

# Symposium Schedule at a Glance

Session	1	2	3	4-1	4-2	5	6	7		
	WP	TE	WC	CA	CA	FS	BP	BR		
<b>15<sup>th</sup> March</b>										
18:00-20:00	Welcome reception & registration (82 Ale House, Lotte City hotel)									
<b>16<sup>th</sup> March</b>										
8:30	Bus departs from hotel									
8:45-9:30	Registration									
9:30-9:45	Opening remark (Dai hall)									
9:45-10:20	Keynote lecture 1									
10:20-10:55	Keynote lecture 2									
10:55-11:15										
11:15-12:25	Lunch (room Heian, 11:15-14:00)	Lunch (room Heian, 11:15-14:00)	Oral-1 (11:15-12:25)	Oral-1 (11:15-12:25)	Oral-1 (11:15-12:25)	Oral-1 (11:15-12:25)	Lunch (room Heian, 11:15-14:00)	Oral-1 (11:15-12:25)		
12:25-12:50		Oral-1 (13:00-17:00)	Oral-1 (12:50-17:00)	Lunch (room Heian, 11:15-14:00) & Poster (13:00-14:30)	Lunch (room Heian,11:15-14:00)			Lunch (room Heian, 11:15-14:00) & Poster (13:00-14:30)	Oral-1 (13:00-17:00)	Lunch (room Heian, 11:15-14:00) & Poster (13:00-14:30)
12:50-13:00	Oral-2 (13:20-17:00)				Oral-2 (13:20-17:00)	Oral-2 (13:20-17:00)	Oral-2 (13:20-17:00)			
13:00-13:20										
12:50-13:00										
13:00-14:30										
14:30-14:40										
14:40-17:00										
17:00-17:10	Oral-2 (14:40-18:40)		Oral-2 (14:40-18:40)		Oral-2 (14:40-18:40)	Oral-2 (14:40-18:40)				
17:10-18:40	Poster (17:10-18:40)	Poster (17:10-18:40)	Poster (17:10-18:40)		Poster (17:10-18:40)	Poster (17:10-18:40)	Poster (17:10-18:40)			
18:40-19:00										
19:00-20:30	Banquet (room Zuiun & Heian)									
21:00	Bus departs to hotel									
<b>17<sup>th</sup> March</b>										
8:30	Bus departs from hotel									
9:20-9:30	Oral-2 (9:20-12:10)	Oral-2 (9:20-12:10)	Oral-3 (9:20-12:10)			Oral-3 (9:20-12:10)	Oral-2 (9:20-12:10)	Oral-3 (9:20-12:10)		
9:30-12:10				Oral-3 (9:30-12:10)	Oral-3 (9:30-12:10)					
12:10-12:20										
12:20-13:00	Closing remark (room Zuiun & Heian)									
13:00-14:00	Lunch (room Fukujyu & Tougen,13:00-14:30)									
14:00	Bus departs to hotel									

## Abbreviations

WP: Wood Physics

TE: Timber Engineering

WC: Wood Chemistry

CA: Composite Materials and Adhesion

FS: Cell Formation and Wood Structures

BP: Biodegradation and Preservation of Wood

BR: Biorefinery

# Keynotes

## March 16

9:45-10:20

John Ralph

*University of Wisconsin, USA*

Designing Plant Cell Walls for Deconstruction: Using Monolignol Ferulate Conjugates to Introduce Cleavable Ester Bonds into the Lignin Backbone

10:20-10:55

Kohei Komatsu

*Kyoto University, Japan*

Development of Glulam and Glulam Structures

# Session 1: Wood Physics

March 16

13:00-13:30 1WP-I01 *Invited Lecture*

Joseph Gril

*CNRS, Montpellier University, France*

Modelling mechano-sorption in wood through hygro-locks and other approaches

13:30-13:50 1WP-O01

Yoyo Suhaya, Aos Akyas, Titin Supriatun and Imam Wahyudi

*School of Life Sciences and Technology Institut Teknologi Bandung, Indonesia*

Variation of Surian Woods (*Toona sinensis* Roem.) Characteristics in West Java, Indonesia

13:50-14:10 1WP-O02

Paulo Hein, José Tarcísio Lima, Selma Goulart, José Reinaldo Silva, Taiana Arriel and Fernanda Nascimento

*Federal University of Lavras, Brazil*

Dynamic elastic properties variation of 37 year-old *Eucalyptus* species grown in Brazil

14:10-14:30 1WP-O03

Takashi Yojo, Raphael Pigozzo, Suelem Macena and Maria Miranda

*Institute for Technological Research, Brazil*

Compressive Strength Of Wood in Direction Parallel to the Cell

14:30-14:50 1WP-O04

Tetsuya Inagaki, Belal Ahmed, Ian Hartley, Satoru Tsuchikawa and Matthew Reid

*Nagoya University, Japan*

Simultaneous prediction of density and moisture content of wood by terahertz time domain spectroscopy

14:50-15:20 1WP-I02 *Invited Lecture*

Peter Niemz, Michaela Zauner and Franziska Baensch

*ETH Zürich, Switzerland*

In-situ Synchrotron micro-tomography and acoustic emission of Norway spruce samples under tensile load

15:20-15:40 1WP-O05

Tsunehisa Miki, Masako Seki, Soichi Tanaka, Nobuo Sobue, Masakazu Nishida, Ichinori Shigematsu and Kozo Kanayama

*National Institute of Advanced Industrial Science and Technology, Japan*

Dynamic heat capacity changes of wood related to microstructure alterations caused by drying

15:40-16:00 1WP-O06

Yu Ogawa, Pan Chen, Yoshiharu Nishiyama and Karim Mazeau

*CNRS, France*

The role of shear deformation of cellulosic crystals

16:00-16:20 1WP-O07

Karim Mazeau, Liang Li, Patrick Perre and Xavier Frank  
*CNRS, France*

The interface in biomimetic xylan/cellulose nanocomposites probed by multiscale modelling.

16:20-16:40 1WP-O08

Matti Toivonen, Sauli Kurki-Suonio, Felix Schacher, Orlando Rojas and Olli Ikkala  
*Aalto University, Finland*

Physical cross-linking of nanofibrillated cellulose with chitosan by surface adsorption and desolubilization in transparent hybrid nanopaper

16:40-17:00 1WP-O09

Kayoko Kobayashi, Masanori Akada, Setsuo Imazu and Junji Sugiyama  
*Kyoto University, Japan*

Pattern recognition system toward identification of culturally important wooden artifacts

***Poster session (17:10-18:40)***

## March 17

10:00-10:30      1WP-I03 *Invited Lecture*

Peer Haller, Jens Hartig and Joerg Wehsener

*Technische Universität Dresden, Germany*

Recent Advancements for the Application of Moulded Wooden Tubes as Structural Elements

10:30-10:50      1WP-O10

Masayuki Ishihara, Yoshihiro Ootao and Yoshitaka Kameo

*Osaka Prefecture University, Japan*

Transient Hygrothermal Field in One-dimensional Porus Media Considering Nonlinear Coupling Between Heat and Moisture Diffusion

10:50-11:10      1WP-O11

Yonggun Park, Yeonjung Han, Jun-Ho Park, Yoon-Seong Chang, Sang-Yun Yang, Hyun Woo Chung and Hwanmyeong Yeo

*Seoul National University, Republic of Korea*

Superheated Steam Heat Treatment for Pitch Pine Lumber

11:10-11:30      1WP-O12

Mayumi Utsumi, Koji Murata and Takato Nakano

*Kyoto University, Japan*

Stress relaxation test and compact tension test for thermally modified wood

11:30-11:50      1WP-O13

Kaoru Yamagishi-Nishikiori, Tomohiro Yamada, Takayuki Yamagishi and Koji Adachi

*Akita Prefectural University, Japan*

Water repellency of Diamond-like carbon coated wood

11:50-12:10      1WP-O14

Soichi Tanaka, Tsunehisa Miki, Masako Seki, Ichinori Shigematsu and Kozo Kanayama

*National Institute of Advanced Industrial Science and Technology, Japan*

Migration of polymers into cell walls in wood impregnated with an aqueous polymer solution under conditioning in controlled atmosphere: Effect of solution concentration on swelling and shrinkage behaviors of wood treated with polyethylene glycol polymers

## Session 2: Timber Engineering

March 16

12:50-13:20          2TE-I01 *Invited Lecture*

Haiqing Ren

*Chinese Academy of Forestry, China*

To be announced

13:20-13:40          2TE-O01

Zhaoxia Guo and Ying Gao

*Beijing Forestry University, China*

Dovetail Joints Mechanics of Solid Wood Furniture Based on Finite Element Analysis

13:40-14:00          2TE-O02

Raquel Gonçalves, Alex Julio Trinca, Cinthya Bertoldo, Rafael Lorensani and Monica Ruy

*University of Campinas, Brazil*

The role of nondestructive testing in the timber characterization and classification

14:00-14:20          2TE-O03

Kango Sato and Tadatoshi Furukawa

*Nagoya University, Japan*

Study on Bonding Method and Bending Performance of Built-up Beam

14:20-14:40          2TE-O04

Hidemaru Shimizu and Yoshiaki Wakashima

*Toyama Prefectural Forest Products Research Institute, Japan*

Study on seismic grid wall using compression wood of shape recovery behavior

14:40-15:00          2TE-O05

André Luiz Silva Matos Matos, Antônio Alves Dias Dias, Orlando Ferreira Gomes Gomes and Francisco Antônio Rocco Lhar Lhar

*Universidade Federal de Goiás, Brazil*

Influence of torque control in wooden beams juxtaposed bolts

15:00-15:20          2TE-O06

Andreja Kutnar and Dick Sandberg

*University of Primorska, Slovenia*

Sustainable Development, Wood, and Build Environment in Slovenia and Sweden

15:20-15:40          2TE-O07

Ikhyun Shin, Andi Hermawan and Noboru Fujimoto

*Kyushu University, Japan*

Effect of treatment time and temperature for High temperature and low humidity (HT-LH) pretreatment on drying characteristics of Sugi boxed-heart timber

15:40-16:00 2TE-O08

Dick Sandberg and Andreja Kutnar

*Luleå University of Technology Sweden*

Recent Development of Thermal Wood Treatments: Relationship between Modification Processing, Product Properties, and the Associated Environmental Impacts

16:00-16:20 2TE-O09

Manja Kitek Kuzman

*University of Ljubljana, Slovenia*

Timber Passive House for Sustainability

16:20-16:40 2TE-O10

Yuuki Kawamura, Yuko Tsunetsugu, Kohta Miyamoto, Takahiro Kounoike and Kenji Kariya

*Sumitomo Forestry co.,Ltd, Japan*

Physiological and psychological responses to touching wooden balls in school-age children-I: physical properties of the balls and pools

16:40-17:00 2TE-O11

Yuko Tsunetsugu, Yuuki Kawamura, Kohta Miyamoto, Takahiro Kounoike and Kenji Kariya

*Forestry and Forest Products Research Institute, Japan*

Physiological and psychological responses to touching wooden balls in school-age children-II: heart rate variability and cerebral blood flow changes

***Poster session (17:10-18:40)***

## March 17

9:20-9:50 2TE-I02 *Invited Lecture*

Ying-Hei Chui

*University of New Brunswick, Canada*

A multi-disciplinary Canadian research network to support the use of wood products  
multi-storey building construction

9:50-10:10 2TE-O12

Shoichi Nakashima, Yasuhiro Araki and Hiroshi Isoda

*Utsunomiya University, Japan*

Tensile structural performance of multiple dowels type joint with CLT

10:10-10:30 2TE-O13

Akihisa Kitamori, Shoichi Nakashima, Mami Wada and Hiroshi Isoda

*Kyoto University, Japan*

FE analysis on in-plane shear performance of frame structure composed of L-shape CLT  
members

10:30-10:50 2TE-O14

Kohei Komatsu, Hiroshi Nakatani, Kenho Okura, Yoshikuni Okura, Yoshinori Okura,  
Yoshiaki Wakashima, Hidemaru Shimizu and Kuninari Ueda

*Kyoto University, Japan*

Shaking Table Tests on a Two Storey & Two Span Glulam Frame Structure Whose  
Moment-Resisting Joints are Composed of Steel Hybrid Dampers

10:50-11:10 2TE-O15

Ryota Haba, Akihisa Kitamori, Takuro Mori and Hiroshi Isoda

*Kyoto University, Japan*

Development of CLT panels bond-in method for seismic retrofitting of RC frame structure

11:10-11:30 2TE-O16

Weibo Dong, Ying Gao, Zhiming Yu and Tingge Yuan

*Beijing Forestry University, China*

Test research on nail joints of MIDPLY wood shear wall

11:30-11:50 2TE-O17

Ying Gao, Weibo Dong, Zhiming Yu and Tingge Yuan

*Beijing Foestry University, China*

Analysis of nail joints of midply wood shear wall

11:50-12:10 2TE-O18

Vilma França Monteiro Monteiro, Edgar Bacarji Bacarji, Orlando Ferreira Gomes Gomes and  
Francisco Antônio Rocco Lhar Lhar

*Universidade Federal De Goias, Brazil*

Mixed wood frame-bent plate submitted to bending simple

# Session 3: Wood Chemistry

March 16

11:15-11:45          3WC-I01 *Invited Lecture*

Yonghao Ni

*University of New Brunswick, Canada*

Prehydrolysis kraft (PHK) dissolving pulp production, pulp quality improvement and its integration into forest biorefinery

11:45-12:05          3WC-O01

Haruka Goto, Akari Tamai, Takuya Akiyama and Yuji Matsumoto

*University of Tokyo, Japan*

Variety of the content of biphenyl structures in softwood and hardwood lignins

12:05-12:25          3WC-O02

Morikazu Toda, Takuya Akiyama, Tomoya Yokoyama and Yuji Matsumoto

*University of Tokyo, Japan*

Methoxyl analysis of Klason residue of tree leaves

## ***Lunch Break***

## ***Poster session (13:00-14:30)***

14:40-15:00          3WC-O03

Satoko Nishikawa, Hidehiro Daidoji and Bunji Hashimoto

*HORIBA, Ltd., Japan*

X-ray Fluorescence Quantitative Analysis of CCA and Other Preservative Treated Wood

15:00-15:20          3WC-O04

Gilles Chaix, Sophie Nourissier, Tahiana Ramananantoandro, Mario Tomazello Filho and Garel Makouanzi

*CIRAD, France*

Near Infrared Spectroscopy for Eucalyptus wood chemical compounds

15:20-15:40          3WC-O05

Te Ma, Tetsuya Inagaki, Guanxiong Wang and Satoru Tsuchikawa

*Nagoya University, Japan*

Evaluation of chemical composition in wood using NIR hyperspectral imaging

15:40-16:00          3WC-O06

Peiming Zheng, Dan Aoki, Yasuyuki Matsushita, Sachie Yagami, Yuzou Sano and Kazuhiko Fukushima

*Nagoya University, Japan*

Lignification of ray parenchyma cells in the xylem of *Phellodendron amurense* detected by LMD and TOF-SIMS

- 16:00-16:20            3WC-O07  
Chisato Ko, Yasuyuki Matsushita, Sachie Yagami, Dan Aoki and Kazuhiko Fukushima  
*Nagoya University, Japan*  
Studies on Enzymatic Dehydrogenative Polymerization of Monolignol Dimers
- 16:20-16:40            3WC-O08  
Li Qiang, Tasaki Yuka, Yoshinaga Arata, Takabe Keiji, Koda Keiichi and Uraki Yasumitsu  
*Hokkaido University, Japan*  
Xylan as a scaffold for DHP deposition on cellulose
- 16:40-17:00            3WC-O09  
Hiroshi Kamitakahara, Ryo Suhara, Mao Yamagami, Haruko Kawano, Yoshimasa Tanaka  
and Toshiyuki Takano  
*Kyoto University, Japan*  
Thermoresponsive supramolecular hydrogels based on amphiphilic end-functionalized  
methylcellulose derivatives
- 17:00-17:20            3WC-O10  
Yasuko Saito, Hiroshi Kamitakahara and Toshiyuki Takano  
*Kyoto University, Japan*  
Photosensitizer-bound cellulose derivatives for photocurrent generation
- 17:20-17:40            3WC-O11  
Yasuhito Sugano, Tiina Saloranta, Chunlin Xu, Johan Bobacka and Ari Ivaska  
*Abo Akademi University, Finland*  
Electro-catalytic oxidation and degradation of cellulose at Au electrode
- 17:40-18:00            3WC-O12  
Jun-ichi Azuma, Shin Watanabe, Shuntaro Tsubaki, Fujio Hyodo and Hiroaki Kanayama  
*Osaka University, Japan*  
Biodegradation of Mangrove Leaves by *Terebralia palustris* inside Funaura Bay in the  
Iriomote Island, Okinawa Prefecture
- 18:00-18:20            3WC-O13  
Dimas Andrianto, Takeshi Katayama and Toshisada Suzuki  
*Kagawa University, Japan*  
Antioxidant and antihyperlipidemic activity of various Indonesian underutilized forest fruits
- 18:20-18:40            3WC-O14  
Kosei Yamauchi, Tohru Mitsunaga and Irmanida Batubara  
*Gifu University, Japan*  
Quercetin methylethers stimulate melanosome transportation in B16 melanoma cells

## March 17

9:20-9:503 WC-I02 *Invited Lecture*

Yongcan Jin

*Nanjing Forestry University, China*

Does lignin always inhibit the enzymatic saccharification of lignocellulose?

9:50-10:10 3WC-O15

Zhulan Liu, Yunfeng Cao, Zhiguo Wang and Hao Ren

*Nanjing Forestry University, China*

Fiber Morphology and Chemical Characteristics of Soybean Straw

10:10-10:30 3WC-O16

Zhulan Liu, Yunfeng Cao, Zhiguo Wang and Hao Ren

*Nanjing Forestry University, China*

Lignin Isolation and Characterization from Soybean Straw by Dissolving in LiCl/DMSO Combined with Enzymatic Hydrolysis

10:30-10:50 3WC-O17

Xu Tan, Xin Meng, Jialong Wen and Yongcan Jin

*Nanjing Forestry University, China*

Structural changes of lignin in green liquor pretreatment and their effect on the enzyme adsorption

10:50-11:10 3WC-O18

Wiwin Suwinarti and Rudianto Amirta

*Mulawarman University, Indonesia*

The Use of Alkaline Pretreatment on Bioethanol Production

11:10-11:30 3WC-O19

Felix Kilian Haiduk and Carsten Mai

*Georg-August Universität Göttingen, Germany*

Effect of Hot-water Hemicellulose Extraction of Wood Particles on Properties of Particle Boards made thereof

11:30-11:50 3WC-O20

XinWei Miao and JunWen Pu

*Beijing Forestry University, China*

In situ polymerization of urea-formaldehyde pre-polymer in cell wall and induction of pulse-pressure impregnation on *Ailanthus altissima* green wood

11:50-12:10 3WC-O21

Takayuki Yamagishi, Yasuji Kurimoto and Shigeru Yamauchi

*Akita prefectural University, Japan*

Visualization of the cesium ions adsorbed onto Japanese cedar charcoals and their acetylated samples.

# Session 4-1: Composite Materials and Adhesion 1

March 16

11:15-11:45            4CA1-I01 *Invited Lecture*

Charles R. Frihart

*United States Department of Agriculture, USA*

Investigation of the interphase for understanding wood adhesion

11:45-12:05            4CA1-O01

Fauzi Febrianto, Tati Karliati, Wasrin Syafii and Imam Wahyudi

*Bogor Agricultural University, Indonesia*

Properties of Laminated Wood Bonded with Modified Gutta Percha

12:05-12:25            4CA1-O02

Minzhi Chen, Yan Chen, Xiaoyan Zhou, Bitao Lu, Meiping He and Xi Ling

*Nanjing Forestry University, China*

Effect of poly(ethylene glycol)s on adhesion property of soy-based adhesives

## ***Lunch Break***

13:20-13:40            4CA1-O03

Eka Alamsyah, Masaaki Yamada and Kinji Taki

*Institut Teknologi Bandung, Indonesia*

Curing Behavior of Phenol Formaldehyde Resin Adhesives: Effects of Direct Adding of Surian Wood Bark-powder into Pressure Temperature of Resin Adhesives

13:40-14:00            4CA1-O04

Yuliati Indrayani, Dina Setyawati, Sukma Kusuma, Tsuyoshi Yoshimura and Kenji Umemura  
*Tanjungpura University, Indonesia*

A novel utilization of agricultural fiber for wood based molding bonded with citric acid and sucrose

14:00-14:20            4CA1-O05

Zhongyaun Zhao and Kenji Umemura

*Kyoto University, Japan*

Effect of citric acid addition on adhesiveness of tannin and sucrose adhesive

14:20-14:40            4CA1-O06

Sukma Kusumah and Kenji Umemura

*Kyoto University, Japan*

Development of Particleboard made from Super Sweet Sorghum Bagasse (*Sorghum bicholor* spp) and Citric Acid

14:40-15:00 4CA1-O07

Ru Liu, Jinzhen Cao and Yao Peng  
*Beijing Forestry University, China*

Physical, mechanical, and thermal properties of various anionic surfactant modifiers used in in-situ synthesis of organo-montmorillonite inside wood flour

15:00-15:20 4CA1-O08

Ling-fei Ma  
*Zhejiang Agriculture & Forestry University, China*

Effect of additives on the hydration and flexural and compressive strength of wood flour and Magnesium Oxide Cement mixture

15:20-15:40 4CA1-O09

Toshimitsu Hata, Paul Bronsveld and Tomohiko Mitani  
*Kyoto University, Japan*

Microstructural observation of graphene layers from carbonized wood

15:40-16:00 4CA1-O10

Min Lee, Sang-Bum Park and Sung-Phil Mun  
*Korea Forest Research Institute, Republic of Korea*

Photocatalysis and adsorption of formaldehyde and toluene by TiO<sub>2</sub> embedded carbonized medium density fiberboard

16:00-16:20 4CA1-O11

Yuxuan Wu, Ying Gao and Xudong Zhu  
*Beijing Forestry University, China*

Mechanical Properties of Structural Glulam Made by Cathay Poplar

16:20-16:40 4CA1-O12

Byung-Dae Park, Arif Nuryawan, Adya Singh, Valerio Causin, Chuck Frihart and Sang-Min Lee

*Kyungpook National University, Republic of Korea*

Crystalline Structure in Urea-Formaldehyde Resin Adhesives with Low Formaldehyde/Urea Mole Ratio

16:40-17:00 4CA1-O13

Wissanee Yingprasert  
*Prince of Songkla University, Thailand*

Effects of boric acid addition to urea formaldehyde resin on formaldehyde emission, termite resistance and shear strength of rubberwood plywood

***Poster session (17:10-18:40)***

## March 17

9:30-9:50 4CA1-O14

Yi Liu, Hongwu Guo, Jianmin Gao and Brian K. Via

*Beijing Forestry University, China*

Interface Properties of Loblolly Pine Bonded with Epoxy/Wood Pyrolysis Bio-oil Blended System

9:50-10:10 4CA1-O15

Yoko Kurokochi and Masatoshi Sato

*University of Tokyo, Japan*

Binderless board manufactured from rice straw in wet condition

10:10-10:30 4CA1-O16

Hiroe Narita, Shun Okubo and Masatoshi Sato

*The University of Tokyo, Japan*

Binderless boards manufactured from Chenopodium plants

10:30-10:50 4CA1-O17

Xiaoyan Zhou, Minzhi Chen, Yang Li, Lijuan Tang, Minzhu Pan and Xuehui Yang

*Nanjing Forestry University, China*

Improvement of the interfacial adhesion between wheat straw and urea-formaldehyde resin by means of dielectric barrier discharge (DBD) plasma treatment

10:50-11:10 4CA1-O18

Saori Niwa, Masaki Okamoto, Rie Makise, Itsuro Higuchi, Hirokazu Ito and Yoshikuni

Teramoto

*Gifu University, Japan*

Elucidation of compatibilizing effect for WPC production

11:10-11:30 4CA1-O19

Suiyi Li and Dagang Li

*Nanjing Forestry University, China*

Electrically conductive charcoal powder/ultra-high molecular weight polyethylene composites

11:30-11:50 4CA1-O20

Sasa Sofyan Munawar, Muhammad Wahyu Darajat, Ismail Budiman, Mohammad Gopar and

Wida Banar Kusumaningrum

*Indonesian Institute of Sciences, Indonesia*

The effect of aggregate types and composition on the physical and mechanical properties of mortar for train carriage floor

11:50-12:10 4CA1-O21

Subyakto Mr, Muhammad Wahyu Darajat, Sasa Sofyan Munawar, Mohammad Gopar, Ismail

Budiman and Wida Banar Kusumaningrum

*Indonesian Institute of Sciences, Indonesia*

The sound absorption and thermal properties of mortar by effect of aggregate types and composition

## Session 4-2: Composite Materials and Adhesion 2

March 16

11:15-11:45          4CA2-I01 *Invited Lecture*

Lars Berglund

*Royal Institute of Technology, Sweden*

New materials from nanocellulose – towards nanostructural control

11:45-12:05          4CA2-O01

Antonio Norio Nakagaito, Hitoshi Takagi and Sohtaroh Kanzawa

*The University of Tokushima, Japan*

Hybrid nanocomposites made of polylactic acid reinforced with cellulose and chitin nanofibers

12:05-12:25          4CA2-O02

Qiaoyun Deng and Dagang Li

*Nanjing Forestry University, China*

Preparation and performance of softwood pulp nano cellulose reinforced poly (vinyl alcohol) composites

### ***Lunch Break***

13:20-13:40          4CA2-O03

Marta Fortea-Verdejo, Koon Yang Lee and Alexander Bismarck

*University of Vienna, Austria*

Making the most of fibre off-cuts: Using nanocellulose as binder to create hierarchical composites

13:40-14:00          4CA2-O04

Tobias Keplinger, Etienne Cabane and Ingo Burgert

*ETH Zurich, Switzerland*

Versatile Strategies for Grafting Polymers to Wood Cell Walls

14:00-14:20          4CA2-O05

Evi Oktavia and Toshiharu Enomae

*University of Tsukuba, Japan*

Electric power generation from vibration of paper

14:20-14:40          4CA2-O06

Li Jiao, Yuan-yuan Li, Guan-lian Li and Hong-qi Dai

*Nanjing Forestry University, China*

Properties of cellulose nanofiber reinforced cement based composites

14:40-15:00 4CA2-O07

Minna Hakalahti, Arto Salminen, Jukka Seppälä, Tekla Tammelin and Tuomas Hänninen  
*VTT Technical Research Centre of Finland, Finland*

Customizing the mechanical performance of water stable TEMPO oxidized cellulose nanofibril films

15:00-15:20 4CA2-O08

Hiroataka Koga and Masaya Nogi

*Osaka University, Japan*

Flexible paper electronics prepared by using a papermaking technique

15:20-15:40 4CA2-O09

Valentina Guccini, Bernd Wicklein, Christian Aulin and German Salazar-Alvarez

*Stockholm University, Sweden*

Cellulose Nanofibrils and Graphene Oxide bionanocomposite: characterisation and improvement of the barrier and mechanical properties

15:40-16:00 4CA2-O10

Jinxia Ma, Yajun Tian and Li Jiao

*Nanjing Forestry University, China*

Preparation of ZnO/Starch Nanocomposite and its Application on Coating

16:00-16:20 4CA2-O11

Henrikki Mertaniemi and Olli Ikkala

*Aalto University, Finland*

Functionalization of nanofibrillated cellulose for increased wet strength and applications in biomedicine

16:20-16:40 4CA2-O12

Reina Tanaka, Hiromasa Hondo, Tsuguyuki Saito and Akira Isogai

*The University of Tokyo, Japan*

Influences of rigidity of cellulose nanofibrils on length evaluation using shear viscosity measurement

16:40-17:00 4CA2-O13

Takashi Nishino, Hiroaki Ito and Chizuru Hongo

*Kobe University, Japan*

Silver Modification of TEMPO Oxidized Cellulose Nanofibers

***Poster session (17:10-18:40)***

## March 17

9:30-9:50 4CA2-O14

Olli Ikkala

*Aalto University, Finland*

Combining supramolecular functionalities with nanocelluloses

9:50-10:10 4CA2-O15

Tetsuji Inui, Hirotaka Koga, Masaya Nogi and Katsuaki Suganuma

*Osaka University, Japan*

Small and Flexible Nanopaper Antenna for Wearable Electronics

10:10-10:30 4CA2-O16

Vivian Merk, Munish Chanana, Sabyasachi Gaan and Ingo Burgert

*ETH Zurich, Switzerland*

Bioinspired Mineralization of Wood on Nano- and Submicron Level for Green Fire Retardancy

10:30-10:50 4CA2-O17

Chia-Yuan Chang and Feng-Cheng Chang

*National Taiwan University, Taiwan*

Developing lignin-based electrospun fibrous materials for filtration

10:50-11:10 4CA2-O18

Kei-Kei Chan and Feng-Cheng Chang

*National Taiwan University, Taiwan*

Effects of processing parameters on structure and diameters of electrospun lignin fibers

11:10-11:30 4CA2-O19

Thanit Montrikittiphant, Martin Hervy, Min Tang, Charlotte K Williams, Alexander

Bismarck and Koon-Yang Lee

*University College London, United Kingdom*

Making the most out of bacterial cellulose: Renewable Thermoplastic NanoPapre

11:30-11:50 4CA2-O20

Hongzhi Liu, Youming Yu and Fangli Sun

*Zhejiang Agriculture & Forestry University, China*

Studies of cellulose nanowhisiker-reinforced thermosetting phenolic resin prepared via in situ curing

11:50-12:10 4CA2-O21

Hiroyuki Yano, Haruo Omura, Hiroaki Okumura, Yuka Kitano and Fumiaki Nakastubo

*Kyoto University, Japan*

Reinforcement of thermoplastic resins using chemically modified cellulose nanofibers

## Session 5: Cell Formation and Wood Structures

March 16

11:15-11:45      5FS-I01 *Invited Lecture*

Fang Chen

*University of North Texas, USA*

Exploring candidate genes for catechyl lignin biosynthesis via RNA-Seq data in two distinct plant species

11:45-12:05      5FS-O01

Soichiro Noda, Masatoshi Yamaguchi, Nobuyuki Nishikubo, Nozomu Sakurai, Masaomi Yamamura, Takefumi Hattori, Hideyuki Suzuki, Daisuke Shibata, Taku Demura, Shiro Suzuki and Toshiaki Umezawa

*Kyoto University, Japan*

An E3 ubiquitin ligase involved in secondary wall formation

12:05-12:25      5FS-O02

Ugai Watanabe, Hisashi Abe, Ryo Funada, Satoshi Nakaba and Yusuke Yamagishi

*Chiba Institute of Technology, Japan*

Local expression of genes encoding tubulin isotypes in the cambium of *Cryptomeria japonica*

***Lunch Break***

***Poster session (13:00-14:30)***

14:40-15:10      5FS-I02 *Invited Lecture*

Futoshi Ishiguri

*Utsunomiya University, Japan*

Relationship between growth characteristics and wood properties in tropical trees

15:10-15:30      5FS-O03

Kei'ichi Baba and Takahisa Hayashi

*Kyoto University, Japan*

Characterization of tension wood formed in poplar overexpressing polygalacturonase

15:30-15:50      5FS-O04

Rumi Kaida, Eiichi Obataya, Masato Yoshida, Futoshi Ishiguri, Jun Tanabe, Toru Taniguchi, Manabu Kurita, Kei'ichi Baba and Takahisa Hayashi

*Tokyo University of Agriculture, Japan*

Effects of xyloglucan on mechanical properties and sway of poplar stems

15:50-16:10      5FS-O05 Shengcheng Zhai, Biao Pan, Zhaoyang Xu, Yoshiki Horikawa,

Tomoya Imai and Junji Sugiyama

*Nanjing Forestry University, China*

Cell wall ultrastructure of palm fibers

16:10-16:30 5FS-O06

Md Hasnat Rahman, Yusuke Yamagishi, Kayo Kudo, Yugo Matsuoka, Shahanara Begum, Yuichiro Oribe, Satoshi Nakaba and Ryo Funada

*Tokyo University of Agriculture and Technology, Japan*

Cambial reactivation and xylem differentiation induced by localized heating of stems in conifer sawara (*Chamaecyparis pisifera*) trees

16:30-16:50 5FS-O07

Takao Itoh, Biao Pan, Jiayan Luo, Yawen Zheng, Yaping Jiang and Zhiyin Wang

*Nara National Research Institute for Cultural Properties, Japan*

Hormonal induction of gum or resin in Chinese fir and agarwood

16:50-17:10 5FS-O08

Widyanto Dwi Nugroho, Shofi Rukhama and Sri Rahayu

*Universitas Gadjah Mada, Indonesia*

Changes in Wood Anatomical Characteristics of *Falcataria mollucana* due to Infection of *Uromycladium tepperianum*

17:10-17:30 5FS-O09 Yusuke Yamagishi, Suzuka Ide, Joto Yoshimoto, Ugai

Watanabe, Satoshi Nakaba and Ryo Funada

*Tokyo University of Agriculture and Technology, Japan*

Effect of partial desiccation on induction of secondary xylem like tracheary element from cultured cells of hybrid poplar

17:30-17:50 5FS-O10

Satoshi Nakaba, Izumi Arakawa, Hikaru Morimoto, Naoki Takata, Makoto Yoshida, Yuzou Sano and Ryo Funada

*Tokyo University of Agriculture and Technology, Japan*

Cell biological analysis of the death of long-lived ray parenchyma cells

17:50-18:10 5FS-O11

Ridwan Yahya, Yoshiki Horikawa and Junji Sugiyama

*University of Bengkulu, Indonesia*

Observed Microfibril Angle of fiber adjacent and distant from vessel by polarised light microscopy

18:10-18:30 5FS-O12

Katsuhiko Takata, Tomohiro Miyashita, Seishiro Taki, Yoichi Hasegawa, Satomi Akiyama and Miyako Sato

*Akita Prefectural University, Japan*

Wood and growth properties of the cultivars with resistance to snow-damage of Japanese cedar

18:30-18:50 5FS-O13

vilma Bayramzadeh, Babak shahkaram and Alireza pajuhandeh

*Islamic Azad University, Iran*

Response of anatomical structures in *Carpinus orientalis* roots to soil Erosion in Hassanabad valley, Iran

## March 17

9:20-9:50 5FS-I03 Arata Yoshinaga *Invited Lecture*

*Kyoto University, Japan*

Immunolocalization of lignin in wood cell walls using monoclonal antibodies

9:50-10:10 5FS-O14

Yuki Tobimatsu, Satoshi Aruga, Dorien Van de Wouwer, Allen Eric, Robert Kumpf, Hiroshi Kamitakahara, Toshiyuki Takano, Bartel Vanholme, Boerjan Wout and John Ralph

*Kyoto University, Japan*

Visualization of cell wall lignins by metabolic labeling and bioorthogonal click chemistry

10:10-10:30 5FS-O15

Yuto Hanaya, Dan Aoki, Yasuyuki Matsushita, Masato Yoshida, Katsushi Kuroda, Ruka Takama and Kazuhiko Fukushima

*Nagoya University, Japan*

Chemical mapping of organic/inorganic chemicals in freeze-fixed Ginkgo biloba by the cryo-TOF-SIMS/SEM system

10:30-10:50 5FS-O16

Paavo Aleks Penttilä, Junji Sugiyama and Tomoya Imai

*Kyoto University, Japan*

Effects of reaction conditions on cellulose structures synthesized *in vitro*

10:50-11:10 5FS-O17

Yasuyuki Miyagawa, Yuki Tobimatsu, Takahito Mizukami, John Ralph, Hiroshi Kamitakahara and Toshiyuki Takano

*Kyoto University, Japan*

NMR Studies of Phenyl Glycoside-Type Lignin-Carbohydrate Complexes (LCCs) in Wood Cell Walls

11:10-11:30 5FS-O18

Hiroshi Nishimura, Akihiro Kamiya, Masato Katahira and Takashi Watanabe

*Kyoto University, Japan*

Structural studies on the chemical linkage between lignin and polysaccharide

11:30-11:50 5FS-O19 Takahisa Hayashi, Chisato Yasukawa, Shoko Aoki, Miki Nonaka, Masateru Itakura, Rumi Kaida, Teruaki Taji, Yoichi Sakata, Hiroya Ohbayashi, Tomoko Seyama, Iwao Uehara, Kei'ichi Baba and Masaharu Tsubokura

*Tokyo University of Agriculture, Japan*

Infiltration of Radiocesium and Radioiodine in the Trees of Fukushima Forests

11:50-12:10 5FS-O20

Hiroki Sakagami, Junji Matsumura, Tetsuya Tsuda and Susumu Kuwabata

*Kyushu University, Japan*

Behavior of wood cells treated with ionic liquid during drying

## Session 6: Biodegradation and Preservation of Wood

March 16

13:00-13:30 6BP-I01 *Invited Lecture*

Emma Master

*University of Toronto, Canada*

Elucidating the lignocellulolytic capability of *Pycnoporus coccineus* through combined proteomic and analytical characterization of enzyme activities

13:30-13:50 6BP-O01

Chiaki Hori

*RIKEN, Japan*

Analysis of the *Phlebiopsis gigantea* genome, transcriptome and secretome gives insight into its pioneer colonization strategies of wood

13:50-14:10 6BP-O02

Wenhui Geng, Yongcan Jin, Hasan Jameel and Sunkyu Park

*Nanjing Forestry University, China*

Approaches to achieve high-solid enzymatic hydrolysis using autohydrolysis pretreated hardwood and dilute-acid pretreated corn stover

14:10-14:30 6BP-O03

Taku Uchiyama, Masahiro Samejima and Kiyohiko Igarashi

*University of Tokyo, Japan*

Processive movement observation of four cellulases from cellulolytic bacteria *Cellulomonas fimi*

14:30-14:50 6BP-O04

Krisna Septiningrum, Hiroshi Ohi and Akihiko Kosugi

*University of Tsukuba, Japan*

The GH67  $\alpha$ -glucuronidase of *Paenibacillus curdlanolyticus* B-6 removes hexenuronic acid groups from xylooligosaccharides and has potential application in bio-bleaching

14:50-15:10 6BP-O05

Kiwamu Umezawa, Kouta Takeda, Takuya Ishida, Kiyohiko Igarashi, Nobuhumi Nakamura, Masahiro Samejima, Hiroyuki Ohno and Makoto Yoshida

*Tokyo University of Agriculture and Technology, Japan*

Characterization of a Pyrroloquinoline Quinone-Dependent Sugar Dehydrogenase Homologue from the Basidiomycete *Coprinopsis cinerea*

**Break**

15:30-16:00 6BP-I02 *Invited Lecture*

Renato G. Reyes

*Central Luzon State University, Philippines*

From Forestry Wastes to Rice Straw and Forest Leaf Litters for Medicinal Fungi: A Paradigm Shift in Mushroom Cultivation in the Philippines

16:00-16:20          6BP-O06

Tomoko Wada, Rie Endo, Coskun Kose, Dilek Dogu, Kamile Tirak, Nural Yilgor, Junji Sugiyama, Kiyohiko Igarashi and Nami Kartal

*National Research Institute for Cultural Properties, Tokyo, Japan*

A survey of microbial deterioration in archaeological wood excavated from Yenikapi, Istanbul, Turkey

16:20-16:40          6BP-O07

Alina Lozhechnikova and Monika Österberg

*Aalto University, Finland*

Sustainable surface modification of wood

16:40-17:00          6BP-O08

Rie Endo and Junji Sugiyama

*Toyo Feather Industry Co., Japan*

Improving the stability of archaeological waterlogged wood by adding multivalent-metal salt process in feather-keratin method

***Poster session (17:10-18:40)***

## March 17

9:20-9:50            6BP-I03 *Invited Lecture*

Houfeng Li

*National Chung Hsing University, Taiwan*

Termite infestation pattern in trees

9:50-10:10         6BP-O09

S. Nami Kartal, Evren Terzi and Lauri Rautkari

*Faculty of Forestry, Istanbul University, Turkey*

Role of nano particles in prevention of mold growth

10:10-10:30       6BP-O10

Syahidah, Takeshi Katayama, Toshisada Suzuki, Yasuhiko Asada, Yoshito Ohtani and Wakako Ohmura

*Kagawa University, Japan*

Antitermite and antifungal activities of gofasa (*Vitex cofassus* Reinw.) heartwood extract

10:30-10:50       6BP-O11

Hiroki Watanabe, Yoshiyuki Yanase and Yoshihisa Fujii

*Kyoto University, Japan*

Evaluation of larval feeding activity of the bamboo powder-post beetle *Dinoderus minutus* using acoustic emission monitoring

10:50-11:10       6BP-O12

Ruibo Li, Ryo Narita, Shinsuke Marumoto, Hiroshi Nishimura, Mitsuyoshi Yatagai, Takashi Fujita and Takashi Watanabe

*Kyoto University, Japan*

Characterization of Antivirus Activities of Wood and Bamboo Vinegar

11:10-11:30       6BP-O13

John Allexander, Ferry Bongers, Julian Marcroft, Simon Aicher and Gerhard Dill-Langer

*Accsys Technologies, United Kingdom*

Structural testing of Accoya wood in wet and dry conditions

11:30-11:50       6BP-O14

Teruhisa Miyauchi and Ikuo Momohara

*Hokkaido Research Organization, Japan*

Quantitative determination of quaternary ammonium compounds in treated wood using ultra high performance liquid chromatography with evaporative light scattering detection.

11:50-12:10       6BP-O15

Fangli Sun, Binbin Liu, Lingfei Ma, Hongzhi Liu and Yuhui Zhang

*Zhejiang Agriculture and Forestry University, China*

Polyacrylic acid (PAA)/polyethylene glycol(PEG) hydrogel with interpenetrating network structure

# Session 7: Biorefinery

March 16

11:15-11:45        7BR-I01 *Invited Lecture*

Tatsuhiko Yamada

*Forestry and Forest Products Research Institute, Japan*

Development of lignin based functional materials for the establishment of rural area biorefinery system

11:45-12:05        7BR-O01

Marc Borrega and Herbert Sixta

*Aalto University, Finland*

Post-hydrolysis of Kraft paper pulp for the production of dissolving pulp and xylo-oligosaccharides

12:05-12:25        7BR-O02

Kyoko S. Katsumata, Supachineekan Tanarugamorn, Xiumei Zhang and Yuji Matsumoto

*University of Tokyo, Japan*

The effect of age on the alkaline pulping of Eucalyptus wood

***Lunch Break***

***Poster session (13:00-14:30)***

14:40-15:00        7BR-O03

Saara Hanhikoski, Klaus Niemelä and Tapani Vuorinen

*VTT Technical Research Centre of Finland, Finland*

The potential of neutral sulphite biorefinery

15:00-15:20        7BR-O04

Chuchu Chen, Dagang Li, Hiroyuki Yano and Kantaro Abe

*Nanjing Forestry University, China*

Preparation of high crystalline  $\alpha$ -chitin hydrogel using a simple NaOH treatment at low temperatures

15:20-15:40        7BR-O05

Annariikka Roselli, Agnes Stepan, Michael Hummel and Herbert Sixta

*Aalto University, Finland*

IONCELL-P, an ionic liquid based hemicellulose extraction method.

15:40-16:00        7BR-O06

Yukiko Enomoto-Rogers, Noreen G.V. Fundador and Tadahisa Iwata

*University of Tokyo, Japan*

Synthesis of xylan derivatives and their applications

16:00-16:20 7BR-O07

Anne Michud, Shirin Asaadi, Michael Hummel and Herbert Sixta  
*Aalto University, Finland*

IONCELL-F: Production of high tenacity man-made cellulose fibers by dry-jet wet spinning from cellulose-ionic liquid solution

16:20-16:40 7BR-O08

Jie Jiang, Liang Liu, Wenbo Ye, Mu Chen and Yimin Fan  
*Nanjing Forestry University, China*

Preparation and characterization of cellulose nanofibers by laccase-TEMPO oxidation

16:40-17:00 7BR-O09

Houssine Sehaqui, Uxua Perez de Larraya, Michael Sander, Philippe Tingaut and Tanja Zimmermann  
*EMPA, Switzerland*

Contaminants adsorption onto nanofibrillated cellulose for water purification

17:00-17:20 7BR-O10

Haiying Wang, Dagang Li, Hiroyuki Yano and Kentaro Abe  
*Nanjing Forestry University, China*

Obtaining tough cellulose II nanofibers with high thermal stability from wood

17:20-17:40 7BR-O11

Shukichi Tanaka, Tadahisa Iwata and Masatoshi Iji  
*NEC Corp., Japan*

Development of cardanol-bonded cellulose thermoplastic: influence of solvents in its heterogeneous synthesis process

17:40-18:00 7BR-O12

Shiro Saka, Eiji Minami, Harifara Rabemanolontsoa and Haruo Kawamoto  
*Kyoto University, Japan*

The 3rd Generation Bioethanol Production Process with Acetic Acid Fermentation from Lignocellulosics

18:00-18:20 7BR-O13

Fabio Minoru Yamaji, Hiroyuki Yamamoto, Gabriela Tami Nakashima, Carlos Roberto Sette Jr, Alessandra Luzia Da Róz and Joao Lucio Barros  
*UFSCar, Brazil*

Biomass for solid biofuel production in Brazil

18:20-18:40 7BR-O14

Denny Irawati  
*Faculty of Forestry Gadjah Mada University, Indonesia*

Bioenergy Properties of Tree Branch from Several Species Planted in Indonesia

## March 17

9:30-9:50 7BR-O15

Daisuke Ishii and Tadahisa Iwata

*University of Tokyo, Japan*

Thermal and Rheological Properties of Poly(caffeic acid) as Biomass-derived Heat-resistant Polyester

9:50-10:10 7BR-O16

Jaehyuk Jang

*Kangwon National University, Republic of Korea*

Effect of enzymatic hydrolysis on the morphological characteristics of lignocellulose nanofibers with different lignin contents

10:10-10:30 7BR-O17

Dou-yong Min, Hou-min Chang, Hasan Jameel, Lucian Lucia and Yong-can Jin

*Nanjing Forestry University, China*

The Structural Changes of Corn Stover Lignin Induced by Pretreatments and Its Impact on Enzymatic Hydrolysis

10:30-10:50 7BR-O18

Rie Takada and Takashi Watanabe

*Kyoto University, Japan*

Analysis of unproductive adsorption of cellulase on lignin

10:50-11:10 7BR-O19

Toshiaki Umezawa, Masahiro Sakamoto, Taichi Koshiba, Takefumi Hattori, Shiro Suzuki and Masaomi Yamamura

*Kyoto University, Japan*

Lignin Metabolic Engineering in *Oryza sativa* for Biomass Refining

11:10-11:30 7BR-O20

Chenhuan Lai, Maobing Tu, Qiang Yong and Shiyuan Yu

*Nanjing Forestry University, China*

Contrasting effects of extractable lignin and bulk lignin on enzymatic hydrolysis of pretreated sweetgum

11:30-11:50 7BR-O21

Yuxiang Huang and Guangjie Zhao

*Beijing Forestry University, China*

Comparisons of Pore Properties and Surface Functional Groups of Activated Carbon Fibers from Liquefied Wood by KOH and Steam Activation

11:50-12:10 7BR-O22

Tsutomu Suzuki and Kyoko Suzuki

*Kitami Institute of Technology, Japan*

Wood refinery by two-steps iron-catalyzed carbonization