

The Third International Wood Science Symposium

1st-2nd November, 2000

Wood Research Institute, Kyoto University

The Third International Wood Science Symposium sponsored by JSPS as the Core University Program will be held in November 1-2, 2000 at Mokushitsu Hall (Wood Composite Hall) of the Wood Research Institute (WRI), Kyoto University.

More than 80 papers will be presented at the symposium to share the fruitfull results of the program among the participants.

Here we describe the tentative schedule of the symposium.

Social events

Opening ceremony:

November 1: 9:00 (Mokushitsu Hall)

Banquet:

November 1: 18:30 (Daigo-plaza Hotel)

Closing ceremony:

November 2: 16:00 (Mokushitsu Hall)

Scientific programs

Keynote speakers:

November 1: Mokushitsu Hall

Prof. Dodi Nandika: Population size and foraging territory of wood destroying termite in Indonesia.

Prof. Kohei Komatsu: Research and development of moment-resisting joints for glulam frame structures.

Presentations:

Day 1st: November 1 (Wednesday)

Mokushitsu Hall

Softening behavior of bamboo in condition of oven dry by heat or steam treatment (B. Subiyanto et al.)

Study on the impregnation and radiation emulsion into betung bamboo (*Dendrocalamus asper*) (M. Utama et al.)

Fire performance of Albizia compressed wood using cone calorimeter (W. Dwianto et al.)

Application of plasma treatment for wood industry (T. Uehara)

Improvement of drying of tropical wood species by HF-drying (Y. Kawai et al.)

Drying properties and drying schedules of several wood species from Indonesia (E. Basri et al.)

Machinability of some Indonesian woods (E. Bakar et al.)

Application of wood charcole to control of humidity condition (T. Nakayama et al.)

Quality of rattan canes (W. Abasolo et

al.)

Effect of thickening growth rate upon the wood quality of planted *Acacia* species-a comparative study (H. Yamamoto et al.)

Wood quality of planted teak (T. Okuyama et al.)

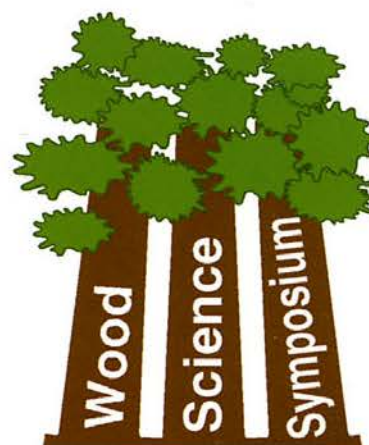
Bleaching and preserva treatment of Bamboo strips for Bamboo-wood parquet (A. Zaidon et al.)

Moso bamboo as a board material (K. Matsumoto et al.)

Effects of cutting time of bamboo on hydration temperature and compression strength of bamboo-cement composite (M. Gopar et al.)

Manufacture of bamboo-zephyr board as plywood substitution for concrete-block pallet application (Sudijono et al.)

Wood metaborate composites using the borax solution system and their properties (L. Lin et al.)



Rapid production of oil palm cement bonded board using gaseous or supercritical carbon dioxide curing (D. Hermawan et al.)

Research and development on kenaf utilization in Japan and abroad (K. Sameshima)

Reinforcement of CBB with kenaf fibers (L. F. Ma et al.)

Seminar Room in Chemical Research Institute

Growth rate and growth ring in Mindi (*Melia azedarach* Linn.) wood trees grown in Yogyakarta (S.N. Marsoem et al.)

Effects of cross section area and column length on the maximum crushing strength of red meranti wood (*Shorea leprosula* Miq.) (S. Sadiyo et al.)

Wood anatomy and peelability (Y. I. Mandang)

Wood identification of Fagaceae species in Japan by DNA polymorphism (M. Oyama et al.)

Distribution of hemicellulose and pectin during tissue development in bamboo (*Phyllostachys aurea* Carr.) (K. Suzuki et al.)

Juvenile-mature wood demarcation in tropical fast-grown plantation trees (I. Furukawa et al.)

Cytological characteristics of parenchyma cells associated with heartwood formation in teak (*Tectona grandis* L.) - comparison between two plantation sites, West and Central Java- (T. Nobuchi et al.)

Sinapic acid in the true precursor of syringyl lignin in angiosperm (K. Yamauchi et al.)

Stilbene synthase from Japanese red pine: its role in stilbenoid biosynthesis (A. Kodan et al.)

Primary cellulose metabolism in poplar (T. Hayashi et al.)

Expression of xyloglucan endotransglycosylase during cellulose biosynthesis in anxin-treated pea stems (T. Takeda et al.)

The impact of T-DNA tagging line for the rapid analysis of gene-expression patterns (Y.-W. Park et al.)

Over expression of manganese peroxidase by recombinant wood rot fungi (Y. Honda et al.)

DNA-mediated transformation of *Ceriporiopsis subvermispora* (H. Sano et al.)

Sustainable mangrove forest management as wildlife reserve in north (T. M. Hanafiah et al.)

Forest certification system prerequisites for the sustainable use of forest products (M. Sugimori)

Composing of organic wastes into multifunctional recycle (M. Terazawa et al.)

Land-derived organic matter in surface

sediments from some Japanese lakes (Y. Kamihara et al.)

Day 2nd: November 2 (Thursday)

Mokushitsu Hall

Effect of temperature and steam on particle to physical and mechanical properties of particleboard (B. Subiyanto et al.)

Particleboards with steam pre-treated strands (N. Sekino et al.)

Study on the use natural rubber latex-styrene copolymer as plywood adhesive (E. Hermiati et al.)

Fracture toughness of glue-line-evaluation through experiment and numerical analysis based on block shear test (P. Ynag et al.)

Thermal properties of carbon/graphite phenolic spheres and its application (Subyakto et al.)

Utilization of oil palm trunk for wood as building material (N. Y. Sulistywati et al.)

The mechanical, morphological and biodegradability properties of composites of wood flour and poly lactic acid (F. Febrianto et al.)

The development chemical treatment Palmyra fiber reinforced plastic (Minpin et al.)

Hevea brasiliensis as a timber plantation species in Malay- current status -(E.-D. Wong et al.)

Chemical characterization of wood vinegar and its application to bio-control agent (T. Nakai et al.)

Pre-oxidation of bamboo particles with peracids for initiation of graft copolymerization (M. Yoshinobu et al.)

Wood flour-poly vinylalcohol molded composites (K. Ozaki et al.)

High strength wood based materials (H. Yano)

Present status of an important pest termite genus, *Coptotermes*, in Indonesia (Y. Takematsu et al.)

Study on basic biology of *Reticulitermes speratus* (Kolbe) with both field and laboratory trials in Kochi (J. Wang et al.)

Determination of termites feeding activities by acoustic emission (AE) in various relative humidity (RH) conditions (S. Yusuf et al.)

Effects of temperature change on AE generated by termite activity. (Y. Yanase et al.)

Termite attacks to high-temp dried wood (S. Doi et al.)

Dry wood termite resistance of polymerized tributyltin acrylate (TBTA) and acetylated Indonesian and USA wood (Y. Indrayani et al.)

Biodeterioration resistance of three polystyrene Indonesian woods (Y. S. Hadi et al.)

Supercritical fluid (SCF) application to the preservative treatment of wood com-

posites: Treatability and effect of SCF treatment on the strength properties of wood composites (M. Muin et al.)

Behavior of chromium-copper-arsenite (CCA) treated wood after fast pyrolysis (T. Hata et al.)

Weatherability study on Durian and Kecapi wood (W. S. Subowo et al.)

Performance of PF-resin treated particle board after exposed to natural weathering at Serpong-Indonesia (Y. Sudiani et al.)

Seminar Room of Chemical Research Institute

Chemical characteristics of teak wood at various age classes (W. Syafii)

The effects of forest fire to chemical properties of teak wood (Y. Suranto)

Starch content on culm of three bamboo species (Y. Suranto)

Evaluation of chemical of tropical woods extractive responsible for durability (R. Yusiasih et al.)

The acidity of some tropical plantation wood (D. S. Nawawi et al.)

Effects of lognin on composite formation of bacterial cellulose with hemicellulose (L. Indrati et al.)

Elementary chlorine free bleaching of kraft pulp from several wood species of east Kalimantan-Indonesia (S. Muladi et al.)

Bio-bleaching of UKP by using laccase secreted from newly isolated PSM01 and mediator HBT (B. Prasetya et al.)

Thermotolerant wood rotting basidiomycetes *Lenzites* sp. -Newly isolated from tropical rain forest in Thailand (C. Khanongnuch et al.)

Screening and biotechnological application of thermotolerant ligninolytic fungi in the field of wood biomass science (T. Watanabe et al.)

Free radical reactions controlled by low molecular mass metal complexes and extracellular peroxidases -Its potentials for biomass conversion (T. Watanabe et al.)

Control of manganese peroxidase production in the white-rot basidiomycetes, *Pleurotus ostreatus* (H. Kamitsuji et al.)

Pretreatment of wood biomass by white-rot basidiomycetes and steam explosion for the production of glucose (M. Kuwahara et al.)

Mycorrhizal symbionts from tropical trees in Indonesia (Y. Setiadi)

Nitrogen fixation microorganisms and mycorrhiza on several crops and trees for reforestation and agroforestation in North Sumatra (A. S. Asmarlaili et al.)

The effectiveness of the indigenous AM and EM mycorrhiza species versus commercial mycorrhiza on *Eucalyptus* seedling (T. Sabrina et al.)

Research on utilization of arbuscular mycorrhiza (AM) fungi in tropical estate crops (H. Widiastuti)

Future research on mycorrhiza associated with estate crops as oxalic acid producing fungi (H. Widiastuti)

A possible role of glyoxylate cycle enzymes in ectomycorrhizal fungus during

symbiosis with woody plant (T. Hattori et al.)

Distribution of isocitrate lyase and malate sythase among wood-rotting fungi (E. Munir et al.)

A new oxalate producing enzyme glyoxylate dehydrogenase from wood destroying fungi (T. Tokimatsu)

A Trip to UPM, Malaysia for Exchange of MOU

Mikio Shimada, WRI, Kyoto University

UPM (Universiti Putra Malaysia formerly called Universiti Pertanian Malaysia) has been recognized to be a member of the collaborative universities for the JSPS Core University Program, which is now being conducted by the universities and research organizations in three countries of Japan, Indonesia, and Malaysia. Alternatively, on 15 March 2000, Wood Research Institute(WRI) and UPM have reached the agreement of the MOU (Memory of Understanding) for further acceleration of mutual academic exchange as shown in photo below. The photo shows that Prof. Masaaki Kuwahara, Director of WRI, Kyoto University and Prof. Tan Sri Dato' Dr. Syed Jalaluding Syed Salim, Vice Chancellor, UPM are signing on MOU described in both English and Japanese.

Taking advantage of attending the MOU exchange ceremony, we were giving a chance to talk to the staffs and students at Faculty of Forestry, UPM. The short lectures delivered were as follows.

1. Prof. M. Kuwahara: JSPS Core University Program in the Field of Wood Science in Indonesia.
2. Prof. S. Kawai: Manufacturing Oriented Medium Density Fiberboards from Kenaf and Oil Palm fibers.
3. Prof. M. Shimada: Biochemical Roles of Symbiotic and Saprophytic Mushroom Fungi in a Forest Ecosystem.

Another objectives of our visit to Malaysia are to investigate the present situation of sustainable management of oil palm industry and possible future plan of kenaf utilization in Malaysia.

First, we were guided around the oil palm plantation of Golden Hope Co. Ltd. by Dr. Razali who visited WRI to exchange information on zero emission concept concerning is very well conducted not to burn wasteful matters but to re-

turn them as organic fertilizers of compost to the orchard. Second, we visited a small town of Sungkai about 100 miles away from Kuala Lumpur to see a site in which kenaf plantation will be made by Mr. Ohtsuka from Japan with financial aid from the Government of Malaysia, since the kenaf plant has been drawing keen attention as a third promising plant for the future renewable resource as a post industry of rubber trees and oil palms.

Taking account of high plantation technology achieved successfully in Malaysia, they say that that fast growing kenaf plantations will be promising to produce a wide variety of fiber products in future from both ecological and industrial viewpoints.

As a result of our trip, we can conclude that integrated joint research work supported by the JSPS Core University Program will be certainly accelerated among the three countries to make fruitful prod-



Prof. Masaaki Kuwahara, Director of WRI, Kyoto University (right) and Prof. Tan Sri Dato' Dr. Syed Jalaluding Syed Salim, Vice Chancellor, UPM (left) are signing on MOU.

From the editorial board

Exchange of Scientists FY 2000

The JSPS Core University Program between Wood Research Institute (WRI), Kyoto University and the Research and Development Center for Applied Physics, LIPI in the field of Wood Science allocates travel expenses for exchange of scientists. The following is the list of the exchange of scientists in FY 2000.

1) Scientist Exchange

From Japan to Indonesia

Dr. M. Fujita (Kyoto Univ.)

1, Jul. - 7, Jul.

Dr. S. Doi (Akita Wood Res. Insti.)

1, Jul. - 7, Jul.

Dr. M. Inoue (WRI, Kyoto Univ.)
15, Jul. - 24, Jul.
Dr. T. Arima (The Univ. Tokyo)
1, Aug. - 7, Aug.
N. Ando (The Univ. Tokyo)
5, Aug. - 13, Aug.
Dr. T. Uehara (Shimane Univ.)
20, Nov - 26, Nov.

From Indonesia to Japan

Dr. R. Yusiasih (RDCAP - LIPI)
1, Aug. - 31, Jan (2001).
Dr. Y. Suranto (Gadjah Mada Univ.)
30, Oct. - 8, Nov.
Dr. Y. I. Mandang (For. Prod. and Socio-
Econ. R & D Center)
30, Oct. - 8, Nov.
Dr. S. Muladi (Mulawarman Univ.)
30, Oct. - 8, Nov.
Dr. N. A. Sulistyowati (Res. Inst. of Hu-
man Settle. Technol.)
30, Oct. - 8, Nov.
Dr. E. M. Alamsyah (Winaya Mukti
Univ.)
30, Oct. - 8, Nov.
Dr. Sudijono (RDCAP - LIPI)
30, Oct. - 8, Nov.
Dr. M. Utama (Center for R & D Isotopes
Radiation Technol. - BATAN)
30, Oct. - 8, Nov.
Dr. B. Prasetya (RDCAP - LIPI)
30, Oct. - 8, Nov.
Dr. H. Widiastuti (Biotech. Res. Unit for
Estate Crops)
30, Oct. - 8, Nov.
Dr. Y. Indrayani (Tanjung Pura Univ.)
30, Oct. - 8, Nov.
Dr. L. Indrarti (RDCAP - LIPI)
30, Oct. - 8, Nov.
Dr. F. Febrianto (Bogor Agric. Univ.)
30, Oct. - 8, Nov.
Dr. E. Hermiati (RDCAP - LIPI)
30, Oct. - 8, Nov.



2)Cooperative Research

From Japan to Indonesia

Dr. M. Shimada (WRI, Kyoto Univ.)
1, Jul. - 10, Jul.
Dr. T. Nobuchi (Kyoto Univ.)
1, Jul. - 10, Jul.
Dr. T. Morooka (WRI, Kyoto Univ.)
1, Jul. - 10, Jul.
Dr. G. Meshituka (The Univ. Tokyo)
8, Jul. - 16, Jul.
Dr. T. Okuyama (Nagoya Univ.)
24, Jul. - 12, Aug.
Dr. H. Yamamoto (Nagoya Univ.)
24, Jul. - 12, Aug.
Dr. M. Terazawa (Hokkaido Univ.)
26, Jul. - 4, Aug.
Dr. H. Ohashi (Gifu Univ.)
26, Jul. - 4, Aug.
Dr. Y. Kanagawa (Kochi Univ.)
1, Aug. - 10, Aug.
Dr. Y. Matsumoto (The Univ. Tokyo)
17, Aug. - 26, Aug.
Dr. T. Itoh (WRI, Kyoto Univ.)
18, Aug. - 27, Aug.
Dr. I. Iida (Kyoto Pref. Univ.)
30, Aug. - 8, Sept.
Dr. S. Kawai (WRI, Kyoto Univ.)
30, Aug. - 8, Sept.

From Indonesia to Japan

Dr. E. Basri (For. Prod. Socio-Econ. R &
D Center)
6, Aug. - 3, Nov.
Dr. W. Dwianto (RDCAP - LIPI)
21, Aug. - 18, Nov.
Dr. D. S. Nawawi (Bogor Agric Univ.)
6, Sept. - 4, Nov.
Dr. B. Subiyanto (RDCAP - LIPI)
10, Sept. - 8, Nov.
Dr. M. Gopar (RDCAP - LIPI)
14, Sept. - 12, Nov.
Dr. N. Sintawardani (RDCAP - LIPI)
15, Oct. - 13, Dec.
Dr. S. Sadiyo (Bogor Agric. Univ.)
26, Oct. - 4, Nov.
Dr. W. Syafii (Bogor Agric. Univ.)
26, Oct. - 4, Nov.
Dr. S. N. Marsoem (Gadjah Mada Univ.)
30, Oct. - 8, Nov.
Dr. Y. S. Hadi (Bogor Agr. Univ.)
30, Oct. - 8, Nov.
Dr. S. Yusuf (RDCAP - LIPI)
30, Oct. - 8, Nov.
Dr. Y. Setiadi (Bogor Agric. Univ.)
30, Oct. - 8, Nov.
Dr. E.-D. Wong (UPM)
30, Oct. - 5, Nov.
Dr. A. Subiyantono (Food Feed Div. -
LIPI)

3)Symposium Participants

Dr. A. Kusnowo (LIPI)
30, Oct. - 5, Nov.
Dr. A. Oemry (RDCAP - LIPI)
30, Oct. - 5, Nov.
Dr. S. Muzwar (LIPI)
30, Oct. - 5, Nov.
Dr. D. Nandika (Bogor Agric. Univ.)
30, Oct. - 5, Nov.
Dr. W. S. Subowo (RDCAP - LIPI)
30, Oct. - 5, Nov.
Dr. Z. Ashaari (UPM)
30, Oct. - 5, Nov.



**The Committee of International
Academic Exchange**

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