars. Lignin-carbohydrate bonds are likely to be formed analogously in the wood cell wall.

Dr. Regis B. MILLER

Forest Products Laboratory, Madison, Wisconsin, USA

Dr. Miller's research in systematic wood anatomy has shown systematic links that have endured even DNA findings in recent times. His foresighted and creative research in computer-assisted wood identification foreshadowed the development of two IAWA lists of features for identification. He is an acknowledged world-renowned expert in the science of wood identification and has identified more than 50,000 specimens from a host of scientists and others at universities, museums, and industries. In addition he has responded to many inquires concerning uses and wood properties. He has maintained and enlarged the world's largest research wood collection until it is now over 100,000 specimens. To further expand the usefulness of the collections, he began the development of databases containing the information about the specimens including the addition of images of the original index cards, the wood specimen, and the herbarium sheet (if available). He also developed a database of common and scientific names with links to tech sheets of properties and uses

that is available on the web. He has been a council member, the Deputy Executive Secretary and presently the Executive Secretary of IAWA. In addition he has coordinated meetings and technical sessions for IUFRO, IAWA, and botanical societies. His research interests include systematic wood anatomy, and newer approaches to wood identification including computer-assisted wood identification, chemical indicators (sodium nitrite, chrome azurol-S), and longwave fluorescence of surface and water extracts.

Prof. Dr. Gregory S. SHUBIN

Moscow State Forestry University, Russia

Prof. Shubin has made important contributions to the scientific community in heat and mass transfer, wood drying, and thermal processes. Heat, moisture and thermo-moisture, thermodynamic, and hygroscopic wood characteristics were obtained for many wood species. It was shown that there are caverns in dry hardwood and such wood had higher FSP. A formula for the calculation of FSP was suggested. The independent transfer of free water in wood was demonstrated experimentally. A unified theory of drying and heating of wood was developed which allowed analytical and engineering methods for calculation of drying times and drying schedules. Mechanisms of low and high temperature drying, radiation-vacuum, oscillating, helio-drying, drying in liquids, and initial and conditioning treatments were examined. Recommendations on the design of drying and heating equipment were made. Methods of estimation of multi-dimensionality and anisotropy for calculation of duration of drying and heating processes were developed. Recommendations on improvement of aerodynamic characteristics of drying kilns were suggested. Formulas for calculation of problems with moving phase transition boundary were developed. Improved systems of equations of heat and mass transfer were developed. The system of equations may be used for decision of many technological problems: duration of wood drying in different zones of stacks when optimizing drying schedules, parameters of phase transition (ratio between vapour and liquid), etc. Removal of liquid particles into boundary layer at temperate velocity of evaporation was found experimentally by means of laser and film techniques, which allowed the determination of the influence of water exchange on heat exchange. Professor Shubin recently passed away (see obituary in this Bulletin).

Prof. Dr. Bunichiro TOMITA

University of Tsukuba, Japan

Prof. Tomita started his career of Wood Chemist with terpenes, but his first and foremost achievement is to have brought to bear the power of C13 NMR analysis on the study of the synthesis and application of wood adhesives. He was the first to do this and in such way to explain a great part of the phenomena and kinetics occurring during the preparation of UF and melamine resins and adhesives. This gave real insight to modern knowledge of wood adhesives and resins, and allowed substantial progress in the formulation of

resins that dominate the wood adhesives field even today. The series of the first 5 of his 12 best publications has become a scientific literature “classic” both for its pioneering content and the impact it generated on the subject, as well as showing to younger generations in the field how top-class research in this field has to be conducted. A second series of publications, now equally renowned, concentrates on the reactions and kinetics to prepare for the first time phenol-urea-formaldehyde (PUF) wood adhesives: for these wood adhesives, now commercial, he was again the first to achieve, formulate and characterize what was wanted. At the time this was performed, it was very difficult “cutting edge” research. The flexibility of Prof. Tomita has permitted him to have many other successes in the field of wood composites, wood adhesives (epoxy resins as reinforcement of “liquefied” wood) and wood chemistry (lignin liquefaction), for which he is also well known, but the ones described above are the examples of his “finest moments.”

Prof. Dr. Hiroyuki YAMAMOTO

University of Nagoya, Japan

1. Growth stress generation and its biomechanical effect in growing tree.

He investigated the relationship between abnormal tissue structures and its growth stresses in reaction woods, and revealed the anatomical and chemical factors that control the magnitude and the sign of the growth stress generated in the xylem fiber. He applied those factors to his wood fiber model that predicts the mechanical behaviors of the wood fiber during the cell maturation, and he deduced a new hypothesis on the microscopic mechanism of growth stress generation. Moreover, he explained a biomechanical role of growth stress generation in reaction woods on controlling the shape of tree branch by modeling the tree shoot as a growing architecture.

2. Microscopic mechanism of origins of various mechanical properties of wood, by using a fiber mechanical model.

He developed his wood fiber model into the one that can predict the hygromechanical behaviors of wood. Thus, he explained the microscopic mechanism of shrinking and swelling behaviors of wood cell wall, and explained origin of the moisture-dependent change of the axial Young's modulus of wood as the hygromechanical behavior of each cell wall component. Moreover, he clarified the role of gelatinous layer on the characteristic behaviors of the tension wood xylem. Other than the above fundamental studies, he published a number of papers on (a) the effects of growth rate on xylem properties of the fast-growing species (*Acacia spp.*, *Paraserianthes sp.*, *Eucalyptus spp.*, *Tectona grandis*) for timber utilization, (b) microscopic mechanism of longitudinal tensile creep behavior of wood, so on and so forth.

NEWLY ELECTED BOARD MEMBERS



Kanthila Mahabala BHAT

K. M. Bhat is Programme Coordinator for Forest Utilisation at the Kerala Forest Research Institute, India. He holds an L. Sc. (Licentiate of Science in Wood Technology/Botany) and D.Sc (Dr. of Science in Wood Technology), both awarded in 1981 by the University of Helsinki, Finland. His expertise lies in both tropical and temperate hardwoods and non-wood forest products, their management and utilisation with emphasis on European birch, teak, eucalypts, *Dalbergias*, *Albizias*, rattan (climbing palms) and reed bamboos. He has made scientific contributions in the areas of logging, wood anatomy/timber identification, properties/wood quality, industrial processing, grading, etc. He has acted as consultant to Forest Industries Travancore Ltd. for establishment of a modern rattan furniture manufacturing industry, to the International Network for Bamboo & Rattan (INBAR)

in standardisation of rattan grading rules, to the Amazon Teak Foundation, to the British Overseas Development Administration (ODA and to Indufor Oy Helsinki, International Cooperation Centre for Agriculture Education (ICCAE), Nagoya University, Japan. In 1996 he was appointed Regional Coordinator for IAWS in the Indian sub-continent. He has acted as IUFRO Convenor of the Teak Wood Working Party, as a member of the Teak 2000 Technical Foundation Committee and has been a member of IUFRO Enlarged Executive Board and Deputy Coordinator of IUFRO Division 5 (2000-2010). He has carried out cooperative research in Finland, France, Germany and Japan. Fellow Bhat also served as the Convenor of International Teak Conference (2003), Project Leader of International Tropical Timber Organisation (ITTO) and as in 2000 he received the IUFRO Scientific Achievement Award and gold medal and the Rising Personalities of India award as well as a Medal instituted by the Bamboo Society of India, Institute of Wood Science & Technology and Karnataka Forest Department, for contributions to rattan development in India (1999). He has been serving as an elected Vice President of Indian Academy of Wood Science (since 2003). He is the author of more than 190 publications including books, refereed papers, monographs, articles and reports.



George JERONIMIDIS

George Jeronimidis is currently Professor of Composite Materials Engineering and Director of the Centre for Biomimetics at the University of Reading. He received his PhD in Physical Chemistry from the University of Rome in 1970 and, soon after, was appointed Scientific Officer at the Laboratory of Polymer Technology and Rheology in Naples. From 1971 to 1979 he worked as a Research Fellow at Reading University collaborating with Professor J.E. Gordon on the mechanics of biological and man-made composites. During more than thirty years of research of natural and artificial composite materials and structures, the study of wood and trees has represented a very significant proportion of his activities. Several years of investigation into the fracture properties of wood have clarified some remarkable mechanisms at the cellular and cell wall levels for toughness and energy absorption which are still relevant today in view of the renewed interest in wood products, wood machining, etc. The research also pointed to ways in which artificial fibrous composite materials could be improved in several respects by introducing into them features inspired by wood micro-structure. This was the beginning of biomimetics or bio-inspired materials research in which wood still plays a significant part. In 1986 the Materials Science Committee of the Institute of Materials awarded me the “Leslie Holliday Prize” in recognition for my contribution to research in composite materials inspired by wood. Inevitably, the interest of wood stimulated interest in trees and wood formation, especially in relation to the ability of trees to respond and adapt to environmental factors by modifying the wood structure, as in reaction wood, for example. At a research meeting in 1985 on the mechanical design of organisms, someone made the plea that “someone must find out what wood is doing to trees”. In reality, the interesting question is what trees are doing to wood. The adaptive growth of trees has profound implications on wood formation in terms of plant biomechanics and wood quality but also on biomimetic concepts for smart, adaptive and optimised composite structures. In recent years these aspects of wood-related research have been strengthened through contacts and collaborations with many research groups in France, Germany and Austria. His current research interests cover biomimetics, wood mechanics, plant and animal biomechanics, smart materials and structures, and mechanics of composites and he has published extensively in these fields with articles in scientific journals, books and conference contributions.

The research interests in wood and trees have also led to EU-wide participation in research programmes relevant to wood such as the EU Timber Project (Tree Improvement Based on Lignin Engineering), COST E20: Wood Fibre Cell Wall Structure (UK representative on

Management Committee), COST E35: Fracture Mechanics and Micromechanics of Wood and Wood Composites with Regard to Wood Machining (Vice-Chairman of the Action). He has also served three times on the Research Evaluation Panel of the Laboratoire de Mécanique et Génie Civil, Université de Montpellier, Montpellier, France and, since 2006 he has been invited to join the Scientific Advisory Board of The Max Planck Institute, Department of Biomaterials, Golm, Germany. He is also an active member of the Smart Materials and Structures Committee of the Institute of Materials and has served on the Scientific Committees of many international conferences on Plant Biomechanics. He was elected Fellow of the International Academy of Wood Science in 2005.

Steve Kelley is currently the Department Head and a Professor in the Department of Wood and Paper Science at North Carolina State University. Prior to joining NCSU he spent 13 years at the DOE's National Renewable Energy Laboratory (NREL) working on biomass conversion technologies. At NREL his responsibilities included technical leadership and innovation in the areas of biomass characterization, production of value-added biobased products and thermal conversion processes, and project management. He was also responsible for helping to develop the strategic vision for NREL biomass program and supporting DOE staff. He left NREL as a Principal Scientist. Prior to joining NREL he worked in industry (Eastman Chemical Co. and Bend Research, Inc.) for 7 years developing new cellulose-based materials and membrane processes.

Stephen S. KELLEY

He received his Ph.D. in Chemistry from Virginia Tech, a MS in Forestry from the University of Wisconsin-Madison, and a BS in Wood Science from Oregon State University. Dr. Kelley is currently an Adjunct Professor at the University of Tennessee, Knoxville, and has served as an Adjunct Professor at East Tennessee State University and Oregon State University.

He has served at the Division Chair, Program Chair, and Awards Chair for the Cellulose and Renewable Materials Division of the American Chemical Society, and on the Long-range Planning committee of the Society of Wood Science and Technology. He also serves on the Boards of several non-profit organizations focused on Education, Conservation and Housing.



Barbara LACHENBRUCH
(formerly GARTNER)

Barb Lachenbruch (formerly Barb Gartner) is a Professor of Wood Science and Engineering at Oregon State University where she serves as a bridge between wood scientists and silviculturists. Her BS (from Swarthmore College, 1979), MS (from University of Alaska, Fairbanks, 1982), and PhD (from Stanford University, 1990) were in Biological Sciences, where she specialized in plant ecology and ecophysiology. After a post-doc at Berkeley, she moved to her present institution, which is in Corvallis, Oregon. Between the MS and PhD she spent a year working in industry as a restoration specialist, a year in an Army research lab doing arctic ecology, and a year in the Peace Corps in Guatemala. She credits these out-of-academia experiences with giving her the perspective to be an effective advisor, the impetus to stay in a work setting where inquiry and creativity are valued, and the knowledge of how important it can be to a person (such as a campesino or a student) to be valued.

She has taken two sabbaticals: she spent a year (1998-99) in the Centre d'Ecologie Fonctionnelle et Evolutive, CNRS, Montpellier, France and last year (2005-06) in the Instituto de Silvicultura, Universidad Austral de Chile, Valdivia. In both cases she studied aspects of reaction wood formation and effects, in *Quercus ilex* (in France) and *Pinus radiata* (in Chile).

She has a 25% teaching appointment, and currently teaches Wood and Fiber Anatomy, Forests, Trees, and Civilization; and is preparing a new class in Wood Quality. The rest of her appointment is research and outreach, with a little administration. Her research attempts to understand why woody plants grow in the way that they do (ecophysiology) for traits of importance for wood utilization. She has been working with colleagues on understanding why conifers produce juvenile wood, how bordered pit membranes work and why they have different morphologies in different parts of plants, how and why trees maintain characteristic sapwood thicknesses, what are the physiological limits to xylem cell morphology (what are the 'universal design criteria') for conduit networks in woody plants, and other aspects of water transport, tree biomechanics, and functional morphology. At the same time, she is involved in more descriptive research to characterize wood properties and anatomy in different growing situations (e.g., effects of growth rate on stiffness and density, effects of foliar pathogens or stem girdling on wood moisture content and permeability). She considers herself very lucky to be located in a large productive College of Forestry, with good support and pleasant interesting colleagues.

NEW LIFETIME FELLOWS

Luca Uzielli
Lawrence H. (Larry) Allen
Nam-Seok Cho

WOOD SCIENCE AND TECHNOLOGY JOURNAL – IAWS NEWS**Editorial**

Wood Sci Technol (2006) 40:533
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The close relationship between the journal „**Wood Science and Technology**“ (WST) and the „**International Academy of Wood Science**“ (IAWS) was established by Franz Kollmann in 1966.

Forty years later there are good reasons to intensify and elucidate the linkages: WST is one of the leading journals in wood science on a broad scale worldwide. WST should be or become the preferred journal for publications of some 300 Fellows of IAWS today.

WST and IAWS together are representing a big potential in wood science, which should be exhausted more efficiently.

To visualize this approach there will be a page “**IAWS News**” from this issue onwards. This may contribute to stronger connections and to a common consciousness between IAWS, its Fellows, WST and its authors and readers to the benefit of our science worldwide

Prof. Dr. Gerd Wegener
Editor-in-Chief

Prof. Dr. John Barnett
Co-Editor

The International Academy of Wood Science

Wood Sci Technol (2006) 40:535–536

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The Academy was founded in 1966 with the objective of promoting on the international-level the concerted development of wood science. The term “wood science” includes the biological, chemical, and physical sciences of lignified natural materials, and products derived therefrom, as well as the scientific basis of the technology of converting such substances into useful products.

It aims to do this by recognising meritorious wood scientists by their election as Fellows, by honouring distinguished achievements in the science of wood with the Academy Lectures and by promoting a high standard of research and publication in wood science.

The Academy shall hold regular Plenary Meetings, at any place and any time (for example, Concepcion, Chili in 2005; Melbourne, Australia in 2006). It is a non-profitmaking organisation whose income comes solely from contributions made by Fellows and Supporting Members.

The Academy is managed by an Executive Committee comprising President, Vice-President, Past-President, Executive Secretary, and Treasurer. The President serves for three years and is then replaced by the Vice President. An election is held among fellows every three years for the office of Vice President. The Executive Committee is advised by an Academy Board of twelve Fellows, each of whom serves for six years. An election is held every two years to replace a third of the Board Members.

A Fellowship election is held annually. Currently, there are about 300 Fellows representing 35 countries. There are also 21 Supporting Members from educational, research, industrial, or governmental organizations representing 14 countries. The Officers of the Academy are listed below (numbers in parentheses indicate year of end of term of office)

President: Xavier Deglise (2008)	Vice President: Frank C. Beall (2008)
Past President: John R. Barnett (2008)	Secretary: Uwe Schmitt (2008)
Treasurer: Howard N. Rosen (2011)	

Academy Board:	
Robert W. Allison (2010)	Takayoshi Higuchi (2008)
Rolf Birkeland (2006)	Gyozuke Meshitsuka (2010)
Hou-Min Chang (2008)	J. Alan Petty (2008)
Xuhe Chen (2006)	Katia Ruel (2010)
Oskar Faix (2010)	Hendrik F. Vermaas (2006)
Harry Greaves (2006)	Adrian Wallis (2008)

Fellowship Election 2006:

The following candidates were elected as Fellows:

H. Michael Barnes, Department of Forest Products, Mississippi State University, USA
 Colette Breuil, Department of Wood Science, University of British Columbia,
 Nam-Seok Cho, Department of Wood and Paper Science, Chungbuk National University,
 Korea
 Paul A. Cooper, Faculty of Forestry, University of Toronto, Canada
 Gordon James Leary, New Zealand
 Regis B. Miller, Forest Products Laboratory, Madison, Wisconsin, USA
 Gregory S. Shubin, Moscow State Forestry University, Russia (posthumous election)
 Bunichiro Tomita, College of Agrobiological Resources, University of Tsukuba, Japan
 Hiroyuki Yamamoto, School of Bio-agricultural Sciences, Nagoya University, Japan

Academy Board Election 2006:

The following Fellows were elected to the Academy Board and will serve until 2012:

Barbara Lachenbruch (formerly Gartner), Department of Wood Science and Engineering,
 Oregon State University, USA
Kanthila M. Bhat, Kerala Forest Research Institute, India.
George Jeronimidis, School of Construction Management and Engineering, and
 Centre for Biomimetics, University of Reading, UK
Stephen S. Kelley, Department of Wood and Paper Science, North Carolina State
 University, USA

The Academy Website may be visited at <http://www.bfafh.de/iaws/>

Prof. Dr. Xavier Deglise
President of IAWS

News from the International Academy of Wood Science

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Springer-Verlag 2006

Since the year 2000 the Academy has organised an annual plenary meeting designed to bring Fellows together to discuss aspects of wood science. The first meeting was held in Reading, UK. Since then meetings have taken place in New Zealand, China, Latvia, France and Chile. The 2006 meeting will take place in Melbourne, Australia in November with the theme ‘‘Wood Science and Technology in 2100’’. The Academy is grateful for sponsorship of this meeting by Ensis.

The meetings in France and Chile reflected the new policy of the Academy of holding these meetings, as far as possible, in conjunction with, or as back to back meetings with conferences of other wood science-related organisations. In France, the meeting at Montpellier was in conjunction with the International Association of Wood Anatomists, while that in Chile was held in association with the 10th Meeting on Wood Products Research and Developments at the University of Bio Bio. The 2007 meeting is in the planning stages and will take place in Kyoto, Japan as a back to back meeting with the IUFRO All-Division 5 meeting in Taipei, Taiwan. The possibility of holding the 2008 meeting in Russia is currently being explored by the Executive Committee.

Combining the plenary meetings with others has the beneficial effect of enhancing both conferences. Fellows of the Academy contribute their experience and expertise for the benefit of younger scientists, while themselves encountering new and fresh ideas.

Information about the Academy’s plenary meetings can be found on the Academy website at <http://www.bfafh.de/iaws/>

Prof. Dr. Xavier Deglise
President of IAWS

ACADEMY LECTURE FREDERICK A. KAMKE

Presented at the 60th International Convention of the Forest Products Society
Newport Beach, California/USA, June 26, 2006

Composite Durability

Abstract

Perhaps the greatest obstacle that has faced the introduction of wood products into new markets, or maintaining existing markets, has been the real or perceived lack of durability. This obstacle is further compounded in the context of wood-based composites. Public perception is that “particleboard” and other composites grossly lumped into this category fall apart upon exposure to water. There are plenty of examples of non-durable wood-based composites that are vilified in litigation proceedings and in promotional literature produced by manufacturers of competing materials. Yet, by my estimates, there are 100 fold more examples of wood-based composites that have been humbly performing their task for decades. Whether the application is in building construction, furniture, industrial products, or the thousands of other uses, durability (real or perceived), is still an issue. This presentation will address the unique characteristics of wood-based composites that make them more susceptible to durability issues and what might be done to mitigate potential problems. Emphasis will be placed on adhesive bonding and interactions with water.

ACADEMY LECTURE WILLIAM E. (TED) HILLIS

Presented at the 2006 IAWS annual meeting
Melbourne/Australia, November 13, 2006

Wood Science in the Future

Abstract

It is most important to strategise on future developments but this is most wisely done with some reflection on the past. I have been incredibly fortunate to work in the scientific explosion of the post World War II period. Over this 60 year period the huge amount of scientific knowledge has driven specialization and sub-specialization so that quick and effective communication has become increasingly important.

The first part of my talk will be briefly of reflections on developments that were made from 1947, the year when I published my first research paper. I will then incorporate some of the key developments that may relate to forestry from Nobel Prizes and the obvious developments from the Marcus Wallenberg Prize and then attempt to challenge us by our current demands. It is often said that if you stand on the shoulders of our predecessors you can see further. If

we stand on the shoulders of our giants, how far would we see and where would it take us? The tallest giant in Wood Science is Prof. Dr. Franz Kollmann who founded our Academy 40 years ago. Amongst its objectives were the co-operation of many fields of science to establish a platform for discussion, and to attract, particularly young, gifted researchers and technologists. The recent review by Prof. Dr. Anders Björkman gives the tasks of IAWS which are in fact the objectives of this meeting.

I shall try and broadly identify and categorise the endeavours that face us.



Ted Hillis and Rob Evans during the Melbourne meeting

Demands for Wood beyond 2006

In the last 20 years global population has increased from 4.8 to 6.5 billion and increasing, mainly in less developed countries, some of whom supplied wood to the international market. This increase in urban and rural areas still results in the need for more agricultural land for food and firewood. As well in some countries the increasing standards of living has resulted in increasing environmental and recreational pressures. There is increasing demand for basic resources, particularly renewable resources of which forests and plantations are the most important and versatile. Currently plantations supply one-third of wood produced.

Not only do they supply materials at a very low energy cost for construction and pulp, they can provide climate control, carbon trading and reduce dry land salinity. Also some species provide chemicals such as resins and tannins for general or specific uses.

Increasingly, wood of required quality is becoming an export item whether for appearance wood or construction timber. Paper is an essential and significant commodity which consumes much wood.

Challenges - In what areas should Wood Science be creating discoveries and visionary statements now to provide the future global demand for resources that will be converted efficiently to products of required quality? As forestry affects all the properties of wood that is formed, it must receive the first consideration.

Wood Resources - In the past, the trees used for wood were of large size. Future wood resources will be of two major types. One, a high-value, low-volume of specific properties (eg. appearance) from mature native species in different countries. The other type will be fast-grown, high-volume, low-value with specific properties for particular uses. Wood Science will strive to increase the value and application of both types through more efficient processing and utilisation.

Choices of Species including Genetics - The future genera planted in existing forest areas will depend on site availability, growth rate and the properties required for appearance or wood for construction or pulp or for chemicals. The most likely major species will be from the *Pinus*, *Eucalyptus* and *Acacia* genera and others.

Growing and Harvesting - The attention given to the use of mixed species in plantations and silvicultural practice enables maximum tree growth of optimal form for the purposes intended. Future forest resources will be increasingly plantation, which require monitoring for end-use.

Methods of Assessment - Quality must be monitored at all stages to ensure the uniformity of the product. Also grading and segregation must be appropriate to end-use requirements.

Processing and Reduction of Waste - In contrast to most other resources, wood is produced at low energy cost and this advantage must be returned in its conversion to products. Attention is now being given to cutting and abrasive methods to improve dimensions and surfaces of materials containing stressed material, interlocked and spiral grain.

Recent Developments - Over the past 15 years, the development of innovative micro-wave technologies, have significantly facilitated knot detection, timber drying processing and

added value to wood products. They have assisted drying, reduced stress in logs and the formation of voids. Microwave technologies enable the rapid bending and shaping of components notably from native hardwoods for furniture manufacture. The treatment changes cellulose crystallinity.

Future Developments Required

1. **Measurement** - Great advances have been made in determining the detailed characteristics of wood and fibre. More attention is needed to be given to the combined effect of these properties and how they can be rapidly measured to facilitate the characterization of materials. Techniques such as determining the ultrasonic properties to show changed density and stiffness in living trees and construction material.
2. **Juvenile Wood** - Adaptation and modification of the increasing volumes of the knotty core and juvenile wood of fast-grown, short rotation species. With attention being given to stand densities and effect on transition age.
3. **Growth Strain** - Reduction of growth strain, particularly in the outer wood of eucalypts to reduce splitting in logs and sawn timber, and its associated volumetric shrinkage, checking and collapse on drying, tension wood and brittle heart.
4. **Veneer** - Improvement of peeling and slicing of small logs of fast-grown species to provide veneer for bending into complex shapes, to assist treatment for durability against fungi and termites, fire proofing for impregnation with resins to increase strength in panels.
5. **Standards** - Development of international standards for timber of the required dimensions and stability in different environments. The adoption of sizes to enable rapid assembly and prefabrication for shelter in devastated areas. This will also require local and international standards and codes of building practices and designs to provide energy-efficient shelter.
6. **Fibre and chemicals** - Genetic development of *Pinus* spp. pulpwood with both improved fibre characteristics and high content of chemicals of required composition. These would provide turpentine, resin and fatty acids, now obtained from alkaline pulping of *Pinus* spp. and developed into further uses.
7. **Pyrolysis** - Fast pyrolysis units for wood and bark waste to provide ethanol and bio-based fuels for inland communities and provide furfural for industrial chemicals.
8. **Cambium** - As the cambium plays a central role in wood formation, it must become a focus of investigation in the future. Wood properties are initiated in the first 10-20 cells formed in the cambium.

LIST OF PRESENTATIONS OF THE 2006 IAWS ANNUAL MEETING IN MELBOURNE

Ted Hillis: Academy Lecture – “Wood Science in the Future”

Xavier Deglise: “Thermo-chemical Conversion of Wood”

Uwe Schmitt: “High-resolution wood formation dynamics for determination of tree-ring/ climate relationships”

Peter Niemz: “Solid wood panels – a new wood based material with high value added”

Barbara Lachenbruch (formerly Gartner): “Biological Basis of Wood Quality: Utility of Research and Future Directions”

Robert Leicester: “Building Performance”

Simon Potter: “Laser Induced Breakdown Spectroscopy as a novel wood quality evaluation tool”

Nafty Vanderhoek: “CRC Smartprint – adding value to paper”



Group photo of Fellows attending the 2006 meeting in Melbourne

- Geoff Covey:** “Future applications for wood – opportunities and limitations”
- Günter Schultze-Dewitz:** “Recollections of the CSIRO Division of Forest Products and the first Fellows of the IAWS”
- Roberta Farrell:** “Ascomycetes, Basidiomycetes and Zygomycetes: Fungal Treatment for Commercial Applications in the Pulp and Paper and Solid Wood Industries”
- Frank Beall:** “Real time non destructive evaluation in the future”
- Paul Kibblewhite:** “Wood-fibre for future products from pulp”
- Michael Kennedy:** “Protecting Wood in Service - Performance without the downside”
- Lloyd Donaldson:** “Wood Identification and Wood Microscopy – Possibilities for the next Century”
- Calton Frame:** “Future initiatives in sustainable forest management”
- Bob Allison:** “Ensis – a model for the future”
- Nawshad Haque:** “How would you dry wood harvested in 2100?”
- Julian Moreno-Chan:** “Potential for breeding fast-growing and high-quality radiata pine for dry environments in Australia”
- Adya Singh:** “Adding value to radiata pine wood: stiffness enhancement by a novel process”
- Robert Franich:** “Investigating the role of water in the structure and mechanics of wood material supramolecular nano-composite”
- Peter Vinden:** “Microwave modification of wood structure and its industrial application”
- Howard Rosen:** “Nanotechnology for the Forest Products Industry”

OBITUARIES

Gregory S. Shubin (1925 – 2006)

Gregory Shubin was born December 28, 1925 in Minsk, Byelorussia and died March, 18, 2006 in Mytischy, Moscow Region, Russia. Prof. Shubin was an outstanding researcher and teacher in the field of drying and thermal processes related to woodworking technology and general problems of heat and mass transfer. After interruption of his education because of World War II, he graduated in 1951 with a degree in Mechanical Engineering from Moscow Forest Technical Institute (MLTI); now known as Moscow State Forest University (MGUL). He received a masters degree from MLTI in 1964 based on long-term research on the mechanism and methods of calculation of high-temperature wood drying and a doctorate in 1985

also from MLTI for his thesis in heat-mass transfer related to the technologies of drying and thermal processing of wood.

During World War II, Prof. Shubin volunteered for the army at age seventeen and was awarded four medals for distinguished fighting. After demobilization from army in 1946, he entered MLTI. Upon graduation, he remained at MLTI his entire career. In 1952 he was as an instructor at the department of technical drawing, while he was a postgraduate student under Prof. N. N. Chulitsky. He worked many years in the Department of Hydrothermal Processing of Wood headed by Prof. P. S. Sergovsky, an outstanding scientist who had a major influence on Professor Shubin's development as a researcher and teacher. Prof. Shubin's excellent mathematical abilities enabled him to master the general theory of heat-mass transfer advanced in works of the famous Russian academician A. V. Lykov.

During his career, Prof. Shubin has determined thermal, moisture, thermodynamic and hygroscopic characteristics of many wood species. He investigated the mechanisms for low and high-temperature drying and developed mathematical models for radiation-vacuum drying, oscillating drying, and drying in liquids. Mathematical computation methods for drying and thermal processes in multi-dimensions with material anisotropy were explored. The difficult mathematical problem of a flowing boundary with phase transition during wood drying was successfully solved by him. Prof. Shubin paid significant attention to development of drying equipment, improvement of aerodynamics of kilns, uniformity of drying in stacks, and to other important technical problems in wood drying. He wrote several of books on the theory and practice of drying, participated in many international conferences, and his works are known to foreign readers on reviews and articles published in USA (1977, 1982, and 1992).

Prof. Shubin has received many honors during his long career, including the Honored Workers of Science and Techniques of Russia, a member of the Russian Academy of Natural Sciences (RANS), and a member of the International and Russian Academies of Energy and Information Sciences. He was awarded the Peter Kapitza Medal for development of a united theory of drying and heating of wood. He received recognition as an excellent teacher for his many years at MGUL. His many professional activities included membership on the International Committee on Drying of Materials of CIG and a member of the IUFRO Working Group on Wood Drying. He was recently elected a Fellow of IAWS for 2006, but sadly passed away before he could accept this honor and final tribute to his distinguished career.

In his personal life, Gregory Shubin was a sociable person, witty speaker, and a versatile sportsman. He is survived by his charming and intelligent wife, Iliana (an expert in the field of wood furnishing and continues teaching at Moscow State Forest University) and highly successful and resourceful son, Volodja (who works in the field of psychology).

Boris Ugolev/Moscow

Alex L. Shigo (1930-2006)

Alex Shigo was born in Duquesne, Pennsylvania, USA on May 8, 1930 and died on October 6 from a fall at his summer house in Mendums Pond. He did his Military Service during the Korean war from 1951-1955 in the Official Air Force Band as a talented clarinetist. No one can forget his love and masterly perfection playing this instrument. While on tour in Toronto, Canada, he met Marilyn, his beloved wife. They married 1954 and she joined his activities, goals and passions life-long, with two children, Judy and Robert.

After the military service Alex Shigo studied Biology and Plant Pathology at West Virginia University receiving his Ph.D. 1960. In the following, he was employed by the USDA Forest Service until 1985 as Chief Scientist and Leader of the “Pioneering Project on Discoloration and

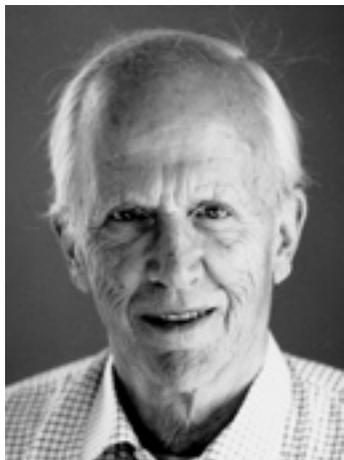
Decay in Trees”. For his research he dissected about 1500 trees longitudinally with a chain saw. His mission was filled with enormous drive and great compassion for trees his whole life. After retirement, he consequently concentrated his gifted talents on tree biology, tree care and tree anatomy as author, lecturer and publisher of many books. His insight into tree anatomy and wound reactions has changed the whole concept of traditional tree care. “TOUCH TREES” was his logo, it was followed by many of his scholars.

Major contributions of his most dedicated work are “A New Tree Biology” based on concepts of compartmentalization of decay and microbial succession. He invented the Shigometer to measure the relative tree vitality and to detect decay in wood and wood products. His new pruning methods are in harmony with a tree’s anatomy and reactions and there are consequent adjustments in tree care practices. The CODIT model for understanding tree reactions is applied world-wide.

The enormous wealth of research information is presented in over 15 textbooks, translated into eight languages and in altogether 270 publications, in many interviews for the various media, in audio cassettes, slide and video-sets and DVDs. He was a desired lecturer in many countries, with presentations unique in content, style of presentation and illustrations. For IUFRO he was an inspiring leader for the welfare of trees. I was fortunate to have met him first in 1968 and to maintain a close relationship over all these years. His achievements were honoured by many recognitions and awards. He was elected Fellow of IAWS in 1982. Alex Shigo was a great thinker, educator and also musician with a special “hands-on- approach”. His work earned him the distinction “Father of Modern Arboriculture” and as such he will remain in our memory.

Walter Liese/Hamburg

Anders Björkman (1920-2006)



The Academy has lost his Past-President (1984-1993) and Secretary/Treasurer (1979-1984) Anders Björkman. He died peaceful in his home after a few days illness. Until then he still played happily family music.

Anders Björkman was born in Stockholm May 4, 1920. He achieved his MSc 1942 and PhD 1948, both in Chemical Engineering from the Royal Institute of Technology, Stockholm, inspired by the lignin chemist Prof. H. Erdtman. The same year he became Head of the Chemical Engineering R&D Group of Billerud AB, Sweden. Beside the work on problems of this pulp and paper company he continued his interest in wood chemistry and developed a lignin isolation process resulting in a D.Sc. thesis at Chalmers Institute of Technology, Gothenburg. By extraction of finely milled wood with organic solvents the so-called "milled wood

lignin (MWL)" was isolated, also world-wide known as the "Björkman lignin". Although published about 50 years ago it is still the preferred method to investigate the chemical structure of native lignin.

In 1961 Björkman was appointed as Professor of Chemical Engineering at the Technical University of Denmark (DTU), Copenhagen. He settled with his family in Rungsted, in a house well known to many for its warm hospitality and generosity.

Anders Björkman's scientific and engineering qualifications extend over a wide range of organic chemistry, wood chemistry and process chemistry and engineering. Diverse disciplines were developed by him, such as chemical reaction engineering, catalysis, combustion processes and polymer technology. At DTU Björkman reviewed the education in engineering chemistry which inspired new professorships in different chemical engineering applications. Close cooperation was maintained with industries in Denmark and Sweden. With the Swedish cellulose industries he developed recovery processes for chemicals and energy generation.

After retirement 1990 Björkman concentrated on the changes of mechanical and rheological properties of solid wood from a solubility point of view.

Anders Björkman achievements in science and engineering were manifold rewarded, thus 1959 with the Albert Wallin's prize by the Royal Society of Arts and Sciences, Göteborg and 1991 with the prestigious Gold Medal from The Danish Brewers Association "for contributions to Danish Industrial Research".

Anders Björkman was elected Fellow of IAWS in 1971. From the beginning he was a devoted Fellow and contributed much to its development, not only as Secretary/Treasurer (1979-1984) and V. President, President and Past President (1990-1999). The Academy honoured his

continuous involvement with its Award in recognition of his importance for science. Until last he was fully occupied with the archives of the Academy, writing in detail the "Formation of IAWS and Initial Epoch", based on many files and his impressive memory.

His skilful talents helped also other international activities, such as for the demanding task as Treasurer of the International Union of Pure and Applied Chemistry (IUPAC) for eight years.

Anders Björkman was an excellent pianist and musician, and he loved outdoor activities, like skiing, swimming, bicycling or walking in many environments.

Anders Björkman will remain in our memories as a real Academician, by shaping our goals and contributing to our content.

Walter Liese/Hamburg

(supported by Prof. em. Jørgen Kops, Hørsholm/Denmark)

UPCOMING MEETINGS OF INTEREST TO FELLOWS

UPCOMING MEETINGS OF INTEREST TO FELLOWS

January 23-24, 2007: 3rd China Pulp & Paper Markets conference, Shanghai/China. As the world's manufacturing base, production of paper and board is expected to double in China by 2010. With a bullish pulp market and unprecedented high number of forestry projects, China remains strong in the demand for pulp with continued growth in the downstream market. Is the booming Chinese economy still dominating the world's pulp market?

The Chinese production for paper and board has been boosted with new paper mills' coming to operation. UPM Kymmene Changshu mill started commercial production, while APP China's subsidiary – Gold East Paper has also started their production at its Dagang mill. Guangzhou Paper has also accelerated their paper mills upgrading plans to boost production.

China's affluent and competitive economy has triggered a demand for high quality paper. This in turn translates to demand for performance specialty chemicals and technologies for paper mill machinery to maximize production quality. Paper chemicals producers have seized the strategic opportunity to build new plants in Guangzhou to better serve their customers in Guangdong, already a leading paper & board manufacturing province in China. The Chinese capacity boom has affected other Asian paper producers as China is no longer

their main export market. Is this trend sustainable? What are the other growing markets in Asia? CMT's 3rd China Pulp & Paper Markets conference brings together leading panel of experts to discuss above issues. You will gain valuable insights on the latest trends in this dynamic market. Key sessions include:

- latest pulp & paper demand / supply balance
- market price analysis of paper (by types)
- rapid growth and challenges in domestic plantations
- chemical development and latest technologies, especially for recovered paper
- environmental, recycling & biomass in China

Seize the opportunity to establish business contacts in this dynamic industry!
Register your team online at www.cmtevents.com or register with vynn@cmtsp.com.sg.

March 11-15, 2007: 2007 TAPPI Papermakers and PIMA International Leadership Conference, Jacksonville, FL/USA.

In 2007, PIMA and TAPPI will bring together our industry's innovators, thought leaders, and core professionals at one event, to share knowledge and experience and to offer the community an unparalleled networking opportunity you won't want to miss.

The 2007 joint conference will be an event like you've never seen before. The Paper Industry Management Association (PIMA) and TAPPI have combined resources and ideas to create a world-class, global event with benefits for professionals at every level.

This year's event will deliver the same exceptional content you've come to expect from both the PIMA International conference and the TAPPI Papermakers conference each year, and has been planned to create a single, flexible event that attendees can customize to their specific needs while networking with a greater number of papermakers at one venue. Be sure to be part of this inaugural event.

E-mail: events@tappi.org
www.tappiandpima.org/registrationInformation.html

May 07-09, 2007: International Mechanical Pulping Conference, Marriott Minneapolis, Minneapolis, MN/USA.

Organised by the Technical Association of Pulp & Paper Industry
E-mail: memberconnection@tappi.org
www.tappi.org

June 3-8, 2007: The IUFRO Tree Biotechnology 2007 meeting, Ponta Delgada, Azores (São Miguel Island), Portugal.

The meeting will be hosted by Instituto de Tecnologia Química e Biológica (ITQB, Universidade Nova de Lisboa, <http://www.itqb.unl.pt/>), Instituto de Biologia Experimental e Tecnológica (IBET, <http://www.ibet.pt/>) and RAIZ (Instituto de Investigação da Floresta e Papel, <http://www.raiz-iifp.pt/>).

IUFRO Tree Biotechnology 2007 is supported by a Portuguese Organizing Committee and two International Advisory and Scientific Committees. Our idea is to add value to the meeting through the active involvement of experienced scientists, from different parts of the world. The scientific program aims to highlight current research on all aspects of molecular biology, genetics and biotechnology of forest trees, and includes “biology”, “technology” and “value” oriented sessions. We would like to attract a wide audience bringing together tree biologists and biotechnologists, as well as, other scientists working in plant biology and genomics, allowing a fruitful exchange of knowledge and state of the art expertise.

The Azores are a group of 9 islands located in the middle of the Atlantic Ocean, between Europe and North America. The archipelagos' unique landscape combines steep mountains, exuberant vegetation, extinct volcanoes, crater lakes, geysers, hot water springs and cattle pastures. The surrounding sea is visited by dolphins, cachalots and whales. Forest occupies 33% of the total surface area and includes natural forest (8%), planted forest (33%) and natural regeneration forest (59%), used mainly for timber production. Opportunities will exist for touring the islands.

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www.itqb.unl.pt/iufro2007/

July 16-20, 2007: IAWA Meeting in Oaxaca/Mexico

The American Regional Group of IAWA is planning a conference in the city of Oaxaca, Oaxaca State, Mexico in the summer of 2007, from 16-20 July. This meeting will be a great opportunity to discuss traditional topics on wood anatomy and new insights of molecular and nanotechnologies. The meeting will be organised by various institutions in Mexico as Universidad Nacional Autónoma de México, Universidad Autónoma de San Luis Potosí and the Instituto de Ecología, A.C.. The Pan-American IAWA Regional Group meeting will serve as an international forum for the exchange of knowledge and experience in a wide variety of fields, including general wood anatomy and identification, wood formation and cambial activity, wood anatomy in relation to climate and ecology, paleobotany, tree ring analysis, and

wood quality research. New developments in the areas of nanotechnology including recent advances in microscopy and molecular biology are pushing the frontiers of wood anatomy. Participants will have the opportunity to discuss their recent research progress, exchange information and develop collaboration. E-mail: iawa@ibiologia.unam.mx
www.ibiologia.unam.mx/barra/congresos/iawa/index.html

October 25-27, 2007: IAWS 2007 Plenary Meeting, Kyoto/Japan.

October 29-November 2, 2007: IUFRO ALL-Division-5 Conference „Forest Products and Environment - A Productive Symbiosis“, Taipei, Taiwan.

Forests play a vital role for rural as well as urban populations all over the world. Forest resources are essential in providing multiple benefits to people and communities. The conservation and sustainable management of forest are closely linked with global issues such as food supply and environmental protection. Scientific knowledge is needed to effectively address these issues globally and regionally and to provide the basis for political and commercial decisions. Close international cooperation in forest sciences and related disciplines, including efficient conversion to necessary forest products is required to enable forests to satisfy the manifold human needs on a sustainable basis. This conference, mainly sponsored by IUFRO and IUFRO D5, will serve as a forum for the exchange of knowledge and experience in forest products research at national and international levels. Participants will discuss recent research progress, exchange information and collaborate on research related to the conference theme of „ Forest Products and Environment - A Productive Symbiosis“.

The major topics to be discussed are:

- Wood quality
- Physicomechanical properties of wood
- Wood-based materials and their applications
- Wood protection
- Wood processing
- Composites and reconstituted products
- Properties and utilization of plantation wood
- Energy and chemicals from forest biomass
- Forest products marketing and business management
- Non-wood forest products
- Sustainable utilization of forest products
- Forest products education

Contact: Susan Shiau, 53 Nan Hai Road, Taipei 10066, Taiwan, e-mail: susanshiau@tfri.gov.tw
www.alldiv5iufro2007.org.tw/index.htm

GUIDELINE 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 summarize the author's work**
- * contain important references to the literature for further reading**
- * finish with a statement of future directions in the area**

FELLOW NOMINATION FORMAT

The format for nominations of Fellows is given below. Note that the submission is limited to two pages and that the preferred method is by e-mail. An electronic template is on the IAWS web page (<http://www.bfafh.de/iaws/>). Submit nominations to Vice President Frank Beall (frank.beall@nature.berkeley.edu).

NOMINATION FOR FELLOWSHIP INTERNATIONAL ACADEMY OF WOOD SCIENCE

Nominator

Date

CANDIDATE: Name, title, affiliation, addresses (business, home), contact numbers (telephone, fax, e-mail address).

50-WORD CITATION: Summary of science basis for the nomination. Begin statement with: "For major contributions to understanding..."

CURRICULUM VITAE: Year, city, and country of birth. Year of naturalization in other country if applicable.

DEGREES (years and institutions); Professional positions held at one/several institutions, ending with current position.

MAJOR AWARDS AND HONORS, leading positions, significant memberships, visiting positions, editorial boards, consultancies (only topics relevant to the candidate's activities within wood science).

PRINCIPAL SCIENTIFIC ACHIEVEMENTS: Maximum 250 words.

PUBLICATIONS: Summary of number of published scientific articles, reports, patents, etc. Citations for the 12 (maximum) principal scientific publications listed in chronological order. All authors to be listed in published order.

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www.bfafh.de/iaws/