## Sunday Annual Convention Minutes June 10, 2007 Knoxville Convention Center Knoxville, Tennessee

8:30 am – 4:00 pm	Technical Session: Advanced Analytical Techniques		
	for Wood and Biomass (Room 301E)		
8:30 am – 4:00 pm	Equipment Manufacturers and Distributors Exhibit Forum and		
Posters	(Room 301D)		
11:30 am – 1:00 pm	Awards, Business Meeting, Luncheon (Room 301ABC)		
1:00 - 4:00  pm	Student Poster Competition (Room 301D)		
7:00 pm	Announcement of Student Poster Award Winners (Room		
301ABC)			
6:30 – 8:00 pm	Joint SWST/FPS Host Reception (Room 301ABC)		

## **Award Presentations**

#### **George Marra Awards**

First Place --- John A. Nairn, "Numerical simulations of transverse compression and densification in wood,"in 38(4)

Second Place --- R. Cristian Neagu, E. Kristofer Gamstedt, and Mikael Lindstrom, "Characterization methods for elastic properties of wood fibers from mats for composite materials," published in 38(1).

Honorable Mention --- Mohammed Jahangir A. Chowdhury and Philip E. Humphrey, "The effect of sequential ammonia and methyl formate injection on the strength development of phenol-formaldehyde bonds to wood," published in 38(2).

2006-2007 committee members were: Chair Steve Verrill, Philip Evans, and Tony Zhang

#### **Fellow Award**

H. Michael Barnes and W. Ramsay Smith

#### **Distinguished Service Award**

A. William Boehner

#### **Special Presentation** – Robert Youngs

"Founding a Society: Reminiscences of the Conception and Birth of SWST"

**Minutes of 2006 Annual Convention** - Published in August 2006 Newsletter. A motion was made, seconded and passed to accept the 2006 Annual Convention Minutes.

### **President's Remarks** – Doug Gardner

Doug thanked the Publication Policy Committee, Dan Dolan, etc for completing the task of moving WFS to electronic format. He also thanked the Board and the general membership for being involved "volunteer" work of the Society. Doug challenged the graduate students and younger members to become involved in the Society. It seems like only yesterday he was a new Ph.D. and got his first committee assignment. Doug indicated that the financial aspects of the Society were very strong and we should be able to offer more services to the Society. Finally he thanked the Executive Director for all her hard work

#### **Executive Director's Report** – Vicki Herian

<b>Current Members as of June 1, 2007</b>		Members as of June 1, 2006
Full members Student members Retired members	284 72 46	Full Members 281 Student members 56 Retired members 46
Affiliate Member <b>TOTAL</b>	$\frac{4}{406}$	Affiliate Member 4 387
USA members Canada members Mexico members Overseas member	311 50 2 s 43	
Subscribers as of June 1.	, 2007	Subscribers as of June 1, 2006
Subscribers	199	Subscribers 210
USA 89 Canada 14 Overseas 96		

#### **Delinquent Members**

Delinquent members as of 6/1/07 for 2007 dues – 54 total (30 full, 23 student, 1 retired) Delinquent subscribers for 2007 as of 6/1/07 – 46 total (17 US, 29 foreign) Compared to delinquent members as of June 1, 2006 – 57 total (31 full, 24 student, 2 retired) Compared to delinquent subscribers as of June 1, 2006 - 38 (14 US, 24 foreign)

### **Vanguard Accounts**

The Vanguard accounts were opened on February 3, 1998. The balance is \$115,373.45 on March 31, 2007 (the date of the last statement). The Student poster money was invested in November 1998 with an initial balance of \$4,750.00. The current balance (as of 3/31/07) in that account is \$17,006.38.

#### **Checking and Savings Accounts**

The balance in the checking account as of June 1, 2007 is \$30,962.09. The balance in Savings and CDs is \$154,511.04.

#### **Student Poster Competition Fund**

Contributors are: APA-The Engineered Wood Association, Asian Woods Inc., Balazs Zombori, California Cedar Products, Entwood LLC, Forintek Canada Corporation, Iowa State University, Louisiana Forest Products Development Center, Mississippi State University, North Carolina State University, Oregon State University, Pennsylvania State University, State University of New York (SUNY) ESF, Virginia Tech, University of British Columbia, University of Idaho, Washington State University, and Willamette Industries, Inc.

There are 26 participants in the 2007 Competition.

#### Miscellaneous

All website has been moved to a commercial provider, and has been redesigned. It should operate faster, more efficiently, and offer more opportunities. We have added a "Resume" and "Job Announcement" section.

We are preparing to offer Wood and Fiber Science as an electronic journal, as well as a paper journal. We are contracting with MetaPress to provide this service. Members will be able to go to a "Members Only" section of the website and view past issues of the journal in full-text searchable format. Nonmembers will be able to view the abstracts and purchase the full-text articles.

All back issues of the journal were scanned into pdf format by Dan Dolan of Washington State University. This enabled us to make the progression to an electronic version a reality. Much thanks should be offered to Dan.

The following page charges are still due: 37(3) Institute fur Werkstoffe in Bauwesen, \$1660; 37(4) Paprican \$1902; 38(1) STFI \$2509; 38(2) Graef, Anhalt & Schloemer & Assoc \$413; 38(4) USDA FS Southern Station \$1203; 39(1) UBC \$1318; USDA FS FPL \$812.

We have our SWST promotional merchandise for sale – Polo shirt, Long-sleeve denim shirt, Short-sleeve denim shirt, Portfolio, Deluxe Briefcase, and Lapel pin. An order form is included in your packets.

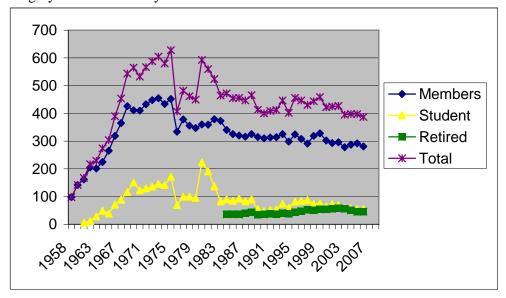
We still have copies of the book "Characterization of the Cellulosic Cell Wall" at \$100 each. This is clear profit for us. Please contact me if you would like to purchase one.

I have designed Membership Cards, similar to a business card, that includes a member's name and ID number on it. These will be sent out, upon request from the member, after payment is received for dues each year.

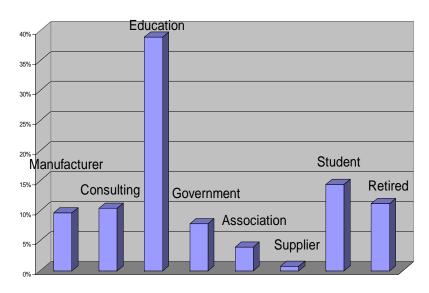
Jim Armstrong, Doug Gardner, and I have each attended Agenda 2020 meetings in the past year. We continue to have involvement on their Chief Technical Officers Committee.

We have renewed cooperative efforts with Temperate Forest Foundation and plan to continue in the future. We can both benefit by working together to educate kids, teachers, and the public.

I prepared the following charts, showing our membership trends and membership breakdown by category. It shows a fairly flat trend.



Job Classification Breakdown



## Auditor's Report – Cherilyn Hatfield

At your request, I reviewed the SWST bank statements for the period May 31, 2006 through May 31, 2007. Checks, deposits, VISA and Master Card charges, interest charges and bank charges were verified against the corresponding statements. No discrepancies were found between the statements and the books in any area.

The May 31, 2007 checkbook balance of \$30,962.09 corresponds with the checking balance on the May 31, 2007 balance sheet.

The \$132,379.91 total investment in the Vanguard accounts on the balance sheet also matches the totals on the most recent Vanguard statements (3/31/07). The \$154,511.04 CD's and savings also matches the Chase bank statements.

## **Budget Presentation**

#### FISCAL STATUS DECEMBER 31, 2006

#### **BALANCE SHEET**

Total Assets	\$27	1,983.53
Total Liabilities Total Equity	\$ \$27	726.16 1,257.37
Total Equity & Liabilities		1,983.53

#### **INCOME STATEMENT**

:	2006 Budget	<u>Actual 2006</u>
Total Income	\$163,060.00	\$192,226.20
Total Expenses	\$146,469.00	\$187,047.49
Budget Reserve	s \$ 16,591.00	\$ 5,178.71

## **Wood and Fiber Science** – Geza Ifju

### **Number of Manuscripts**

April Issue (printed)	16 (147 pages)
Accepted beyond April Issue	27
Rejected	2
Withdrawn	2
Under review	34
Under revision by authors	7
In process in editor's office	_5
Total	93

Manuscripts intended to be printed in the July issue were forwarded to the printer in the middle of May. At that time, only 8 proofs were available because a number of the authors had not returned the proofs with their approval or suggested corrections. There will probably be two additional proofs ready for printing. Therefore, with the anticipated two additional manuscripts, the July issue may be a bit smaller than average size, 148

pages. There are plenty of manuscripts accepted and available but the authors need to return the proofs in good time.

I am very much interested in the progress of finding a new editor for Wood and Fiber Science. Although I volunteered to continue for one more year beyond my appointment 6 years ago, I would be quite agreeable to give it up any time before June 2008. So far, I have not been contacted by anybody inquiring about details regarding the job. I do have some recommendations which I will discuss with the Board at its June 9 meeting.

Over 600 manuscripts have been handled over the 6 years he has been editor. A question was asked as to how the double-blind review process was going, and Geza said there was some bottleneck, but not too bad.

#### **Committee Reports**

a. **Accreditation** – Bob Bush, Chair

Annual reports were received from:

Oregon State University
West Virginia University
University of Idaho
North Carolina State University
Pennsylvania State University
SUNY-ESF
University of Maine
Virginia Polytechnic Institute and State University

Each of the eight reports received were approved by the Committee on Accreditation. Copies accompany this document. Reports were not solicited from the University of Minnesota or Mississippi State University due to pending program review. All yearly reports were approved by the Board at it's June 9 meeting.

#### **Program Review**

The University of Minnesota program was originally scheduled for review in 2006. However, the SWST Board granted a one-year extension while the program was reorganized. Mississippi State University was scheduled for accreditation review in 2007.

Both programs were reviewed in April of 2007 by joint Society of American Foresters/Society of Wood Science and Technology teams. Dr. Robert L. Smith (Virginia Tech) served as SWST team leader for the Minnesota review and was joined by Dr. James W. Funck (Oregon State University). The Mississippi SWST team included Dr. James Armstrong (West Virginia University, SWST team leader) and Dr. Eric Hansen (Oregon State University).

Reports resulting from these visits have not yet been finalized by SAF. Consequently, Committee on Accreditation actions are pending. No programs are due for review in 2008.

#### Other Issues

Bush contacted personnel with the Building Materials and Wood Technology program at the University of Massachusetts Amherst to discuss SWST accreditation. While supportive of SWST activities they do not plan to seek accreditation due to a belief that their program does not meet SWST guidelines and because of limited perceived benefits.

b. **Education** – Barry Goodell, Chair

## Special Charges and Actions of the SWST Education Committee for 2006-2007:

1. Contact International education programs to provide linkages, and contacts for ongoing communication.

We are working on developing a list of International contacts for Wood Science Education. Several members have submitted contacts, and additional information has been provided by IUFRO.

The Chair is exploring the possibility of setting up the database on a "Wiki" style web site that will allow for additions and corrections by the wood science community. This would permit the easiest changes, and allow schools to correct their own entries as contact names and other information change over time. UMN has software for this type of web site set up and we are exploring potential use of this.

A draft version of all international contacts is currently available from Barry Goodell.

2. Continue work on facilitating the posting student resumes on the web. Develop a mechanism for announcements, process for handling and guidelines for the process.

The SWST Board is working on web site development which may allow for posting of student resumes, so this charge was modified over the year after different options for posting resumes were reviewed for the Board at their winter meeting.

3. <u>Investigate the possibility of expanding into continuing education.</u>

No activity on the charge of expanding into continuing education occurred this year.

4. Gather information on what different undergraduate programs are doing, personnel, budgets, activities, etc.

A report compiling information from North American schools has been prepared (attached) detailing:

- i) Teaching/Academic Program support (excluding faculty and teaching staff salaries.)
- ii) Internal Research Support (Support coming from your State government or from University sources)
- iii) External Research Support (For example, external grants from the State or Federal sources, Special Research Grants, USDA-NRI or NSF grant support to the program or to individual PIs for their research).

The information in this report is meant to supplement, but not duplicate, information provided by SWST accredited schools in their annual reports.

## 5. Update Directory of School for website

Information provided by Schools has been updated on the SWST website.

- c. George Marra Award 2006-2007 committee members were: Chair Steve Verrill, Philip Evans, and Tony Zhang. Awards are listed above. The committee for Volume 39 is working on reading the papers already.
  - d. **Membership** Susan Anagnost, Chair

Chair: Susan E. Anagnost 07 Vice Chair: Crystal Pilon

Committee members: Les Groom, Past Chair, and Hongmei GU,

Ex Officio Alain Cloutier, Board Liaison 06

#### Activities of the period July 2006 to June 2007:

- New membership applications: There are **83** new members for the period June 1, 2006 to May 31, 2007. The breakdown is **35** new full members, **46** new student members and **2** new affiliate member (submitted by Crystal Pilon, Vice Chair). (Last year, 45 new members; 20 full members, 24 student memberships, 1 new affiliate)
- A letter was prepared and sent via email on October 13 2006 to all delinquent members for 2006 dues payments.
- A letter was sent via email in May 2007 to all delinquent members for 2007 dues payments.
- A letter was prepared and sent via email on December 10, 2006 to all SWST accredited programs encouraging their faculty to join SWST

#### **Special Charges for 2006-2007:**

- 1. Conduct a membership survey
- 2. Follow up with delinquent members, trying to get them to reinstate.

- 3. Check with faculty at all SWST Accredited Education Programs and encourage membership in the Society
- 4. Investigate the possibility of new member services
- 5. Obtain annual reports from Affiliate Members

### Response to Special Charges for 2006-2007:

## 1. Conduct a membership survey.

The membership survey was put on hold as the draft survey contained many questions concerning new services, and these new services are currently under development or have already been developed, such as resume posting and job listing on the SWST website, and electronic publishing.

2. Follow up with delinquent members, trying to get them to reinstate.

All members who had not paid dues for 2006 were sent a letter on October 13, 2006 asking them to pay their dues and reinstate their membership. The letter was sent again in May for all members who had not yet paid their dues for 2007. In October 54 letters were sent; in May 59 letters were sent.

- 3. Check with faculty at all SWST Accredited Education Programs and encourage membership in the Society A letter was prepared and sent via email to the contact persons at each of the SWST accredited programs to ask them to encourage faculty membership in the society.
- **4. Investigate possibility of new member services.** The membership survey was to survey needs for new member services. No action has been taken by the committee as many of the services under discussion are now in place, such as the updates on the SWST website including job listings, resumes postings and access by members to the electronic publishing of W&FS. Any other ideas for new member services are welcome.
- **5. Obtain annual reports from Affiliate Members.** A list of affiliate members was obtained from Vicki Herian. The membership committee chair will send a letter requesting an annual report from each affiliate member.
  - e. Newsletter Adam Taylor, Editor Adam asked for any comments and information to be sent to him.
  - f. Past Presidents' Council Paul Smith, Chair Asked for DSA and Fellows Candidates be sent to Doug Gardner for 2008.
  - g. **Policy and Critical Issues** Bill Boehner, Chair

The LCI/LCA Position Statement has been approved by the Board and the membership. The Board has asked Bill Boehner, with the help of Bruce Lippke, to develop an implementation plan for distributing the statement.

#### h. **Publication Policy** – Zhangjing Chen, Chair

SWST Publications Policy Committee, committee members, Zhangjing Chen (Chair), David Carradine, Pascal Kamdem, Jerry Winandy, Susan Anagnost (Exec Member).

The duty of our committee was to search for a company to host the electronic copies (pdf) of current and past issues of Wood and Fiber Science. The specific jobs for the company to do include, 1) create a webpage (SWST.org or some private Internet-provider (link thru the SWST.org webpage) of all +2800 W&FS pdfs, 2) create a system by which LIBRARIES and individual can pay a fee to SWST and then they can go thru the SWST-org webpage and enter a Members only area where they could download any W&FS PDF, 3) develop a SWST.org-based system by which each new issue of W&FS is available on the SWST.org just as soon as Sheridan Press goes to press. In this webpage, all SWST members can go thru the SWST-org webpage and enter a Members only area where they could download any W&FS PDF. Also all SWST members and member-Libraries will receive an Email (with a hot link) stating the new issue of W&FS is available for viewing at SWST.org.

Our committee has looked for the domestic and overseas companies. Many large and small firms were contacted. Finally, we have collected four proposals from four interesting companies. Three of them are web-publishing service companies, IngentaConnect Service, MetaPress, Atypon Link. Anther one is the local web design service, Interactive Design & Development at Blacksburg, Virginia. After receiving the proposals, our committee went over them and made selection. Many factors were considered during the process, cost, quality, location, reputation, maintenance and time frame.

Finally, we make our recommendation by corresponding with email and came to a consensus. We have preferred Metapress Company. Metapress was given a slight edge because of its reputation and location in North America.

We felt that the software company, IDD was not an acceptable option because it would require an SWST administrator to upload the documents for each new issue. With Metapress, Atypon or Ingenta, SWST is relieved of doing this work. If the Board would prefer to use a less expensive route (a software company) then the Board should be prepared to define and support an SWST site administrator.

Overall, Metapress, Atypon or Ingenta provide the same services. Atypon is the most expensive and does not appear to offer any advantages over the other two, while the costs for IngentaConnect and Metapress are very similar. Metapress is located in North America and its parent company, EBSCO, has a good reputation. Metapress has shorter time between receipt of articles and on-line access than IngentaConnect.

Now, we have selected the company. During the webpage constructing process, we suggest that a person need to work very closely with Metapress to make sure that the proper job is done.

Sue Anagnost also gave a powerpoint presentation showing the new and coming Online Wood and Fiber Science.

#### i. **Research Initiatives** – Mike Wolcott, Chair

The committee is working on hosting a Wood Science and Technology Research Summit with Agenda 2020, FPL, universities in 2008.

## j. Visiting Scientist Program – Jilei Jang, Chair

There were two visits this year - Les Groom visited University of Maine, and Adam Taylor visited Laval University.

### 10. Old Business - Vote on Constitutional Change

#### Current

Article II -- Purpose and Objectives. The purpose of this Society is: (1) Developing and maintaining the unique body of knowledge distinctive to wood science and technology. (2) Encouraging the communication and use of this knowledge. (3) Encouraging policies and procedures which assure the wise use of wood and wood-based products. (4) Encouraging high standards for professional performance of wood scientists and technologists and acting as the professional organization for individuals who meet these standards. (5) Fostering education programs at all levels of wood science and technology and furthering the quality of such programs.

#### **Proposed**

Article II – Purpose and Objectives. The purpose of this Society is:

- Develop and maintain the unique body of knowledge distinctive to wood science, lignocellulosic materials, and their technologies
- Encourage the communication and use of this knowledge
- Promote policies and procedures which assure the wise use of wood and lignocellulosic materials
- Encourage high standards for professional performance of wood scientists and technologists and acting as the professional organization for individuals who meet these standards
- Foster education programs at all levels of wood science, lignocellulosic materials, and their technologies and furthering the quality of such programs.
- Represent the profession in public policy development

Wording in **BOLD** represent changes.

A motion was made, seconded and passed to accept the Constitutional Change. It will now be sent out for a mail vote within 30 days of the Annual Convention, as established in the Constitution.

#### 11. **Teller's Report** – Vicki Herian

The new Vice President is Jim Funck, and the two new Directors are Nicole Brown and Eva Haviarova.

#### 12. New Business

2008 Annual Convention will be in Concepcion, Chile, on November 10-12, 2008. This will be cosponsored by Universidad de Bio Bio. They would also like to explore the possibility of accreditation of their programs in the future. The Board will schedule some time for discussion on this item while at the meeting. The Board will have their normal Board Meeting on the November 9. Alain Cloutier provided a dvd of the Concepcion area.

A motion was made, seconded and passed to adjourn the meeting at 1:00 pm.

# Student Poster Competition – Judges: Alain Cloutier, Chair, Adam Taylor, Rod Stirling, Bob Seavey

Classification of red oaks (*Quercus rubra*) and white oaks (*Quercus alba*) wood using a NIR spectrometer and soft independent modeling of class analogies.

*Emmanuel Oluwatosin Adedipe*, Division of Forestry and Natural Resources, Davis College of Agriculture, Forestry, and Consumer Sciences, West Virginia University, Morgantown, WV. 26506-6125.

Predicting moisture content of Yellow-Poplar (Liriodendron tulipifera L.) veneer using near infrared spectroscopy.

*Emmanuel Oluwatosin Adedipe*, Division of Forestry and Natural Resources, Davis College of Agriculture, Forestry, and Consumer Sciences, West Virginia University, Morgantown, WV. 26506-6125. US.

Environmental Impact of Hardwood Lumber Using Life-Cycle Inventory *ichard D. Bergman*, USDA, Forest Products Laboratory, One Gifford Pinchot Dr., Madison, WI 53726

## **Quality vs. Price: A Positioning Analysis for US Treated Southern Yellow Pine Lumber in the Chinese Market**

Xiaozhi "Jeff" Cao, Center for International Trade in Forest Products (CINTRAFOR), College of Forest Resources, University of Washington, Seattle, WA. 98195

## A novel method to isolate fibrils from natural cellulose fibers by high intensity ultrasonication

*Qingzheng Cheng*, Tennessee Forest Products Center, University of Tennessee, 2506 Jacob Dr. Knoxville, TN 37996-4570

Small Specimen Wood Rheology: The Development of Torsional Methods on Wood Disks

Sudip Chowdhury, PhD Candidate, Department of Wood Science and Forest products, Virginia Tech, Blacksburg, VA 24061.

# **Chemical Wood Modification: Dimensional Stabilization of Viscoelastic Thermal Compressed Wood**

*Chris Gabrielli*, Graduate Student, *Fredrick A Kamke*, JELD-WEN, Professor of Wood-Based Composite Science, Dept. of Wood Science and Engineering, Oregon State University, Corvallis, OR.

# Improved OSB Formation Quality Through Production Process Control Using 3D Image Analysis and Laser Profilometry

*Victor Gaete-Martinez*, PhD Student, School of Forest Resources, University of Maine. *Stephen M. Shaler*, PhD Wood Science, Professor School of Forest Resources, Associate Director AWEC Center, University of Maine, *Russell Edgar*, M.Sc., Wood Composites Mgr., AEWC Center, University of Maine. Orono, ME.

#### **Cellulose Nanocrystal Reinforcement of Wood Adhesives**

Jung-Ki Hong, WBC Center Dynea Fellow, Charles E. Frazier, and Maren Roman, Department of Wood Science and Forest Products, Virginia Tech, Blacksburg, VA 24061

## Accounting for Edge Effects and Structural Compliances in Nanoindentation Measurements of Wood Cell Walls

Joseph E. Jakes. University of Wisconsin-Madison, Materials Science Program, 1509 University Ave, Madison, WI 53706, and USDA, Forest Products Laboratory, One Gifford Pinchot Dr., Madison, WI 53726

# Measurement of stiffness of earlywood and latewood from Loblolly pine using digital image correlation (DIC)

Gi Young Jeong, Diniel P. Hindman, Department of Wood Science and Forest Products, Virginia Tech, Blacksburg, VA. 24060

# Changes in community structure of mold and wood decay fungi on field stakes treated with Chlorothalonil (CTN) and Butylated hydroxytoluene (BHT).

*Grant. T. Kirker, S. V. Diehl, M. L Prewitt, T. P. Schultz, and D.D. Nicholas*, Forest Products Lab, Mississippi State University, MS

# Tailored cellulosic fiber surface: layer-by-layer nanocoating of polyelectrolytes and clay platelets on steam exploded wood fiber.

Zhiyuan Lin, Graduate student, Department of Wood Science and Forest Products, Virginia Polytechnic Institute and State University, VA 24060, USA

# Designing, fabricating, and evaluating sheet molding compound reinforced with glass or natural fibers.

Ryan H. Mills, School of Forest Resources, and Advanced Engineered Wood Composites Center, University of Maine, Orono ME, 04469, USA

#### X-RAY TOMOGRAPHIC STUDY OF AN ADHESIVE BONDLINE

Guenter G. R. Modzel, Graduate Research Assistant, Department of Wood Science & Engineering, Oregon State University, Corvallis, Oregon 97331, and Frederick A. Kamke, JELD-WEN Professor of Wood-Based Composite Science, Department of Wood Science & Engineering,

Oregon State University, Corvallis, Oregon 97331

## Characterizing the mechanism of improved adhesion of modified wood plastic composite (WPC) surfaces.

Gloria S. Oporto' Advanced Engineered Wood Composite (AEWC) Center, University of Maine, Orono, ME 04469, USA and Centro de Investigación de Polímeros Avanzados, CIPA, Universidad de Concepción, Edmundo Larenas 234, Concepción, CHILE, Douglas J. Gardner, Advanced Engineered Wood Composite (AEWC) Center, University of Maine, Orono, ME 04469, USA, George Bernhardt, Laboratory for Surface Science and Technology, University of Maine, Orono, ME 04469, USA, and David J. Neivandt, Department of Chemical and Biological Engineering, University of Maine, Orono, ME 04469, USA

## Effect of Temperature on the Dynamic Mechanical Properties of Resin Film and Wood

*Yucheng Peng*, Graduate Research Assistant, *Sheldon Q. Shi*, Assistant Professor, and *Moon Kim*, Professor, Department of Forest Products, Mississippi State University, Starkville, MS. 39759

### **Self-Assembly of Lignin**

*Karthik V. Pillai*, Department of Wood Science and Forest Products, Virginia Tech, Blacksburg, VA 24061

# Mechanical Behavior of Ready to Assemble Furniture Corner Joints (Minifix and Rondorfix)

*Milan Simek*, Department of Furniture, Design and Habitation, Mendel University of Agriculture and Forestry in Brno, Czech Republic, and *Eva Haviarova*, Department of Forestry and Natural Resources, Purdue University, West Lafayette, USA.

#### **An overview of US Furniture Industry Competitiveness**

Silas Tora, and Eva Haviarova, Department of Forestry and Natural Resources, Purdue University, West Lafayette, IN.

## **Multi-scale Characterization of Wood Plastic Composites Using Advanced Image Tools**

*Yi Wang*, Department of Wood Science & Engineering, Oregon State University, Corvallis, OR 97331

## Multi-Walled Carbon Nanotubes (MWCNTs) Produced from Natural Cellulosic Materials

Xinfeng Xie, Wood Science and Technology, University of Maine, Orono, ME 04469

# Effect of bark extractives on the physical and mechanical properties of particleboards made from black spruce and trembling aspen bark

Martin Claude Ngueho Yemele, Ph.D. Candidate, Centre de recherche sur le bois (CRB), Département des sciences du bois et de la forêt, Université Laval, Québec, QC Canada G1K 7P4

## Spray characteristics and resin efficiency of pMDI resin-adhesive using a spinning disk atomizer.

Xuelian Zhang, Douglas J. Gardner, Advanced Engineered Wood Composite Center, The University of Maine, Orono, ME 04469 and Lech Muszynski, Department, of Wood Science and Engineering, Oregon State University, 119 Richardson Hall, Corvallis, OR 97331

### **Wooden Adjustable Seating Furniture-Ready To Assemble**

<u>Hongtao Zhou</u>, Grad. Research Assistant, and *Eva Haviarova*, Assistant Prof., Dept. of Forestry & Natural Resources, Purdue Univ., West Lafayette, IN

Nanoscale surface modification of wood veneer for adhesion and durability *Yu Zhou*, WBC Center GP Fellow. and *Scott Renneckar*, Department of Wood Science and Forest Products, Virginia Tech, Blacksburg, VA 24061

The winners were: 1<sup>st</sup> Place – Joseph Jakes, 2<sup>nd</sup> Place – Zhiyuan Lin, 3<sup>rd</sup> Place – Chris Gabrielli.

Respectfully submitted,

VICTORIA L. HERIAN Executive Director