

**INTERNATIONAL
ACADEMY
OF
WOOD SCIENCE**

**BULLETIN
2010-II**



www.iaws-web.org

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**Please send correspondence to:
UWE SCHMITT**

**Johann Heinrich von Thünen-Institute (vTI)
Federal Research Institute for Rural Areas, Forestry and Fisheries
Institute of Wood Technology and Wood Biology
Leuschnerstrasse 91
D-21031 Hamburg
GERMANY
Fax: + 49 40 73962 499
Email: uwe.schmitt@vti.bund.de**

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

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MESSAGE FROM THE PRESIDENT

One topic that has been discussed in Executive Committee meetings is the means of increasing the visibility of IAWS. A major step was made when we completed our web page some time ago and then added the name of the web page to all documents and correspondence. Nevertheless, if we concentrate on raising visibility, we need to have information or actions that would be looked on favorably by the international wood science community. Many outsiders drawn to the web site would try to understand our objectives and how we are meeting them.

The place to look, of course, is in the constitution of an organization. In ours, we state the objectives as follows:

The Academy has the objective of promoting on the international level the concerted development of wood science and its standing by:

1. *Recognizing meritorious wood scientists by their election as Fellows,*
2. *Honoring distinguished achievements in the science of wood,*
3. *Promoting a high standard of research and publication, and*
4. *Any other appropriate activity that contributes to the fulfillment of the above objectives.*

Are these objectives relevant and clear? I must admit that even though I have read these many times, I never did it in a thoughtful manner. Perhaps we need to revisit them.

The discussion below is not intended as a replacement for the wording in the Constitution, but to give examples of how we might think of our objectives and goals. For example, we could combine Objectives 1 and 2, making [2] the objective and [1] the means by which we meet that objective (*a goal*):

a. *Honoring distinguished achievements in the science of wood by recognizing meritorious wood scientists as Fellows, and outstanding theses/dissertations of PhD students (this last part is an add-on from a new effort).*

Also, Objective 3 combines research and publication. I find it difficult to see how we can meet this particular objective unless we consider research separately from publication, such as:

b. *Improving wood science research productivity of organizations by providing consultation or reviews as individuals or groups.*

This is an area that we have promoted without a great amount of success, but I think we are just at the threshold of having some impact. There is a new effort by the Executive Committee to visit areas that are poorly represented in IAWS to provide advice on improving their connections with well-represented areas and countries. That was recently done in Africa and is in the planning for Brazil. We are also planning a searchable expertise directory on the web site that will permit anyone to identify IAWS experts for involvement in some form of consultation. Finally, we have in place, although not in operation, a system to convey IAWS certification on eligible wood science research organizations that undergo a successful in-depth evaluation.

In addressing publication, we might consider:

c. Promoting a high standard of publication *by involvement as editors and editorial board members in international wood science journals.*

A personal example of [c] is that I am completing my term as Editor of Wood and Fiber Science and the next Editor is also a Fellow (as were a number of previous ones). In addition, I have an 8-member Editorial Advisory Board, all of whom are Fellows (as well as SWST members). Other Fellows are serving as Editors include Oskar Faix (Holzforschung), Gerd Wegener and John Barnett (Wood Science and Technology), Wolfgang Glasser (Cellulose), Yoshiyuki Nishio (Journal of Wood Science), John Kadla (Journal of Wood Chemistry and Technology), Gerd Wegener and Peter Glos (European Journal of Wood and Wood Products), Lucian Lucia (BioResources), and Pieter Baas, Elisabeth Wheeler, Barbara Lachenbruch (IAWA Journal). Much of this is on a volunteer basis and I suspect that the influence of IAWS on refereed research publications is far greater than most realize. We could add a considerable number of reference books by IAWS Fellows as well.

Unfortunately, some may view us as simply a society that conveys honorary titles on those who have developed substantial credentials in wood science. I don't see it that way. We have many Fellows who are providing continuing leadership in all aspects of wood science. When we have a comprehensive story to tell about this, then I think we will be ready to increase our visibility. Perhaps this is the time! I would appreciate any comments that you have on our activities and how we might increase our impact on international wood science.

Frank Beall / Richmond

THE MARCUS WALLENBERG PRIZE

The Marcus Wallenberg Foundation

The eminent Swedish industrialist, Dr. Marcus Wallenberg (1899-1982) played an outstanding role in the development of the forest industry, both in his home country and internationally. He had a lifelong interest in scientific research and development and it was thus natural for the shareholders of Stora Kopparbergs Bergslags AB to honour its retiring chairman in 1980 by a donation which formed the basis of an international prize – The Marcus Wallenberg Prize.

The Marcus Wallenberg Prize

The aim is to encourage scientific research by awarding a Prize (now two million Swedish crowns) to recognize, encourage and stimulate path-breaking scientific achievements. The achievements must contribute to broader knowledge and/or technical development. They may be made in any of the broad fields of interest to the forest industry from growing trees and forests to making and using forest- and tree-based products. A great number of universities, academies, research organizations and affiliated persons all over the world are involved in nominating candidates for the Prize. The identification of worthy recipients of the Prize is carried out by a Selection Committee of distinguished scientists. The laureate(s) receive the award from the hand of His Majesty the King of Sweden, Carl XVI Gustaf, at an award ceremony in Stockholm.

The Marcus Wallenberg Symposium

A symposium is arranged in conjunction with the Prize awarding ceremony to explain the awarded achievements to a wider audience and to place the results in a broader context of development and application.

IAWS is one of the nominating bodies for this prize, which might be regarded as the equivalent of the Nobel Prize for Wood Science. Several Fellows have been recipients of the prize in the past and the Executive Committee has been asked to ensure that Fellows of the Academy are made aware of this prestigious award, and are active in nominating suitable candidates. Below is a summary of the stipulations for nomination. Full information may be found at <http://www.mwp.org>

Among the stipulations for nomination is that the candidate shall have made a significant and pathbreaking achievement within the disciplines of science or engineering. The achievement shall be within a field important to forestry and/or the forest products industries and should contribute to the sustainable development of these industries. The achievement shall be a

single accomplishment and must be supported by reference to published documentation or demonstrated application. The prize will be awarded to an individual or to not more than four if the achievement is made by a team. Candidates may not nominate themselves for the prize and preferably should not be aware they have been nominated. As the purpose of the prize is to stimulate further achievement by the winner, candidates should be active in the field of research at the time of nomination. The prize will not be awarded on the basis of cumulative accomplishments made over a lifetime or where a candidate has already been honored for the achievement.

FORTHCOMING MEETINGS OF INTEREST TO FELLOWS

Annual Meeting of IAWS: Novel Materials from Wood or Cellulose August 31-September 2, 2011, Stockholm, Sweden

The conference will be held at the conference centre Näringslivets Hus, situated in the heart of Stockholm. The conference will present new research in the development of novel materials based on wood and wood polymers.

Topics of interest include:

- Modified Wood materials
- Functional wood materials
- Nanocellulose and nanocellulose materials
- Wood-plastic composites
- Modified wood (heat treatment, polymer modification, mechanical treatment)
- Wood surfaces
- Wood fibres and their modification
- Foams, aerogels and other porous materials
- New materials from lignin, hemicelluloses etc.
- New polymers, adhesives, and binders for wood composites
- Inorganic wood hybrids

For further information see: www.innventia.com/iaws2011

9th ILI Forum 2011, Stockholm. “Market Opportunities for Lignin”
24-25 March 2011. Clarion Sign Hotel, Stockholm.

For further information go to www.://http.ili-lignin.com/conferences/2011/workshop.php

11th International Conference on Frontiers of Polymers and Advanced Materials

Pretoria, South Africa May 23-27, 2011

You are invited to participate in the **11th ICFPAM**, a sequel to the highly successful **International Conferences on Frontiers of Polymers and Advanced Materials**. The conference provides a unique scope involving a blend of science, technology and business. It brings together leading international scientists, engineers, top-level industrial management and business executives for discussions on the status of advanced materials, new technologies and industrial and business opportunities. The conference is truly multidisciplinary and global with participation of scientists, engineers, industrialists and business representatives

The main conference objectives are:

- To highlight advances and new findings in polymers and advanced materials and their impact on new technologies;
- To facilitate technology transfer and new business opportunities by bringing together representatives from academia, research centers, industries and business;
- To foster international collaborations and joint ventures;
- To cooperate with the formation of the new generations of scientific and professionals committed to the scientific-technological innovation in the region.
- To promote the growth of scientific and technical infrastructure in the field of polymers and advanced materials technologies.

As with past conferences, there will be a session on Natural Fibers and Composites. We are expecting a large delegation from many different countries to participate in this important conference. It is a rare opportunity to interact with scientists involved with synthetic fibers and advanced materials. The conference is sponsored by the International Union of Pure and Applied Chemistry and the proceedings of the conference will be published on an IUPAC Journal.

Contact: Roger M. Rowell

International Conference on Wood & Biofiber Plastic Composites and Nanotechnology in Wood Composites Symposium

The USDA Forest Products Laboratory and Forest Products Society announce a Call for Papers for the to be held on May 16-18, 2011 in Madison, Wisconsin, USA. Learn more at www.woodandbiofibercomposites.org.

Wood and other natural fibers have been used in composites for many years. However, interest in their use as fillers and reinforcements in plastics waned with the development of synthetic fibers such as glass and carbon fibers. Recently there has been a resurgence of interest with one of the largest recent examples being the birth of the wood-plastic composites industry. This involved the interfacing of industries that have historically known little about each other and had very different knowledge, expertise, and perspectives.

Today, this interaction continues and these composites continue to evolve. A new generation of composites is emerging as material behavior is better understood, processes and performance are improved, and new opportunities are identified. Recent trends such as the desire to increase biocontent, growing production in different parts of the world, and, of course, the economy will play a major role in the future of these composites.

Additionally, the advent of emerging technologies related to biopolymers, biorefineries, and nanotechnology are generating interest in new combinations of polymers and materials derived from wood or other natural fibers, some of which may be very different from those currently produced.

This conference and symposium seek to bring together industry, government, and academia to share perspectives on what the future holds.

We are inviting formal or poster presentations on the following topics:

- Additives and formulating
- Advanced reinforcements
- Biopolymer matrices
- Enhanced performance
- Future applications
- Nanotechnology in wood composites
- New processing/recycling

Call for papers - www.woodandbiofibercomposites.org

Abstracts for formal presentations and poster presentations are due by October 29. Manuscripts, extended abstracts, or PowerPoints based on the presentation will be due a few weeks prior to the conference and symposium and will be made available at the conference and symposium.

20th International Wood Machining Seminar

June 7-10, 2011. Skellefteå, Sweden (Pre-seminar tour, June 5-7, 2011)

The 20th International Wood Machining Seminar, IWMS-20 will be held in Skellefteå, Sweden, on June 7-10, 2011. IWMS-20 is the 20th in a series of world-class seminars started in 1963 to provide a forum for leading international researchers and practicing engineers to present and discuss recent advances in wood cutting tools, processes and machinery. Primary objectives are practical information exchange and technical interaction among wood machining professionals.

IWMS-20 will be held in Skellefteå, the home of the Wood Technology Department of Luleå

Technical University, a leading centre of wood machining research in Sweden. The seminar will comprise three intensive days of oral and poster presentations, combined with local laboratory and mill tours. The conference theme is “Recent Advances in Wood Machining Technology”, with thematic tracks in: Wood Cutting and Sawing, Wood Products Processing, Tool Materials and Tool Wear, Novel Wood Products Development, Process Monitoring and Quality Control, Product Surface Quality, and Specialized Machine Tools.

An optional pre-seminar tour will enable IWMS-20 participants to visit nearby wood processing plants and other places of interest. Full formal proceedings will be published to provide a permanent record of the technical presentations. The working language of the conference is English.

For the convenience of participants, IWMS-20 is being held in conjunction with the Ligna Hannover woodworking machinery trade fair, to be held in Hannover, Germany, 20 May - 3 June 2011.

For further information please visit the conference website: www.iwms20.se

The Forest Products Society’s 65th International Convention on June 19-21, 2011 in Portland, Oregon.

Organised by The Pacific Northwest Section of the Forest Products Society

The International Convention is the premier event for professionals in the forest products field. Convened annually by the Forest Products Society, the International Convention brings together hundreds of scientists, design professionals, managers, decision makers, and others from academia, government, non-profit, and private industry sectors to discuss the state of forest products research and learn about innovations in the field.

The theme for this year's Convention is: Sustainable Development and the Role of the Forest Products Industry.

View a list of sample topics at http://www.forestprod.org/ic65/images/topics_ic_65.pdf

SUBMIT YOUR INTEREST IN PRESENTING A PAPER at http://www.forestprod.org/ic65/call_form.html

SUBMIT YOUR INTEREST IN PRESENTING A POSTER at http://www.forestprod.org/ic65/call_form_poster.html

Learn more about the Convention at <http://www.fpsconvention.org>

Renewable Resources RR2011

Renewable Wood and Plant Resources: Chemistry, Technology, Pharmacology, Medicine.
June 21-24, 2011, Saint-Petersburg, Russia

SCIENTIFIC PROGRAM

The conference will be focused on fundamental and applied aspects associated with the use of wood and plant raw materials as renewable sources of organic compounds for the production of new high-value chemicals and materials.

The main topics:

- Fractionation and chemical conversion of wood and other plant materials (biorefineries)
- Innovative chemical and biochemical technologies in the field of renewable resources
- Original and innovative polymers and nanomaterials based on wood and plant materials
- Innovations in the pulp and paper technologies
- Biofuels derived from renewable resources
- Organic synthesis methods based on wood and plant chemical components
- Bio-active compounds from wood and plants
- Pharmacological and medicinal compounds and compositions from wood and plants
- Waste management technologies for chemical conversion of wood
- Stock assessment and the potential of renewable resources

The official language of the conference is English.

For registration and further information see the website website
<http://onlinereg.ru/RR2011>

2012 IUFRO All-Division 5 Conference in Estoril, Portugal, July 8-13, 2012

An official announcement will be made soon.

MEETING REPORTS

African wood anatomy workshop successfully completes descriptions of 136 timber species

From 14-24 September an ITTO-sponsored workshop was held in Kumasi, Ghana, to train 12 young African wood scientists and forest botanists in wood anatomy, and at the same time to complete detailed wood anatomy descriptions of 136 lesser known timber species from Tropical Africa, to be included in the forthcoming second Timber volume of the PROTA Series on plant resources from tropical Africa. This ambitious goal was possible thanks to the availability of microscope slides of these species from CIRAD, Montpellier (mostly prepared at the former Centre Technique Forestier Tropical in Nogent-sur-Marne near Paris), the Royal Museum for Central Africa in Tervuren, Belgium, and from the Jodrell Laboratory of the Royal Botanic Gardens Kew, UK. For the coded descriptions the IAWA List of Hardwood Characters (1989) was used. Each draft description was carefully checked by two members of the instructors team composed of Elisabeth Wheeler, Andrew Oteng Amoako, Pieter Baas, Hans Beekman, and Peter Gasson. The trainees contributions will be recognized by their senior authorship of each species description. The new descriptions will also be incorporated in the InsideWood web-database.

Successful 5th Wood Culture Symposium in Xian, China (23-24 October 2010)

The International Wood Culture Society convened its 5th symposium at the Northwest Agriculture and Forestry University in Shaanxi, China. The all embracing theme of Wood Culture brought together a truly multidisciplinary group of experts from wood anatomy and identification, wood degradation and wood protection, archeology, anthropology, art history, tree care, etc. This year the special theme was “ ancient wood” . Among the speakers were a fair number of IAWS fellows: Elisabeth Wheeler, Adya Singh, Yoon-Soo Kim, Takao Itoh, and Pieter Baas. The theme of wood culture is increasingly topical and IUFRO has recently installed a working party S 5.01.01, co-ordinated by IAWS Fellow Howard

Rosen. Within the International Association of Wood Anatomists (IAWA) the application of wood anatomical research to support many aspects of wood culture is also gaining prominence, and will figure at forthcoming IAWA meetings in Nanjing and Lisbon (jointly with the IUFRO All-Division 5 conference).

The inspiring two-day meeting was followed by an excursion to the ancient capital city of China: Xian. Not only the obligatory but very impressive Terracotta army of warriors and horses was visited, also the wood cultural highlights of the buildings of Huaqing Palace and the Shaanxi History Museum were admired.

Pieter Baas / Leiden

BOOKS BY OR OF INTEREST TO FELLOWS

Taschenbuch der Holztechnik (handbook of wood technology). Edited by Wagenführ and Scholz

A textbook for students. Published in German with many contributions by wood researchers from Germany and Austria and Switzerland. 569 pages, price €29.90
EUROISBN 978-3-446-22852-8

**Wood Science for Conservation of Cultural Heritage – Florence 2007
Proceedings of the International Conference held by COST Action IE0601 in Florence
(Italy), 8-10 November 2007
234 pp. ISBN: 978-88-8453-382-1**

See the link <http://www.fupress.com/scheda.asp?IDV=1990>

Anyone can freely download the full Proceedings as a .PDF file (~ 6,3 MB), by clicking on the red words “**Accesso aperto all’opera**”, or can click on the red “**prenota**” word to buy paper copies of the volume (€ 11,90 + transportation).

Beauty in Wood Edited by Steven Jansen, Peter Gasson & Elisabeth Wheeler. This is an atlas containing photographs and micrographs submitted by thirty-six prominent wood anatomists from all over the world. Profits from the sales will go to the International Association of Wood Anatomists. For further information see link below. The atlas would make a nice gift for fellow wood scientists. Elisabeth Wheeler has also produced a fossil wood calendar 2011. Both may be ordered from <http://www.lulu.com/product/paperback/beauty-in-wood/12561670>

Sustainable Development in the Forest Products Industry (Senior editor Roger Rowell)
published September, 2010. Fernando Pessoa University in Porto, Portugal.

The scope of this book deals, in general, with sustainable biomass utilization. Sustainable development in the Forest Products Industry explores the origins of sustainability as they apply to agriculture, forestry, and forest products. Global timber supply and demand are investigated in light of the current economic downturn. The biorefinery concept is presented as it applies to biomass fractionation and utilization. Energy demands and the role biomass can add to energy needs are reviewed. Recycling of wood, taking into account contaminants that are included are reviewed and the use of recycled wood for composites, wood-thermoplastic composites and value-added bio-materials are covered. To extend the life expectancy of wood-based materials, wood durability and stability without toxicity is introduced. The use of bio-resources as filter aids to remove contaminants from water are covered. Finally, there is a chapter on waste management.

The book provides knowledge, backed by tables, electron micrographs, and thorough references to light the path to sustainability that has been obscured by our infatuation with fossil fuels. The concept of Reduce, Recycle, Reuse, and Refuse, and, Respect are adhered throughout the book. The book is full of ideas, tools, perspectives, and historical data. When we tug on a piece of nature, we find it is connected to everything else! If only for this essential concept this book would be a good college textbook for engineers, scientists, and environmentalists. With knowledge comes the responsibility to act. This book provides the former.

OBITUARY

Dr. John Grant Haygreen (1930-2010)

Dr. John Haygreen, IAWS fellow, died on October 21, 2010. Dr. Haygreen served as President of the Society of Wood Science and Technology (1969-70) and of the Forest Products Society 1977-78, and was active in many other professional organizations including the American Society for Testing of Materials. He elected a fellow of the International Academy of Wood Science in 1975.

John was born in Illinois, spent his boyhood in Iowa, and received his B.S. in forestry from Iowa State University in 1952. John frequently recounted that his most notable accomplishment at Iowa State was meeting his wife Elizabeth. After graduation, John served as a battalion office in the Korean conflict, then worked for several years in the lumber industry in the southern U.S. Haygreen then entered Michigan State University, earning

M.S. and Ph.D. degrees there in wood science and technology. In 1961 Dr. Haygreen was hired as an assistant professor in the College of Forestry at Colorado University. Two years later (1966) he moved to the University of Minnesota where five years later he was named head of the newly formed Department of Forest Products, a position he held through 1984. He retired from Auburn University in 1990 as Associate Dean of Forestry.

In his academic work, John was principally responsible for courses in lumber standards, mechanical behavior of wood, design of wood structures, mechanics and structural design, and manufacturing processes in the forest products industries. He was a demanding yet beloved teacher, counselor to many, frequent consultant, and prolific author. A colleague once described John as a warm, friendly, thoughtful, and energetic individual who moved as easily among students and faculty as among associates in industry, government, and academia. John authored numerous scientific articles focused on wood mechanics, wood drying, and wood utilization, and co-authored a widely used wood science textbook. Consulting and volunteer activities took him frequently to Europe, Central America, and Southeast Asia.

John was active in his church for many years, donating time to the food bank and other community projects. He was an avid golfer and enjoyed time at the beach. He was loved and will be greatly missed.

Dr. Haygreen is survived by his wife Elizabeth, of 58 years; son, Jim and his wife Janice, of Loxley, AL; daughter, Lisa Nelson, and her husband John of Lewes, DE; Grandchildren John Haygreen of Auburn, AL, Alden Nelson, and Ryan Nelson of Lewes, DE. One brother, Jim Haygreen his wife Charlotte of South Carolina. John was preceded in death by one son, Mark Haygreen.

NEWS OF FELLOWS



Frank-Shawn Mansfield from Canada will receive the prestigious Scientific Achievement Award at the 2010 XXIII IUFRO World Congress in Seoul, Korea, August 23-28, 2010. He is one of eleven winners from around the world and the only one who is a Fellow of IAWS.

Shawn Mansfield is currently Associate Professor in the Wood-Sciences Department, Faculty of Forestry at the University of British Columbia (UBC), Canada. He graduated from Mount Allison University (B.Sc.), Dalhousie

University (M.Sc.) and holds a Ph.D. degree from UBC. His teaching interests are: tree/plant physiology; forest practices as they relate to, and affect wood quality; wood ultrastructure and chemistry; forest products; forest products biotechnology and tree biotechnology. Dr. Mansfield has been continuously commended for his exceptional clarity and phenomenal interplay with students, being equally acknowledged by students and peers. His research is directed at understanding the innate differences in fibre composition and morphological characteristics existing in tree lines within species, and elucidating what impact these phenotypic traits have on wood processing and product quality. Dr. Mansfield has been very productive, with more than 109 papers (incl. co-authorship), 14 non-refereed publications and reports, 30 invited presentations, 45 international conference presentations and is equally appreciated by students, peers and colleagues from the global research community. He has established several collaborative projects with a number of international researchers on a wide range of interdisciplinary projects and currently supervises 8 fully funded graduate students, 4 post doctoral fellows, several undergraduate co-op students. His long-term goal as a faculty member in Forestry at UBC is to contribute to establishing and maintaining the Faculty's reputation as a world leader in the field of forest biotechnology.



H. Michael Barnes has received the 2010 SWST Distinguished Service Award

Professor Barnes is the WS Thompson Professor of Wood Science & Technology in the Department of Forest Products, Mississippi State University, Starkville, MS. He was elected to a Fellowship of IAWS in 2006. He has served on the SWST Board of Directors (1993-95), and was Vice-President, President Elect, President, and Past President (1999-2003). He has also served as FPS: South Central Regional Vice-President, President Elect, President, and Past President (2005-2009).

Graeme Berlyn

The Botanical Society of America had a symposium in honor of Fellow Berlyn at their summer meeting: The Stress of Life and Light: Spectral Reflectance Measurements over a wide variety of ecosystems. Professor Berlyn presented two lectures during the symposium: (1) From tree to leaf to canopy, and (2) Using spectral reflectance to measure the drought response of two Mexican oak species, *Quercus laceyi* and *Quercus sideroxyla* (Fagaceae), in relation to elevational position.

Gerd Wegener

On the 6th of October there was the retirement symposium for fellow Gerd Wegener as Director of the Institute of Wood Research in Munich. 400 important academic, industrial and political guests including the Minister of Industry of Bavaria and fellow Wegener's successor, Prof Klaus Richter (formerly of EMPA Switzerland), attended the one day symposium, which was a resounding success. Fellows Pizzi, Holmblom and Frühwald gave the main lectures on the occasion, after presentations by the minister and the rector of TUM (Technische Universität München). Fellow Wegener received many warm accolades. He will remain as Editor in chief of the journal of IAWS, Wood Science and Technology.

Philip Evans

This 'letter' from Fellow Philip Evans (an edited version of it) appeared in the popular magazine 'New Scientist'. New Scientist produced a nice cartoon of astronauts plucking apples from a wooden branch to accompany the letter.

Wood in Space

The Royal Society made an inspired rather than an odd choice in deciding to celebrate its 350th anniversary by sending a piece of wood into space on the shuttle Atlantis (New Scientist 15-21 May 2010). Not only did the piece of wood come from the apple tree that inspired Isaac Newton's theory of gravity, but wood is also a proven performer in space! White oak tiles performed admirably as a heat shield on the Chinese RRS FSW re-entry vehicle. These wooden tiles developed a layer of insulating char which impeded heat flow into the vehicle when it entered the earth's atmosphere. Balsa wood was also used as a crushable impact attenuator to protect vital components such as transmitters when space craft were deliberately crash-landed on the moon. However, apple wood still has to find a practical application in space.

Phil Evans, Vancouver, Canada

Steve Ribarits, one of Philip Evans' Ph D students will receive The Robert W. Stephen's Memorial Award of \$US1000 at the Annual Meeting of Canadian Wood Preservation Association for his paper on 'Finite element modelling of the checking of wood exposed to accelerated weathering' (Ribarits, S., Evans, P.D.).

Valentin Popa

Professor Popa was President of the Organizing Committee of 14th International Symposium on Cellulose Chemistry and Technology, Iasi, Romania, September, 8-10, 2010. This symposium was dedicated to the memory of Cristofor I.Simionescu, who was fellow of IAWS and founder of Cellulose Chemistry and Technology journal)

HIGHLIGHTS

\$20.4M invested I Windsor for construction of first nanocrystalline cellulose plant Communicated by Derek G. Gray

(Edited from a press release)

WINDSOR, QUEBEC The investment has been announced of \$20.4M for the construction of the first nanocrystalline cellulose pilot plant in the world. This plant will be built through the creation of a joint venture between FPInnovations and Domtar to build the plant facility at the Domtar pulp and paper plant in Windsor. Nanocrystalline cellulose is a renewable, recyclable and abundant nanomaterial made of cellulose fibers from the wood pulp manufacturing process. Potential applications include **optically** reflective films, high durability varnishes and innovative bioplastics. The properties of this material will provide new opportunities in a wide range of applications for a variety of sectors and markets such as the aerospace, automotive, chemical, textile and forestry industries.

New National Science Foundation Center Communicated by Frederick A. Kamke

Virginia Tech and Oregon State University and have been chosen by the National Science Foundation (NSF) to lead a new Industry/University Cooperative Research Center (IUCRC) focused on wood-based composite materials in a \$2.2 million, five-year research initiative beginning July 2010. The center is known as "Wood-Based Composites Center IUCRC." The new center will facilitate the work of faculty members and graduate students at the two

NSF Center site universities and two partner universities - University of British Columbia and University of Maine. Industry members will collaborative to focus on cutting-edge research to support the wood composite industry. The current industry members are Arclin; Ashland, Inc.; Georgia-Pacific Chemicals Inc.; JELD-WEN; Momentive (formerly Hexion); Henkel; Weyerhaeuser Co.; and Willamette Valley Co. The Wood-Based Composites Center IUCRC director is Prof. Charles Frazier at Virginia Tech, and the site director at OSU is Prof. Fred Kamke (IAWS Fellow).

In addition to the company membership fees, the National Science Foundation is providing base funding of \$130,000 per year in a five-year, renewable grant. The Oregon Built Environment and Sustainable Technologies Center (Oregon BEST) provided \$75,000 in matching funds toward its goal of enhancing “green” building technologies in Oregon. Companies interested in membership should contact Linda Caudill, managing director, at lcaudill@vt.edu, and further information may be found at <http://www.wbc.vt.edu/center/>.

Green Building Materials Laboratory at Oregon State University Communicated by Frederick A. Kamke

The College of Forestry and the College of Engineering at Oregon State University collaborated to create the Green Building Materials Laboratory (GBML). The GBML occupies approximately 500 square meters on the OSU campus. Initial funding in 2010 was provided by Oregon BEST and OSU. Co-directors of the GBML are Prof. Fred Kamke (IAWS Fellow and Dept. Wood Science & Engineering) and Prof. Jason Ideker (School of Civil and Construction Engineering). The GBML has a vision for sustainable building materials and



assisting the industry with new product development. While still in early development, the GBML is pursuing research on wood modification technology, including viscoelastic thermal compression (VTC) as a means of producing structural composite materials from low quality timber. The new VTC apparatus is shown below. It has capability to produce wood lamina with specific gravity greater than 1.3 and modulus of elasticity greater than 30 GPa using dynamic conditions of steam, heat, and mechanical compression. Further information may be found at <http://gbml.oregonstate.edu/>

NSERC Strategic Network on Innovative Wood Products and Building Systems (2010–2015)

Communicated by Y.H.Chui



Challenge

Although the wood industry is a mainstay of the Canadian economy, revenues have been too narrowly based on products intended for construction and renovation of low-rise residential buildings. Expansion into mid-rise residential and non-residential building market is viewed by the wood industry as the best means of increasing its contribution to the Canadian economy. This view is based on two key recent developments. First, there is a renewed interest by design and building professionals to specify wood in these applications. This is because relative to other structural materials, wood products have many advantages, including reduced construction time; lighter weight which minimises cost on foundation; and being a 'green' carbon-neutral, low production energy option. The second development is related to recent changes in building codes to focus on presenting expected performance levels in buildings instead of laying down prescriptive rules, thereby giving designers more opportunity to apply advanced design and construction concepts and methods, and to specify alternative materials.

Because the use of wood in these expanded applications, especially in mid-rise buildings has limited performance history, developers, designers and building regulators are requesting supporting evidence that such buildings meet the requirements of the building codes in a variety of performance attributes. This will require the development of construction technologies that will allow wood-based products to be used alone or in combination with other structural materials in these applications, leading to the attainment of all key building code

objectives. At the same time, new, and sometimes more sophisticated, analysis tools and design guidelines are required to allow building designers to predict and verify the structural, fire, serviceability and durability performance of these buildings.

Network Structure

The NSERC Strategic Network, referred to as NEWBuildS, is a Network for Engineered Wood-based Building Systems. It is investigating the use of traditional light-weight wood frame methods in mid-rise construction, as well as heavier systems built with timber products and innovative approaches that combine wood with other materials to create hybrid systems. NEWBuildS consists of 20 university professors from 11 Canadian universities, and 18 researchers from FPInnovations, National Research Council and the Canadian Wood Council. These researchers, with expertise in architectural, structural, fire, serviceability, acoustic and durability, will supervise close to about 60 graduate students and post-doctoral fellows. NSERC provides a total funding level of \$5.3 million to the network over a 5-year period starting in 2010. In-kind contributions are provided by research partners listed above.

Research projects in the network are divided into four technical themes:

- ❖ *Cross laminated timber (CLT) – material characterization and structural performance*, led by Dr. Frank Lam, University of British Columbia and Dr. Mohammad Mohammad, FPInnovations
- ❖ *Hybrid building systems – structural performance*, led by Dr. Ian Smith, University of New Brunswick and Mr. Conroy Lum, FPInnovations
- ❖ *Building systems – fire performance, acoustic and vibration serviceability*, led by Dr. George Hadjisophocleous, Carleton University and Dr. Steve Craft, FPInnovations
- ❖ *Building systems – durability, sustainability and enhanced products*, led by Dr. Paul Cooper, University of Toronto and Dr. Bob Knudson, FPInnovations

Research Objectives

The vision of the Network is to increase the use of wood-based products in mid-rise buildings for residential and non-residential purposes in Canada and other markets. Specific objectives of the Network are:

- To strengthen the national innovation capacity in support of the wood industry and lay the foundation for future technical activities that lead to expansion of wood use in non-traditional building construction.

- To develop tools for the technical evaluation of CLT, and for predicting responses of selected CLT and hybrid building systems to structural strength and serviceability, fire and moisture loads.
- To develop technical information in support of the use of wood-based products in building systems in mid-rise and non-residential construction.

Outcomes

An outcome of the Network will be capacity building in support of the innovation needs of the wood industry. A key technical outcome of the Network research will be the development of new, and improvement of existing, technical tools for use by design engineers, researchers and product manufacturers to predict product and building system performances. These technical tools include sophisticated mathematical models based on first principles, applied engineering models, process models and experimental techniques. Designers and researchers can use these tools to predict responses of wood-based or hybrid building systems to structural strength and serviceability, fire and moisture loads. They will permit development and refinement of new engineered wood products such as ‘high performance CLT’. It is also expected that new information generated by the Network research will lead to changes in building codes and design standards, that will facilitate the use of wood in mid-rise and non-residential construction.

Contact

Dr. Ying-Hei Chui, Scientific Director

Tel : 506 453-4942

E-mail: yhc@unb.ca

Kenneth Koo, Network Liaison Manager

Tel : (416) 903-5513

Email : kenneth.koo@fpinnovations.ca

Wood Research Centre/Centre de recherche sur le bois (CRB) Université Laval, Québec/Canada

Introduction

The CRB is a major university Wood Research Centre infrastructure, with facilities for training future wood product professionals. The CRB is always looking for new, enthusiastic students to pursue graduate studies. Interested persons can check the CRB website for an updated list of projects available:

<http://www.crb.ulaval.ca/index.php>

CRB's mission

The CRB gathers researchers and research groups from several universities and industrial institutes, with the goal of promoting research and development, and in cooperation with the industry sector, training experts for applied and fundamental research on wood, including wood conversion, wood utilization in innovative products, and wood marketing.

Objectives

- To advance the knowledge in wood science in order to develop new products and processes and to improve existing products and processes
- To contribute to the training of master's and doctoral students, and to promote skilled labour training
- To interact with industry and the scientific sector in order to disseminate research results and optimize the benefits, particularly through technology transfer
- To foster multidisciplinary exchanges between research teams from complementary sectors

The CRB favours an interdisciplinary approach to industrial problem solving, which often drives fundamental and practical development. CRB members from all disciplines can make important and relevant contributions to the achievement of common goals.

Research areas

The CRB's main research orientations are the following:

- Knowledge of fundamental wood properties
- Mechanical and chemical conversion of wood
- Development of new wood products

Principal CRB researchers

The CRB currently has 9 regular researchers

- Alexis Achim, ing.f., Ph.D., alexis.achim@sbf.ulaval.ca
Wood quality, silviculture
- Robert Beaugard, ing.f., ing., Ph.D., robert.beaugard@sbf.ulaval.ca
Secondary wood products

- Alain Cloutier, ing., ing.f., Ph.D., alain.cloutier@sbf.ulaval.ca
Wood anatomy, wood-based panels
- Yves Fortin, ing., ing.f., Ph.D., yves.fortin@sbf.ulaval.ca
Lumber drying, wood preservation
- Roger Hernández, Ph.D., roger.Hernandez@sbf.ulaval.ca
Wood processing, wood physics
- Ahmed Koubaa, ing.f., Ph.D., ahmed.koubaa@uqat.ca
Characterization of wood and wood-based products/composites
- Bernard Riedl, Ph.D., bernard.riedl@sbf.ulaval.ca
Wood chemistry and adhesives
- Alexander Salenikovitch, ing., Ph.D., alexander.salenikovitch@sbf.ulaval.ca
Wood mechanics, wood structures
- Tatjana Stevanovic Janezic, ing., Ph.D., tatjana.stevanovic@sbf.ulaval.ca
Wood chemistry, pulp and paper

and 15 industrial researchers, 6 research associates, 6 postdoctoral interns, more than 40 master's and doctoral students, and 11 employees.

Infrastructure

The CRB is located in the Gene H. Kruger Pavilion at Université Laval in Québec City, Québec, Canada. It is dedicated to education and research in wood engineering. The building contains 54,000 ft² of laboratories, classrooms, and offices. The building itself is made of laminated wood beams as well as many decorative wood and wood-based panel products. The CRB includes 18 laboratories addressing a broad range of applied sciences, such as composite panels, wood drying, secondary wood processing, wood finishing, wood preservation, and chemical transformation, as well as fundamental sciences in wood anatomy, wood chemistry and wood physics. There are also a number of testing laboratories where wood weathering and mechanical testing of components and building systems are performed. The CRB was built in 2005 at a cost of \$22 million plus an additional \$8 million for equipment.

Information

Alain Cloutier, ing., ing.f., Ph.D.

Director

Benoit St-Pierre, M.Sc.

Lab manager

benoit.st-pierre@sbf.ulaval.ca

Pavillon Gene-H. Kruger
Faculté de foresterie, de géographie et de géomatique
2425, rue de la Terrasse, Université Laval
Québec (Québec) G1V 0A6
Canada
Tel : 418-656-2438
Fax : 418-656-2091
www.crb.ulaval.ca

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 summarize the author's work
- * contain important references to the literature for further reading
- * finish with a statement of future directions 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 (user name: fellows; password: IAWSWOOD) 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.

Frank Beall

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: frank.beall@berkeley.edu

IAWS



www.iaws-web.org