５．国際木質科学セミナーの記録

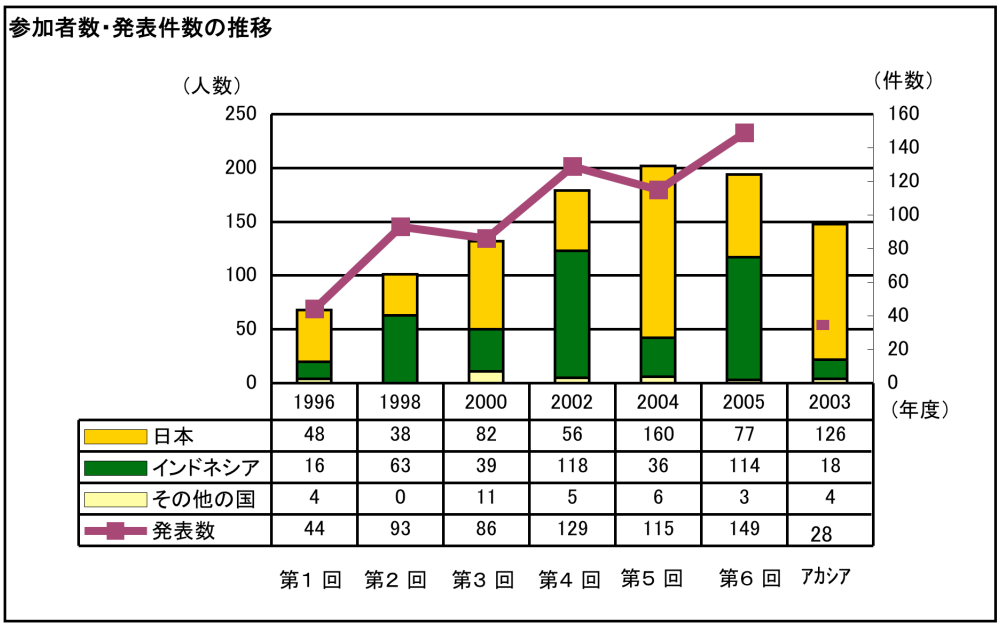
セミナー（国際木質科学シンポジウム）は、1996 年から隔年開催されており、これまでに５回、開催地は第１回が日本に始まって以降、インドネシアと交互に開催している。本シンポジウムは、アジアでは数少ない木質科学に特化したレベルの高い研究成果の発表と議論が展開されており、また、国際学会へ参加するチャンスの少ないインドネシアの研究者に対し、国際レベルの研究発表の場をもたらす貴重な機会としても高く評価されてきた。

2003 年度には、代表的な早生樹であり、本事業の研究における対象樹木として最も重要なアカシアマンギウムに関する特別シンポジウムを開催した。この特別シンポジウムは、本交流事業関係者以外の反響も大きく、世界各国からプロシーディングスの送付依頼が多数あり、当該分野の今後の研究が一層進展するきっかけとなった。

なお、最終年度である 2005 年度には、インドネシア・バリ島において「熱帯森林資源の保全と利用の調和を目指して」を統一テーマに、過去の共同研究で得られた成果を俯瞰的に総括するとともに、その結果を基に将来的な国際共同研究について討論する予定である。

セミナー参加者数は、1996 年度から回数を重ねるごとに増加し、2004 年度の第５回国際木質科学シンポジウムでは、202 名（日本 160 名、インドネシア 36 名、マレーシア 4 名、フィリピン１名、タイ 1 名）が参加している。また、このセミナーにおける論文発表数は、1996 年の 44 件から年々増加し、2004 年度には 115 件となっている。発表論文数の増加は、研究の生産性の量的な増加を示しているといえる。また、このセミナーは研究者の交流の場としても大きな役割を果たしている。

参加者数及び発表件数の推移は下図のとおりである。



The 1st International Wood Science Seminar

December 6-7, 1996, Kyoto, Japan

Keynote Address

For the development of cooperative research between Japan and south-east Asian countries: *M. Kuwahara*

Development of wood industries and research trend in Indonesia: *W. Syafii and Y. S. Hadi*

Wood Material Science

(Introductory Paper)

Shrinking and mechanical properties of wood cell: *E. Obataya and M. Norimoto*

Vibrational properties of Cane (*Arundo donax* L.) used for the clarinet reed: *U. Watanabe, M. Norimoto and M. Fujita*

The gluability of fast-growing trees and lesser-utilized wood resources, their use in wood-based materials manufacture and their durability: *T. Sakuno*

Properties of composite boards in relation to processing conditions and density profiles: *E. Wong and S. Kawai*

Effect of rice husk ash and palm oil sashes on ordinary portland cement hydration: *Z. M. Amin*

Steam injection pressing technology -the effects and its application in the composite wood production*: S. Kawai and H. Sasaki*

Isocyanate-inorganic bonded composites IV - Factors affecting board properties by steam injection pressing-: *D. Eusebio, S. Kawai and H. Sasaki*

Industrial utilization of forest resources - The Philippine experience on the composite board manufacture using fast growing tree species and their alternatives-: *O. R. Pulido*

High strength plastic-like panel produced from wood fiber and veneer: *H. Yano and H. Kajita*

Compressed wood: *M. Inoue*

Production technology of high-durable wood-based materials by incorporating preservatives in the glue: *Y. Imamura*

Termite control - Away from the use of too much chemicals: *K. Tsunoda and T. Yoshimura*

Tropical hard wood surface deterioration by weather exposure: *W. Subowo, R. Yusiasih and Y. Sudiyani*

Evaluation of tropical weathering properties of wood based materials: *Y. Sudiyani, B. Subiyanto and S. Kawai*

Modified wood resistance to biodeterioration: *Y. S. Hadi*

Research and development of wood science and technology in Indonesia: *A. Kusnowo and B. Subiyanto*

Development of woodworking machinery - A few invented cases in my field: *N. Hattori*

Practical use of solar-dehumidification dry kiln: *Y. Kobayashi and K. Yokoo*

Development of glulam moment-resisting joints: *K. Komatsu*

Thermal and humidity environments of the large-scale wood building: *T. Morooka and M. Norimoto*

A brief introduction to wood research at Shimane University: *T. Furuno, T. Nakao, T. Nishino, C. Tanaka, T. Uehara, H. Yoshihara and M. Yoshinobu*

(Full Paper)

Permanent fixation of compressive deformation of albizia wood (*Paraserienthes falcata*) by heat treatment: *W. Dwianto, M. Inoue and M. Norimoto*

Combustion behavior of melamine-boric and -phosphoric acids treated wood using thermographic analysis: *W. Su, T. Hata, Subyakto, Y. Imamura and S. Ishihara*

Mass loss observation of bamboo-particleboard and oriented strandboard fire retardant using cone calorimeter: *Subyakto, W. Su and S. Ishihara*

Performance of composite boards made from waste newspaper and wood particles: *M. Massijaya and M. Okuma*

Some properties of bamboo-cement board: *M. Sulastiningsih, B. Tambunan, Y. Yulia and A. Santoso*

Rapid production of thermosetting cement bonded particleboard by steam injection pressing: *B. Subiyanto and S. Kawai*

Change of some properties of wood after exposed to weathering: *Y. Sudiyani, M. Takahashi, Y. Imamura, K. Minato and S. Tsujiyama*

Biological resistance of chemically modified wood (acetylation and formalization): *S. Yusuf, Y. Imamura, M. Takahashi and K. Minato*

Wood Biomass Technology

(Introductory Paper)

Production and characterization of artificial wood from biocellulose: *L. Indrarti, J. Azuma, S. Pujiastuti, and R. Yudianti*

Pulp quality of oil palm empty bunches produced by bio-chemical - Mechanical processes: *R. Pasaribu, D. H. Goenadi and T. Irawadi*

Study on the occurrence of lignin carbohydrate bonds in kraft pulp: *M. Karina, T. Watanabe and M. Kuwahara*

A study on the possibility of the use of extractives from tropical hardwoods as natural preservatives: *W. Syafii*

Utilization of wood extractives and biotechnological production of biologically active substances in trees: *K. Itoh and S. Tachibana*

Biologically active components from tropical forest trees: *K. Shimizu, R. Kondo and K. Sakai*

Biosynthesis and biological activity of lignans: *T. Umezawa and M. Shimada*

目次にもどる

The 2nd International Wood Science Seminar

November 6-7, 1998, Serpong, Indonesia

Keynote Address

Production and protection of woods based on bioscience of symbiotic and saprophytic fungi : *M. Shimada*

Indonesian wood industries facing the economic crisis: *H. A. Adhar*

Wood Material Science
(Introductory Paper)

Research program in forest products processing and utilization: Forest Products and Forestry Socio-economic Research and Development Center: *D. Rohadi*

The use of *Acacia mangium* for wooden houses in Indonesia: *I. Suprijanto and Anita F. E. Susetyowati*

The use of stress wave timer for wood quality grading: *W. Sujatmiko and Anita F. E. Susetyowati*

Development and analysis of engineered timber joints: *K. Komatsu*

Reological properties of wood under high pressure steam - Mechanism of permanent fixation: *T. Morooka, W. Dwianto and M. Norimoto*

Physical and mechanical properties of methyl metacrylate impregnated betung bamboo (*Dendrocalamus asper*): *Y. S. Hadi, H.S. Wuisang, N. Hadjib and M. Utama*

Radio frequency/vacuum drying of wood: *K. Hayashi and Y. C. Cai*

Polystyrene rubber-wood resistance to dry-wood termite (*Cryptotermes cynocephalus*) attack: *E. Rasyid, N. Kurniasih, M. Utama and Y. S. Had*

Coptotermes in Indonesia: *T. Yoshimura, Y. Takematsu, M. Takahashi, S. Yusuf and P. Sukartana*

Wood consumption of and survival of subterranean termite *Coptotermes curvignathus* H.: *Rudi and D. Nandika*

Effective use of boron compounds in preservation of wood and wood-based composite materials : *M. K. Yalinkilic, Y. Imamura, K. Tsunoda and M. Takahashi*

Improvement of liquid penetration into tropical wood by precompression treatment: *Y. Imamura, I. Iida and S. Yusuf*

The possible use of cashew nut shell liquid as a wood preservatives: *N. Supriana and Barly*

Separation of the components of CCA treated wood by flash pyrolysis: *T. Kajimoto, T. Hata, Y. Imamura, M.Takagaki and S. Ishihara*

Development of acoustic emission (AE) monitoring for detection of termite activities: *Y. Imamura, Y. Fujii and T. Yoshimura*

The simple preservation method fresh *Dendrocalamus asper* backer: *A. Ismanto, G. Sumarni and Barly*

Evaluation of durability of tropical hardwood - Chemical properties a wood component responsible for resist on microorganism: *R. Yusiasih*

Towards the new millennium wood composite -the world strongest and weakest wood composites-: *H. Yano, P. J. Collins, Y. Yazaki and S. Doi*

Optimum formulation of isocyanate adhesives for wood : *K. Umemura and S. Kawai*

Development of wood adhesives from natural polymer -Preliminary study on utilization of tapioca starch as extender of rubber latex adhesives for plywood: *E. Hermiati and B. Prasetya*

The formation and effects of density profile in particleboard and fiberboard -A brief comparison: *E. Wong, M. Zhang, Q. Wang, P. Yang and S. Kawai*

Thermal insulation property of low density fiberboard and veneer-overlaid fiberboard: *T. Kawasaki, M. Zhang and S. Kawai*

Oriented boards from sugi (*Cryptomeria japonica*) wood strands and barks: *O. R. Pulido, H. Yamauchi, L. Ma, N. Yoshinaga and H. Sasaki*

Cement bonded particleboard from non-wood lignocellulosic materials: *S. Kawai, B. Subiyanto, L. Ma, D. Hermawan, I. M. Sulastiningsih, T. Hata and H. Sasaki*

New technology for manufacturing high-strength wood cement composites by using super critical fluid of carbon dioxide : *D. Hermawan, T. Hata, K. Umemura, S. Kawai, S. Kaneko, W. Nagadomi, Y. Kuroki and K. Tsunoda*

Rapid curing of wood wool cement boards from *Gmelina arborea* R. Br. by direct heat application during pressing: *R. J. Cabangon, D. A. Eusebio and R. A. Razal*

Production and fire resistant performance of cement bonded particleboard and other wood based materials: *Anita F., E. Susetyowati, B. Subiyanto, T. Hata, S. Ishihara and S. Kawai*

Development of cementboard made from waste paper: *L. Karlinasari, M. Y. Massijaya*

Wood-inorganic composites as prepared by the sol-gel process: *H. Miyafuji and S. Saka*

Increasing fire resistance properties of oil palm wood using water glass and a mix of water glass and acrylic emulsion paint as fire retardant: *S. Nurul Aini. and H. E. Achmad*

The manufacture of board from agricultural materials: *H. Kajita*

Hollow block properties made from sawdust supplement: *Sutrisn, N. A. Sulistyowati and H. Diana*

Development of new wood carbon materials -Assembling structures and revealed functions: *T. Hata, Y. Imamura and K. Yamane*

Possible uses of carbon materials to improve the fire retardancy of wood composites: *Subyakto, T. Hata, I. Ide, S. Kawai and Y. Imamura*

Program of R & D on the technology of wood pyrolysis: *T. Nurhayati and H. Roliadi*

Detection of chemicals in the cell wall of wood polymer composites: *M. Morita*

The preparation of liquefied wood and its application to the polyurethane films: *Y. Kurimoto, M. Takeda, S. Doi and Y. Tamura*

(Full Paper)

Flourishing research and development at the Institute of Wood Technology: *H. Sasaki and O. R. Pulido*

Utilization of Oil Palm stem (*Elaeis guineensis* Jacq.) as housing and furniture materials - Identification of basic properties of oil palm wood: *Edi S. Bakar, O. Rachman and W. Darmawan*

Dynamic aspect of wood structure under thermal treatment: *L. Pulido-Novicio, T. Hata and Y. Imamura*

Processing of small diameter logs for laminated veneer lumber, veneer and plywood production: *S. Kliwon and M. I. Iskandar*

Predicting the shear rigidity of reinforced plywood using computer simulation: *P. Yang and Y. Ohsako*

Drying technique for kumia (*Manilkara* sp) wood: *E. Basri, H. Roliadi and Rahmat*

Decay resistance of three wood species against some wood destroying fungi: *Djarwanto and S. Suprapti*

Introductory test methods for subterranean termite *Coptotermes curvignathus* (Isoptera: Rhinotermitidae) in laboratory: *P. Sukartana*

Effect of post hot-compression of boron-treated wood at radial direction on boron leachability : *M. K. Yalinkilic, K. Tsunoda, W. Dwianto, M. Inoue, F. Tanaka and M. Takahashi*

Boron distribution in treated rubber and sengon wood: *Barly and N. Supriana*

Treatment of seven wood species by full-cell process with boron-containing preservatives: *S. Abdurrohim and N. Supriana*

Weathering properties of phenolic-resin treated particleboards from fast-growing woods and agrowastes: *S. Yusuf, Y. Sudiyani, H. Kajita, Y. Imamura and M. Takahashi*

Weathering properties of phenollic-resin treated wood: *Y. Sudiyani, Y. Imamura and M. Takahashi*

Tropical hard wood surface deterioration by weather exposure: *W. S. Subowo, R. Yusiasih, Y. Sudiyani, A. Syampurwadi and M. Gopar*

Improvements on dimensional stability and flame resistance of wood by esterification and silicate gel fixing: *J. Li, T. Furuno and S. Katoh*

Impregnation and radiation polymerization of vinyl monomers into lignocellulosic materials: *M. Utama*

Alternation of wood properties by the impregnation with natural polycyclic and relating simple phenolic compounds: *K. Minato, K. Sakai and M. Matsunaga*

The combination technique of conventional and UV for wood surface coating : *G. T. Rekso, Darsono, A. Sunarni and M. T. Razzak*

Surface coating of kamper wood (*Dryobalanops* spp.) profiles using ultra-violet radiation: *S. Danu, Y. S. Hadi, N. E. Putri and Darsono*

Development of boards made from oil palm frond II: Properties of binderless boards from steam - exploded oil palm frond: *N. Laemsak, M. Okuma and K. Iiyama*

Management of resorcinol formaldehyde resin liquid wastes by spray drying: *H. Yamauchi, Y. Tamura and H. Sasaki*

Bonding properties of some tropical woods after solvent extraction: *T. Sakuno and C. Moredo, Jr.*

Predicting the compatibility of some Indonesian bamboos with cement by hydration test: *I. M. Sulastiningsih, L. F. Ma, Z. M. Amin and S. Kawai*

Production technology of oil palm cement bonded particleboard l: Hydration behavior of cement mixed with powder oil palm fronds: *B. Subiyanto, I. M. Sulastiningsih, D. Hermawan, K. Umemura, T. Hata and S. Kawai*

Influence of rice hull ash (RHA) on the properties of cement bonded boards (CBBs): *D. A. Eusebio*

Development of composite boards made from waste newspaper and wood particles (III): Resin distributions between waste newspaper and wood particles: *M. Y. Massijaya and M. Okuma*

Wood Biomass Technology/Wood Bioscience (Introductory Paper)

Wood quality of teak (*Tectona grandis*) planted in West Java: A preliminary study: *H. Yamamoto, I. Wahyudi, G. Pari, M. Yoshida, H. Watanabe, Y.S. Hadi and T. Okuyama*

Wide rays in casuarina and gymnostoma: *Y. I. Mandang*

Improvement of wood permeability using a micro-biological process - Ecosystem of microbes in ponded sugi logs: *S. Doi, S. Ohta, S. Harisawa, Y. Kobayashi and H. Sasaki*

A biochemical role of oxalic acid biosynthesis in forest fungi and enzymes involved - Toward protection and production of woods: *M. Shimada, T. Tokimatsu, Y. Nagai and T. Hattori*

Chemistry and biochemistry of lignan biosynthesis: *T. Umezawa, S. Suzuki, T. Okunishi, K. Mikame and M. Shimada*

A possible role of organic acids during symbiosis between woody plants and mycorrhizal fungi: *T. Hattori, G.S. Seo, N. Akitsu, A. Ohta and M. Shimada*

Enhancement of cellulose deposition by mutant sucrose synthase: *T. Hayashi, T. Nakai and T. Konishi*

Thermal properties of bacterial cellulose composites: *S. Pujiastuti and L. Indrarti*

Xylanase by Thermomyces lanuginosus IFO 31854 on lignocelluloses : *T. Idiyanti, T. Basuki, and B. Prasetya*

Degradation of teak wood lignin: *T. Darwinto and Sudirman*

Lignin structure and its influence on the rate of delignification: *N. Rahmawati, W. Syafii, G. Ibnusantosa and H. Adijuwana*

Utilization of timber estate -wood as raw material of pulp and paper: *S. Muladi, A. S. Budi, R. Amirta, I.W. Kusuma and Z. Arifin*

(Full Paper)

目次にもどる

The 3rd International Wood Science Symposium

November 1-2, 2000, Kyoto, Japan

Keynote Address

Foraging population and territory of two economically important termites in Indonesia: *D. Nandika*

Research and developments of moment-resisting joints for glulam frame structures: *K. Komatsu*

Wood Material Science

(Introductory Paper & Full Paper)

Research and development for the evolving canadian wood composites industry *C. Dai and G. Troughton*

Softening behavior of dry bamboo by heat treatment: *B. Subiyanto, T. Morooka and M. Norimoto*

Study on the impregnation and radiation of styrene emulsion into betung bamboo (*Dendrocalamus asper*): *M. Utama and Y. S. Hadi*

Steam exploded binderless board manufacturing from sweet bamboo and its fiber structure: *N. Laemsak and K. Kungsuwan*

Fire performance of albizzia compressed wood using cone calorimeter: *W. Dwianto and Subyakto*

Applications of plasma treatment for wood industry: *T. Uehara*

Improvement of drying of plantation species by combination HF-hot air method: *Y. Kawai, Y. Kobayashi and O. R. Pulido*

The qualities and kiln drying schedules of several wood species from Indonesia: *E. Basri, K. Hayashi, N. Hadjib and H. Roliadi*

Application of wood charcoal to control of humidity condition: *T. Nakayama, T. Hata, H. Yano and Y. Imamura*

Machineability of some Indonesian woods: *E.S. Bakar, W. Darmawan, T. Ohtani, C. Tanaka and K. Hayashi*

Bleaching and preservative treatment of bamboo strips suitable for bamboo-rubberwood parquet products: *A. Zaidon, A, K. Razali, A. R. Mohd. Nizam and ABD. L. Samat*

Moso bamboo as a board material -The board from bamboo fiber and fine: *K. Matsumoto, H. Yamauchi, M. Yamada, K. Taki and H. Yoshida*

Developments of reed and wheat straw composite panels: *G. Han and S. Kawai*

Effects of cutting time of bamboo on hydration behavior and compression strength of bamboo-cement composite: *M. Gopar, B. Subiyanto and Subyakto*

Manufacture of bamboo-zephyr board as plywood substitution for concrete-block pallet application: *Sudijono, Subyakto and B. Subiyanto*

Wood metaborate composites using the borax solution system and their properties: *L. Lin and T. Furuno*

Rapid production of oil palm cement-bonded board by using gaseous or supercritical carbon dioxide curing: *D. Hermawan, T. Hata, S. Kawai, W. Nagadomi and Y. Kuroki*

Research and development on kenaf utilization in Japan and abroad: *K. Sameshima*

Reinforcement of CBB with kenaf fibers: *L. F. MA, S. Kawai, H. Yamauchi, O. R. Pulido and H. Sasaki*

Effect of heat treatment of particle on physical and mechanical properties of particleboard made from Indonesian bamboo: *E. M. Alamsyah and B. Subiyanto*

Three-layered particleboards with steam pretreated face strands - Effects of face strand / core particle ratios on the panel properties: *N. Sekino, M. Inoue and H. Yamauchi*

Upgrading of natural rubber latex -Styrene copolymer as plywood adhesive: *E. Hermiati, B. Prasetya, Sudijono and Nurhayati*

The development chemical treatment Palmyra fibres reinforced plastic: *M. Sitepu and H. Yoshida*

Thermal properties of carbon or graphite phenolic spheres and its application: *Subyakto, T. Hata, I. Ide and S. Kawai*

Fire resistance preformance of structurally graded timber of *Acacia mangium*: *A. Firmanti, S.Takino, K. Kotamtsu and S. Kawai*

Fracture toughness of glueline -Evaluation by experiment and numerical analysis based on block shear test: *P. Yang, K. Jinno, H. Sakamoto, A. Nishimoto, Y. Ohsako and H. Sasaki*

The mechanical, morphological, and biodegradabiliy properties of composites of woodflour and poly lactic acid: *F. Febrianto, M. Yoshioka and N. Shiraishi*

Utilization of oil palm trunk for wood as building material: *S. N. Aini*

Zero emissions in palm oil industry: Case study of east oil mill, golden hope plantations bhd., Malaysia: *E. D. Wong, A. K. Razali and S. Kawai*

Chemical characterization of wood vinegar and its application to bio-control agent: *T. Nakai, S. Inoue, T. Hata and Y. Imamura*

Peroxidative activation of bamboo with peracids for graft copolymerization by redox initiation: *M. Yoshinobu, Y. S. Hadi and N. Kinoshita*

Wood flour -Poly (vinyl alcohol) molded composites: *K. Ozaki, H. Yano and Y. Imamura*

High strength wood based materials: *H. Yano*

Present status of an important pest termite genus, *Coptotermes,* in Indonesia: *Y. Takematsu, T. Yoshimura, M. Takahashi, S. Yusuf and P. Sukartana*

Study on basic biology of *Reticulitermes sperratus* (Kolbe) with both field and laboratory trials in Kochi: *J. Wang, Y. Ohtani and K. Sameshima*

Evaluation of termites feeding activities by acoustic emision (AE) under various relative humidity (RH) conditions: *S. Yusuf, Y. Yanase, Y. Sawada, Y. Fujii, T. Yoshimura and Y. Imamura*

Effects of temperature change on AE generated by termite activity: *Y. Yanase, Y. Fujii, S. Okumura, T. Yoshimura and Y. Imamura*

Termite attacks to high-temperature dried wood: *S. Doi, Y. Kurimoto, H. Takiuchi, T. Yoshida and M. Aoyama*

Dry wood termite resistance of acetylated and polymerized tributyltin acrylate (TBTA) Indonesian and USA wood: *Y. Indrayani, S. Yusuf, Y. S. Hadi, D. Nandika and R. E. Ibach*

Enhancemento of weathering properties of particleboard by phenolic resin treatment: *Y. Sudiyani, S. Yusuf, H. Kajita, Y. Imamura, M. Takahashi and Sudijono*

Supercritical fluid (SCF) application to the preservative treatment of wood composites - Treatability and effect of SCF treatment on the strength properties of wood composites: *M. Muin, K. Tsunoda and A. Adachi*

Behaviour of chromium-copper-arsenate (CCA) treated wood after fast pyrolysis: *T. Hata , D. Meier, T. Kajimoto , H. Kikuchi and Y. Imamura*

Weatherability study on durian and kecapi wood: *W. S. Subowo, Y. Sudiyani, R. Yusiasih and M. Gopar*

Biodeterioration resistance of three polystyrene Indonesian woods: *Y. S. Hadi, I. G. K. T. Darma, N. Hadjib, Jasni and Barly*

Wood Biomass Technology / Wood Bioscience
(Introductory Paper & Full Paper)

Growth rate and growth ring in mindi (*Melia azedarach* Linn) wood trees grown in yogyakarta: *S. N. Marsoem and T. Itoh*

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

Distribution of hemicelluloses and pectins varies during tissue development in bamboo culm (*Phyllostachys aurea* Carr.): *K. Suzuki, S. Kitamura, Y. Sone and T. Itoh*

Wood anatomy and peelability: *Y .I. Mandang and I .M. Sulastiningsih*

Wood identification of Fagaceae species in Japan by DNA polymorpfism: *M. Ohyama, K. Baba and T. Itoh*

Bamboo diversity and its future prospect in Indonesia: *E. A. Widjaja*

Juvenile-mature wood demarcation in tropical fast-grown plantation trees: *I. Furukawa, K. Honjyo and T. Tanaka*

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, Y. Higashikawa, M. Fujita, Y. S. Hadi, Wasrin Syafii and T. L. Tobing*

Sinapic acid is the true precursor of syringyl lignin in angiosperm: *K. Yamauchi, S. Yasuda and K. Fukushima*

Stilbene synthase from Japanese Red Pine its role in stilbenoid biosynthesis: *A. Kodan, H. Kuroda and F. Sakai*

Overexpression of manganese peroxidase by recombinant wood rot fungi: *Y. Honda, T. Irie, T. Watanabe and M. Kuwahara*

Expression of xyloglucan endotransglycosylase during cellulose biosynthesis: *T. Takeda, F. Sakai and T. Hayashi*

The impact of T-DNA tagging line for the rapid analysis of gene-expression patterns: *Y. W. Park and T. Hayashi*

Cellulose metabolism by endo-1, 4-α-glucanases in Poplar: *T. Hayashi and Y. Ohmiya*

DNA-mediated transformation of *Ceriporiopsis subvermispora*: *H. Sato, Y. Honda, T. Watanabe and M. Kuwahara*

Effect of thickening growth rate upon the wood quality of planted fast-growing species -A comparative study on *Acacia mangium, A.auricuriformis,* and *A.hybrid*: *H. Yamamoto, T. Okuyama, M. Nogi, M. Hayashimoto, T. Ona, I. Wahyudi and M. H. Sahri*

Quality of rattan canes: *W. Abasolo, M. Yohida, H. Yamamoto and T. Okuyama*

Growth stresses and some wood quality of planted Teak: *T. Okuyama, H. Yamamoto, M. Yoshida, I. Wahyudi, Y. S. Hadi and K. M. Bhat*

Sustainable Mangrove forest management as wildlife reserve in north Sumatra: Problems and its action plan: *T. M. H .Oeliem, Onrizal and A. S. Hanafiah*

Composting of biomass wastes into multifunctional recylates: *M. Terazawa and A. Subiyatno*

Zero-emission processes of oil palm utilization : *S. Kawai and B. Subiyanto*

Forest certification system as prerequisite for the sustainable use of forest products in Indonesia: *M. Sugimori*

Land-derived organic matter in surface sediments from some Japanese lakes: *Y. Kamihira, K. Fukushima, S. Yasuda, H. Terai and K. Ohta*

The basic properties of Indonesian teakwood (*Tectona grandis* L.f.) at various age classes: *W. Syafii*

The effect of forest fire to chemical properties of teak (*Tectona grandis* Linn f) wood: *Y. Suranto*

Starch content on culm of three bamboos species: *Y. Suranto*

Evaluation of chemical characteristics of tropical wood extractives responsible for durability: *R. Yusiasih, T. Yoshimura, T. Umezawa and Y. Imamura*

The acidity of some tropical plantation woods: *D. S. Nawawi, E. Roffael. A. Kharazipour and W. Syafii*

Effects of lignin on composite formation of bacterial cellulose with hemicellulose: *L. Indrarti, R. Yudianti, M. Sakamoto and J. Azuma*

Importance of glucomannan on composite formation of bacterial cellulose with hemicellulose: *R. Yudianti, L. Indrarti, Y. Kamihori, M. Sakamoto and J. Azuma*

The elementary chlorine free bleaching (ECF) of some Indonesian timber estate wood species: *S. Muladi, I. W. Kusuma, O. Korsadchia and R. Patt*

Thermotolerant wood rotting basidiomycetes Lenzites spp. - Newly isolated from tropical rain forest in Thailand: *C. Khanongnuch, N. Wanphrut, S. Lumyong, Y. Honda , M. Kuwahara and T. Watanabe*

Utilization of Acacia mangium bark as binder for production of kenaf-fiber board and possibilities to increase its lignin and tannin content by degradation of holocellulose using brown rot fungi: *B. Prasetya, Subyakto, Sudijono and T. Idiyanti*

Behaviors of extractives during pulping and bleaching of tropical plantation woods studies on acidic and potentially acidic substances of tropical fastgrowing hardwoods: *D. Nawawi, W. Syafii, Y. Matsumoto and G. Meshitsuka*

Screening and biotechnological application of thermotolerant ligninolytic fungi in the field of wood biomass science: JSPS Cooperation Project between Thailand and Japan: *T. Watanabe, C. Khanongnuch, S. Lumyong, M. Tantirungkij, Y. Ta-prab, H. Punnapayak, P. Suwanarit, Y. Honda and M. Kuwahara*

Free radical reactions controlled by low molecular mass metal complexes and peroxidases. -their potentials for biomass conversion.: *T. Watanabe, Kurt Messner, M. Enoki, S. Sato, Y. Honda and M. Kuwahara*

Control of manganese peroxidase production in the white-rot basidiomycetes, *Pleurotus ostreatus*: *H. Kamitsuji, Y. Honda, T. Watanabe and M. Kuwahara*

Pretreatment of wood biomass by white-rot basidiomycetes and steam explosion for the production of glucose: *M. Kuwahara, T. Hirano, Syafwina, K. Iwahara, Y. Honda and T. Watanabe*

Mycorrhizal symbionts of tropical trees in Indonesia: *Y. Setiadi*

Nitrogen fixation microorganisms and mycorrhizal symbiosis on several crops and trees for reforestation and agroforestation in North Sumatra*: A. S. Hanafiah, T. Sabrina and T. M. H. Oeliem*

The effectiveness of vesicular arbuscular mycorrhiza on Lamtoro seedling (*Leucaena diversifolia*) in different watering period and organic matter application on inceptisol froded soil from Samosir: *A. S. Hanafiah and B. L. Siregar*

The effectiveness of the indigenous AM and EM mycorrhiza species versus commercial mycorrhiza on *Eucalyptus* seedling: *T. S. Azizah, S. R. S. Omar and Y. K. Chan.*

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

Distribution of isocitrate lyase and malate synthase among wood-rotting fungi: *E. Munir, T. Hattori and M. Shimada*

A possible role of glyoxylate cycle enzymes in ectomycorrhizal fungus during symbiosis with woody plant: *T. Hattori, M. Itaya, A. Oht and M. Shimada*

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

A enzymatic study of an oxalate producing system in wood-rotting basidiomycetes: *T. Tokimatsu, Y. Nagai, N. Hayashi, T. Hattori and M. Shimada*

目次にもどる

The 4th International Wood Science Symposium

September 2-5, 2002, Serpong, Indonesia

Keynote Address

Present condition and prospect of pulp and paper industry in Indonesia: *H. M. Mansur*

Promotion of plant growth by cell wall engineering: *T. Hayashi*

Invited Paper

Termite symbiosis: What we can learn from the gut micro-ecosystem?: *T. Yoshimura*

Wood Material Science
(Introductory Paper & Full Paper)

Machining properties of stressed and non-stressed wood of *Acacia mangium, Acacia auriculiformis* and *Hevea brasiliensis* (F): *M. H. Sahri, T. W. Seng and S. Bokhari*

Slanted-elastic pressure nosebar: The new pressure mechanism of a rotary lathe (F): *E. S. Bakar and R. Marchal*

Wear characteristics of high speed steel (HSS) and carbide bits in routing some Indonesian woods (I): *W. Darmawan, E. S. Bakar, C. Tanaka, T. Ohtani and K. Hayashi*

Creep behavior of wood in unstable states – in relation to the mechano sorptive creep (I): *C. Takahashi, Y. Ishimaru, I. Iida and Y. Furuta*

Determining numbers of water molecular layers in linggoa wood (*Pterocarpus indicus* Willd.) at atmospheric temperature (F): *Y. Gandhi*

Dielectric relaxation of heat-treated wood (I): *H. Sugimoto and M. Norimoto*

Dimensional stabilization of oil palm using smoke heat treatment (F): *T. Nomura*

Fire protection of a laminated veneer lumber joint by carbon phenolic spheres sheeting (I): *Subyakto, T. Hata, I. Ide, T. Yamane and S. Kawai*

Fire retardant of treated Agathis wood (F): *W. Dwianto and Subyakto*

Influence of temperature on the transverse behaviour in water-saturated state of tropical wood species (F): *S. Bardet, J. Beauchene and J. Gril*

Mechanism of permanent fixation of radially compressed wood by steaming or heating (F): *T. Higashihara, T. Morooka, M. Inoue and M. Norimoto*

On a master curve for strain recovery vs steaming time obtained under superheated steam (I): *T. Morooka, K. Oshima and M. Norimoto*

Physical and mechanical properties of densified oil palm wood (I): *I. Sumardi and E. Rasyid*

Physical properties of wood in unstable states (I): *Y. Furuta, K. Kanayama, I. Iida and Y. Ishimaru*

Present state of the techniques for nondestructive evaluation of wood products (I): *Y. Fujii and Y. Yanase*

The effect of heating temperature on physical and mechanical properties of compressed Indonesian bamboo (I): *B. Subiyant and E. M. Alamsyah*

Transverse compression and heat fixation of oil palm (I): *M. Inoue and T. Nomura*

Wood/Bamboo nail for timber construction (I): *M. Inoue and T. Mori*

Color change of wood during high temperature drying (I): *K. Hayashi, M. Sugimori and K. Yamashita*

Green veneer sorting to improve drying performance (F): *Wahyudi, P. Vinden and G. Torgovniko*

Industrial application of hybrid drying of wood using HF heating and hot air (F): *Y. Kobayashi, Y. Kawai, M. Norimoto and O. R. Pulido*

Kiln drying of lumbers cut from stressed wood of planted Acacia spp. (F): *Z. Ashaari, M. H. Sahri, S. Ahmad and O. Ona*

Moisture movement in large size lumber during HF heating and hot air drying (F): *Y. Kawai, Y. Kobayashi and M. Norimoto*

Steam injection drying of laser-incised Sugi square lumber (I): *N. Hattori, K. Kuribara, K. Ando, S. Kitayama, H. Yamauchi, Y. Kawai and Y. Kobayashi*

The combination of shed and kiln drying resulted in good quality of mangium lumbers (F): *E. Basri, K. Hayashi and Rahmat*

The effect of some physical treatments on the drying properties of some tropical hardwoods (F): *T. Priadi*

Acoustic emission (AE) monitoring of dry-wood termite feeding activities under various relative humidity (RH) conditions (F): *Y. Indrayani, Y. Yanase, Y. Fujii, T. Yoshimura and Y. Imamura*

Comparative susceptibility of Malaysian and Japanese wood species against termite attack (I): *P. S. Ngee, A. Tashiro, C. Y. Lee and T. Yoshimura*

Detection of acoustic emission (AE) generated by the feeding activity of drywood termite (I): *Y. Yanase, Y. Fujii, S. Okumura, T. Yoshimura and Y. Imamura*

Determination of the effects of calcium precipitating and wood preserving N, N - hydroxynaphthalimide (NHA) on leachability of boron by microassay based on colorimetry (I): *S. N. Kartal and F. Green* III

Effect of Boucherie method treatment on termite resistance of laminated bamboo surat (*Gigantochloa robusta*) (I): *R. Dungani*

Effects of steaming treatment of Indonesian wood on termite feeding behavior (F): *S. Yusuf, M. Gopar and S. Doi*

Efficacy of plywood with glue from liquefaction process against subterranean termites *Coptotermes curvignathus* Holmgren in laboratory (F): *F. Diba, E. Wardenaar, F. Febriant and D. Nandika*

Foraging activities of *Coptotermes* spp. (Isoptera: Rhinotermitidae) in building environment (I): *A. S. Sajap*

Fundamental evaluation on termicidal activity of various woody vinegar liquids from charcoal making (F): *K. Sameshima, M. Sasak and I. Sameshima*

Physical and biological properties of phenolic-resin treated particleboard after exposed to outdoor weathering (F): *Y. Sudiyani, Sudijono and S. Yusuf*

Profile and effect of process parameters in the preservative treatment of wood-based composites using supercritical carbon dioxide (I): *M. Muin and K. Tsunoda*

Safety and durability of newly developed chitosan-copper-complex (CCC) and its effectiveness to fungal and termite attacks (F): *I. Furukaw and T. Kobayashi*

Some evidences of damage caused by subterranean termites *Coptotermes* spp. on buildings and trees in Bogor and its around (F): *P. Sukartana*

The feeding preference of dry-wood termite (*Cryptotermes cynocephalus Light*) at four bamboos species (I): *M. S. Sofya., A. Sulthoni and P. Soenardi*

The resistance of CF_4 – plasma treated tropical woods against white-rot (*Trametes versicolor* L. Fr. Pilat) attack (F): *N. Wistara, F. Denes and R.A. Young*

The resistance of treated and untreated Indonesian wood species to marine borers (I): *M. Muslich and N. Hadjib*

The resistance of twelve wood species against six decaying fungi (F): *S. Suprapti and Djarwanto*

Vulnerability of some wood species stored in Bogor, Indonesia, to dry-wood termite *Cryptotermes cynocephalus* (F): *P. Sukartana and Y. I. Mandang*

Water dependence of Japanese subterranean termites (I): *T. Nakayama, T. Yoshimura and Y. Imamura*

Weathering performance of wood impregnated with phenolic-resin (F): *Y. Sudiyani, Y. Imamura and S. Doi*

Direct utilization of *Acacia mangium* bark as waterproof wood adhesives (F): *S. Ogawa, Cicilia M. E. Susant and H. Yano*

The use of tannin from *Acacia mangium* Willd. in adhesive systems of Medium Density Fiberboard (F): *L. Karlinasar and, E. Roffael*

Trial production of plywood in factory scale with NR-g-PS as an its adhesive (F): *M. Utama*

Development of two-direction glued laminated joint panel by Japanese cedar (F): *Y. Kataoka, K. Shimizu, K. Komatsu, S. Takino and T. Mori*

Development of wooden semi-rigid column-beam joints by utilizing wedges and bolts (F): *K. Komatsu, S. Takino, T. Mori, Y. Kato, M. Nakatani, A. Kitamori and Y. Kataoka*

Effects of reinforcement by high-strength fiber for steel-insert-type glulam drift-pined joints (I): *S. Takino, K. Komatsu, T. Mor and M. Nakatani*

Experimental study on the tensile strength of Sugi and Douglas fir mixed glulam (F): *T. Mori, K. Komatsu, S. Takino, Y. Noda, K. Harada and K. Watanabe*

Bending and shear properties of low density particleboard laminated with zephyr of tali bamboo (F): *Sudijono and Subyakto*

Binderless wood chip insulation panel materials for building use made from wood processing residues and wastes (F): *N. Sekino and Y. Kawamura*

Characteristic of *Paraserianthes falcataria* - polymethyl methacrylate composite prepared by gamma irradiation technique (F): *M. Utama, T. Ritonga an A. Nurhadi*

Composite of wood flour-recycle polypropylene II: The role of maleic anhydride and dicumyl peroxide in the strengthening of the composites (F): *F. Febrianto, M.D. Putri, A.H. Iswanto, B. Tambunan and Y. Imamura*

High strength microfibrillated plant fiber materials (I): *H. Yano, A. N. Nakagaito and S. Nakahara*

Innovation in the manufacturing technology of cement-bonded board (F): *B. Tambunan, D. Hermawan and S. H. Murni*

Internal bond and shear properties of wood-based panel products (F): *H. Miyagawa and S. Suzuki*

Manufacture and properties of kenaf composite panels (F): *S. Kawai, Y. Okudaira, M. Zhang, J. Xu and R. Widyorini*

Physical and mechanical properties of zephyr board made from gombong bamboo (F): *M. Gopar and Subyakto*

Physical and mechanical property of oil palm board (F): *T. Nomura*

Production of three-layered structural board made from sugi strand and recycled wood particle (F): *S. Suzuki and Y. Kojima*

Properties of particleboard manufactured from tension wood of *Acacia auriculiformis* (F): *E. D. Wong, M. H. Sahri and K. H. Puah*

Properties of poly lactic acid composites with wood in relation to fiber pre treatment technique (F): *F. Febrianto, M. Yoshioka and N. Shiraishi*

The bonding mechanism of kenaf core binderless particleboard (I): *R. Widyorini, J. Xu, T. Watanabe and S. Kawai*

The chemical analyses and XRD of palmyra fibre and modification on its surface (I): *M. Sitepu and H. Yoshida*

Alternative species of raw materials for wood-based industries in Indonesia (F): *M. S. Prana, J. Kartasubrata, N. W. Soetjipto and I. Afandi*

Analysis of calory values and characteristics of the fuel wood quality preferred by the Malinau forest community of East Kalimantan (F): *H. Kuspradini, S. Muladi, S. Yusuf and G. Meshitsuka*

Humidity control using charcoals (I): *Y. Kurimoto*

Potency of bamboo at Ngada District, Flores – Towards a bamboo industry establishment (F): *E. A. Widjaja, S. Barhiman, G. Manek and Hamzah*

Prospect of Mimba (*Azadirachta indica*) for wood working products (I): *E. Basri, Saefudin and Jasni*

Zero-emission processes of oil palm utilization – Case study of oil palm mill in PT. Kertajaya, Lebak, Banten Province (F): *B. Subiyanto, Subyakto and S. Kawai*

Wood Biomass Technology/Wood Bioscience
(Introductory Paper & Full Paper)

Establishment of Daphne odora cell culture producing stereochemically unique lignans (I): *T. Okunishi, N. Takaku, P. Wattanawikkit, N. Sakakibara, S. Suzuki, F. Sakai, T. Umezawa and M. Shimada*

Genetic transformation study of important tropical forest tree species (*Eucalyptus urophylla, Acacia mangium* and *Pometia pinnata*) for trait improvement (F): *E. Sudarmonowati*

Plantlets regeneration of *Acacia salicina* through organogenesis (F): *Sumaryono and I.J. Mc. Farlane*

Regeneration system for *Robinia pseudoacacia* (I): *T. Nakatsubo, S. Suzuki, V. L. Chiang, T. Umezawa and M. Shimada*

Taxonomy of the genus *Coptotermes* of urban area in Asia based on the DNA sequences of mitochondrial COII and 12SrRNA genes with reference to their morphology (I): *Y. Takematsu, H. Yuzawa, M. Ohkuma, T. Yoshimura and T. Kudo*

A new glucose metabolism in wood-rotting fungi (F): *E. Munir, T. Hattori and M. Shimada*

Biosynthesis of heartwood substances in a model plant - First in vitro norlignan formation (I): *S. Suzuki, T. Nakatsubo, T.Umezawa and M. Shimada*

Biosynthetic pathway for heartwood syringil lignans and antitumor podophyllotoxin (I): *N. Sakakibara, S. Suzuki, T. Umezawa and M. Shimada*

Towards molecular mechanism in stilbenoid biosynthesis (I): *H. Kuroda*

Evaluation of ectomycorrhiza on forest seedlings for Leuser National Park buffer ecosystem reforestation (I): *T. Sabrina, Enrawan, Fauzi and A. S. Hanafiah*

Status of research on mycorrhiza arbuscula on tropical tree species (F): *I. Mansur, Y. Setiadi and R. Prematury*

Study on arbuscular mycorrhizal fungi diversity surround the rhizosphere of *Gonystylus* spp., *Dyera* spp. and *Shorea* spp in peat swamp forest group (I): *H. E. Artuti., D. Astiani and W. Ekyastuti*

The influence of arbuscular mycorrhizal fungi and seedling medium on growth of *Tectona grandis* from tissue culture in acclimatization phase (I): *C. Hidayat*

Using several media carrier in mass inoculant production of arbuscular mycorrhizal fungi (I): *C. Hidayat*

Utilization of lipid and fatty acids as a carbon source by ectomycorrhizal fungi (I): *T. Hattori, A. Ohta, M. Itaya and M. Shimada*

Activity of laccase in Acacia wood meal substrate by white rot fungi with different nitrogen sources (I): *Y. Kusnadi, T. Idiyanti, L. Siuryanegara and B. Prasetya*

Biobleaching of *Acacia mangium* kraft pulp using laccase secreted by local isolate PSM01 in combination with hydrogen peroxide bleaching (I): *B. Prasetya, T. Idiyanti, L. Suryanegara, T. Watanabe and M. Kuwahara*

Pre-treatment of empty fruit bunch of oil palm by white-rot fungi for the utilization of its components (F): *Syafwina, E.D. Wong, Y. Honda, T. Watanabe and M. Kuwahara*

Production of laccase and manganese peroxidase by white-rot fungi using extracts from oil palm empty fruit bunch fibre as inducer (I): *L. Suryanegara, Y. Kusnadi, T. Idiyanti, B. Prasetya, T.Watanabe and M. Kuwahara*

The study on lignolytic enzymes from soil worm and its role on bleachability on kraft pulp (I): *M. Karina and T. Idiyanti*

Utilization of oil palm empty fruit bunch to produce lignin degrading enzyme by white rot fungi (F): *T. Idiyanti, Syafwina, B. Prasetya, T. Watanabe and M. Kuwahara*

Anatomical investigation of wood fiber and vessel orientation in *Acacia mangium* (I): *Y. Ogata, M. Fujita, T. Nobuchi and M. H. Sahri*

Effect of desiccation on the viability of *Lagerstroemia speciosa* (L.) Pers pollens (F): *N. Sumiasri, D. Priadi, J. Rijadi and E. Sudarmonowati*

Effect of pruning to cambial activities on teak (*Tectona grandis* L.F.) (F): *R. Hartono, K. Sofyan, N. Pandit and Supriyanto*

Effect of the sap flow rate requirement on the growth of *Cryptomeria japonica* D. Don standing tree (I): *T. Nakai, T. Nakao and H. Abe*

Factors affecting the growth and preservation of *Aleurites moluccana* Willd pollens (F): *E. Sudarmonowati, D. Priadi, J. Rijadi and N. Sumiasri*

Microbiril angle in *Agathis* and its effect on wood quality (I) Wood density and Young's moduly relationships to the MFA (F): *I. Wahyudi, H. Yamamoto, Y. Sudohadi and T. Okuyama*

Preliminary investigation of reaction wood formation in *Agathis* (I): *I. Wahyudi, T. Nobuchi, M. Fujita, Y. Ogata and I. K. N. Pandit*

The role of bark in the forest fire (F): *A. S. Budi, N. Husein and Erwin*

Do mushrooms have anti diabetes potential (F): *T. Basuki, R. T. Dewi and L. B. S. Kardono*

Preliminary cultivation properties of *Termitomyces* sp. (I): *Y. Tamai, J. Watanabe, J. Y. Cha, K. T. Darma .P. Wirawan and M. Terazawa*

Preliminary study on producing taxol endophytic fungi from *Taxus sumatrana* (F): *R. T. Dewi, T. Basuki, P. D. N. Lotulung, W. Triwahyuni, L. B. S. Kardono and S. Tachibana*

Some studies on the blue stain of benguet pine (*Pinus kesiya* Royle ex Gordon) (F): *K. T. Darma, Y. Tamai and M. Terazawa*

Gellous cellulose-hemicellulose composite of *Ocimum americanum* seed (F): *J. Azuma, H. Miyake, M. Sakamoto, R. Yudianti and L. Indrarti*

Bioconversion of biomass wastes into multifunctional recyclates – Utilization of saw dust as artificial soil matrixes (I): *M. Terazawa*

Degradation of toxic phenolic compounds by basidiomycetes (I): *S. Hatakeyama, M. Kuwahara, H. Kamitsuji, Y. Honda and T. Watanabe*

Performance of GADE machine during start-up process using saw dust as a matrix for treating garbage (F): *N. Sintawardani and M. Terazawa*

High boiling solvent pulping on *Acacia mangium* wood (F): *E. T. Arung, Z. Arifin and Y. Sano*

New approach for the utilization of rice straw as a raw material of chemical pulp (F): *Y. Matsumoto, S. Y. Park, K. Koda, K. Iiyama and G. Meshitsuka*

Organosolv pulping and bleaching of pulp with ozone (F): *S. Muladi, H. H. Nimz, O. Faix and G. Meshitsuka*

Pulp and paper quality of the branchwood of *Paraserianthes falcataria* (L.) Nielsen (F): *R. Yahya*

Pulp properties of Indonesian abaca (F): *S. S. Achmadi and K. Sofyan*

The dissolution of wood components from tropical fast growing plantation woods during the initial stage of alkali cooking (F): *D. S. Nawawi, W. Syafii, Y. Matsumoto, T. Akiyama and G. Meshitsuka*

The potentiality of wild polyporaceae fungi for biopulping and biobleaching (F): *T. Artiningsih, W. Kartiwa, D. Padmono and Afrida*

Antitermitic properties of teak (*Tectona grandis* L.F.) leaf extractive (I): *S. Falah and A. Rumidatul*

Comparison of α–glucosidase inhibitory activity evaluation methods of various wood extract: test tube vs microplate (F): *N. Artanti, R. T. Dewi, A. Darmawan, S. Riswan and L. B. S. Kardono*

Evaluation of biological activities of tropical wood extractives responsible for durability against termite and fungi (F): *R. Yusiasih, T. Yoshimura, T. Umezawa and Y. Imamura*

Extractives content of tanjung wood (*Mimusops elengi* Linn) and their roles on the antitermitic and antifungal activities (F): *W. Syafii*

LC-MS evaluation of taxol content from *Taxus sumatrana* extractives (F): *P. D. N. Lotulung, A. Sundowo, L. B. S. Kardono, D. Darnaedi and S. Tachibana*

Mould growth suppression by nangka (*Artocarpus integra* Merr.) wood extractives (I): *S. Shibutani, S. Horisawa, Y. Sudiyani and S. Doi*

Novel cytotoxic compounds from wood bark extractive of *Garcinia gaudichaudii* (Guttiferae) (F): *M. Hanafi, L. B. S. Kardono, S. Kosela, E. Fitri, Y. J. Yu, S. C. Yip, S. H. Goh and K. Y. Sim*

Phenolic compounds from *Artocarpus* woods – Biological activity and structural criteria (F): *K. Shimizu, K. Yoshikawa and R. Kondo*

Preliminary evaluation on bioactivity of *Melia azedarach* saw dust extractive (I): *A. Darmawan, Minarti, Rustandi and L. B. S. Kardono*

Screening on α–glucosidase inhibitory activity of wood extractives of plant collected from mount Rinjani forest (F): *L. B. S. Kardono, R. T. Dewi, P. D. N. Lotulung and S. Riswan*

目次にもどる

The 5th International Wood Science Symposium
September 17-19, 2004, Kyoto, Japan

JSPS Invited lecture

JSPS Programs with Asian Countries: H. Endo

Keynote

Current Status and Future Prospect of JSPS Core University Program in Malaysia : *E.D. Wong*

The Sustainable Production and Effective Use of Forest Resources in the Philippines: *D.A. Eusebio*

Overview of the JSPS-Core University Program in the Field of Wood Science -Review of the Past 8 Years and Future Prospects: *T. Umezawa*

Perspective of the Sustainable Production and Effective Utilization of Tropical Forest Resources in Indonesia, and the Role of LIPI-JSPS Core University Program: *B. Subyianto*

Special Lecture

An Overview on Collaborative Observations of Equatorial Atmosphere Dynamics over Indonesia: *T. Tsuda*

Oral Presentation

Wood Material

The Impact of Using Java Teak for Earthquake Resistant Design -Case Study on Javanese Traditional Structure: *P. Y. Prihatmaji*

Completion of Knock Down Timber House Construction Based on the Concept of South Sumatra Traditional Timber House Structure: *A. Siswanto*

Structural Glulam from Tropical Hardwood: Effects of Specimen Shape and Size on Evaluation of Bonding Strength Based on Hoffman Failure Criterion: *P. Yang, E. D. Wong and Y. E. Tan*

Development of Structural LVL from Tropical Wood and Evaluation of their Performance for the Structural Components of Wooden Houses Part-1. Application of Tropical LVL to a Roof Truss: *K. Komatsu, Y. Idris, S. Yuwasdiki, B. Subiyanto, A. Firmanti and K. Yokoo*

Application of Mechanical Stress Grading for Effective Utilization of Tropical Fast Growing Species for Building Materials: *A. Firmanti, A. Sabarudin and J. F. Subrata*

Application of Some Mechanical Fasteners on Laminated Veneer Lumber (LVL) Rafter Joints: *M. Hadi, B. Subiyanto, A. Firmanti, K. Komatsu and S. Yuwasdiki*

Utilization of Tropical Fast-growing Tree Species Bond Quality of Indonesian Fast-growing Tree Species: *E.M. Alamsyah, H. Yoshida, K. Taki and M. Yamada*

The Bonding Properties of Some Tropical Woods: *D.S. Nawawi, F. Febrianto and W. Syafii*

Improving the Water Resistance of Sulfited Tannin Adhesive through Alkaline Treatment: *P.M.*

Tahir and O.C. Musgrave

Detection of Cracking Sound on Static Bending Test of Wood Compression by Acoustic Emission Monitoring: *W. Dwianto, A.H. Prianto, Y. Amin and Y. Rosalita*

Stress Grading of Tropical Lumber in the Philippines: *A.C. Manalo, F.P. Soriano, Jr.T.C. Saralde, E.A. Bonaagua, I.M. Pabuayon, C.M.C. Garcia and F.G. Lapitan*

Study on the Utilization of Coconut Fibers for Panel Product Using Urea and Phenol Formaldehyde Adhesives: *Sudijono and Subyakto.*

Effects of the Moisture Content of Wood Blocks on the Feeding Preferences of Japanese Subterranean Termites: *T. Nakayama, T. Yoshimura and Y. Imamura*

Mandibles of Japanese Subterranean Termites, Coptotermes formosanus Shiraki and Reticulitermes speratus (Kolbe): *T. Yoshimura, N. Kagemori, J. Sugiyama, S. Kawai, K. Sera, S. Futatsugawa, M. Yukawa, H. Imazeki, K. Sakuma, S. Ozeki, M. Oyoshi, Y. Yanase, Y. Fujii and S. Okumura*

Feeding Behavior of the Exotic Dry-wood Termite Incisitermes minor (Hagen): *Y. Indrayani, T. Yoshimura, Y. Yanase, Y. Fujii, H. Matsuoka and Y. Imamura*

Development of Binderless Board from Kenaf Core: *J. Xu, R. Widyorini and S. Kawai*

Binderless Particleboards from Baggase Core and Baggase Face : *R. Widyorini, J. Xu, K. Umemura and S. Kawai*

Dielectric Relaxation Due to the Heterogeneous Structure of Wood Charcoal: *H. Sugimoto, M. Norimoto and H. Yano*

Morphological Aspects of Wood Degrading Process by Termite or Marine-borer: *I. Furukawa*

Wood Plastic Composites Resistance to Macrotermes gilvus Termite (An Intermediate Result): *R.E. Ibach, C.M.Clemons, Y.S. Hadi and S. Yusuf*

Feeding Behavior of Subterranean Termites on Steamed Wood: *S. Yusuf and S. Doi*

Biological Resistance of Wood-based Composites Impregnated with a fungicide termiticide Mixture Formulation Using Supercritical Carbon Dioxide: *M. Muin and K. Tsunoda*

Resistance of Japanese Wood Species to Attack by the Asian Subterranean Termite, Coptotermes gestroi (Wasmann): *C.Y. Lee, P.S. Ngee, A. Tashiro, T. Yoshimura and Z. Jaal*

Detection of Hydrogen and Methane from the Feeding Activity of Termites Using a Gas Analyzer: *M. Miura, Y. Yanase, Y. Fujii, S. Okumura, T. Yoshimura, Y. Imamura, T. Maekawa and K. Suzuki*

The Resistance of Treated and Untreated Tropical Wood Species to Marine Borers: *M. Muslich*

Biological Resistance of Wood Treated with Zinc and Copper Metaborates: *T. Furuno, F. Wada, S. Yusuf and T. Kobayashi*

Antitermite Property of Artocarpus heterophyllus Identification of Termite -resistant Component: *S. Shibutani, S. Doi and S. Yusuf*

Effects of Removal of Matrix Substances as a Pretreatment on the Compressive Deformation of Resin Impregnated Wood: *M.I. Shams and H. Yano*

Bacterial Cellulose: The Ultimate Nano-scalar Cellulose Morphology for the Production of

Wood Biomass

White Rot Fungi for Ethanol Production: *Syafwina, T. Watanabe, Y. Honda, M. Kuwahara and T. Watanabe*

Effects of Fungal Treatments on Ethanol Production from Bagasse by Simultaneous Saccharification and Fermentation: *M. Samsuri, B. Prasetya, E. Hermiati, T. Idiyanti, K. Okano, Syafwina, Y. Honda and T. Watanabe*

Melanin Biosynthesis Inhibitory Activity of Indonesian Plants: *E.T. Arung, K. Shimizu and R. Kondo*

Extractives Characterization of Fancy and Industrial Woods of Indonesia by Brine Shrimp Test: *K. Ogiyama, N.J. Wistara and W. Syafii*

Chemical Component and Fiber Dimension of Rubber Wood (Hevea brasiliensis Muell. Arg.) GT1 Clone: *R.K. Sari, D.S. Nawawi and W. Syafii*

Relationships between Lignin β-O-4 Stereo Structure and Aromatic Ring Type Found in 20 Wood Species Including Tropical Woods: *T. Akiyama, Y. Matsumoto, G. Meshitsuka and D.S. Nawaw*

Wood Bioscience

Anatomical Features and Chemical Characterisation of Wood Cut from a Leaning Stem of Acacia spp.: *Z. Ashaari, T. Nobuchi, M.H. Sahri and M. Farizan*

Vascular Bundles Structure of 14 and 25 Year-old Elaeis guineensis Jacq.Stems: *M.H. Sahri and Z. Ashaari*

Introduction of New Method for Measuring Wood Fiber Length Using Single Cross Section and its Verification in Acacia mangium: *K. Honjo, Y. Ogata, M. Fujita and M.H. Sahri*

Blind Pit and Intercellular Spaces in Acacia mangium: *C. Zhang, M. Fujita and K. Takabe*

Cellular Ultrastructural Observation of Trees by FE-SEM: *K. Yamane, T. Ito, Y. Sano, K. Arakawa and S. Fujikawa*

The Features and Intra-tree Distribution of Growth Rings in Agathis loranthifolia: *Y. Ogata, T. Nobuchi, M. Fujita and I. Wahyudi*

Mechanical State of Cellulose Microfibrils in Wood: *B. Clair, T. Almeras, T. Okuyama and J. Sugiyama*

Growth and Properties of Meranti Merah (Shorea selanica Bl.) Grown in Jogyakarta: *S.N. Marsoem and S. Suwarni*

In Vitro Propagation of ‘Sengon’ (Paraserianthes falcataria (L.) Nielsen): *N. Sumiasri, D. Priadi, S. Yokota and N. Yoshizawa*

Production of Transgenic Acacia mangium Expressing Cellulase Gene to Enhance Growth: *E. Sudarmonowati, S. Hartati, R. Hartati, Y.W. Park and T. Hayashi*

The Distribution of Tropical Mushrooms in Sibolangit Conservation Forest, North Sumatra, Indonesia: *K. Nurtjahja, E. Munir and R.P. Nugroho*

Profile of Enzyme Activity and Growth of Wood Rotting Fungi in Metal Ion Containing Media: *E. Munir, T. Hattori and M. Shimada*

The Forest Ecology in the Lake Toba Catchment Area: *Z. Nasution*

Development of a Portable Raman Lidar for observation of Water Vapor Distribution: *T. Nakamura, N. Sugimoto, T. Tsuda and M. Abo*

Poster Presentation

Wood Biomass and Wood bioscience

Ceriporic Acids Produced by a Lignin-degrading Fungus, Ceriporiopsis subvermispora: *T. Ougi, R. Amirta, H. Nishimura, Y. Kawasaki, T. Watanabe, Y. Honda and T. Watanabe*

A Selective Lignin-degrading Fungus, Ceriporiopsis subvermispora, Produces Extracellular Amphipathic Metabolites: *H. Nishimura, T. Ougi, T. Watanabe, Y. Honda and T. Watanabe*

Expression of Recombinant Versatile Peroxidase MnP2 in Pleurotus ostreatus: *T. Tsukihara, T. Watanabe, Y. Honda and T. Watanabe*

Degradation of Discharged Stump and Root of Japanese cedar by Wood-rotting Basidiomycetes: *S. Hatakeyama and M. Kuwahara,*

Utilization Potential of Biomass Residue from Mushroom Production for Chemicals: *B. Prasetya, M. Samsuri, E. Hermiati, W. Fatriasari, F. Fatah, T. Idiyanti and T. Watanabe*

Changes on Chemical Properties during Fungal Pretreatment of Bagasse for Ethanol Production: *E. Hermiati, B. Prasetya, M. Samsuri, T. Idiyanti, W. Fatriasari and T. Watanabe*

Pretreatments of Softwood by Microwave Irradiation and White Rot Fungi for Ethanol Production: *T. Tanabe, Y. Baba, N. Shinohara, T. Mitani, Y. Honda and T. Watanabe*

Purification and Characterization of NAD-dependent formate Dehydrogenase from the White-rot Fungus Ceriporiopsis subvermispora and a Possible Role of the Enzyme in Oxalate Metabolism: *T. Watanabe, T. Hattori, T. Sabrina and M. Shimada*

Subcellular Localization of Isocitrate Lyase in the Wood-destroying Basidiomycete Fomitopsis palustris: *S. Sakai, T. Nishide, E. Munir, T. Hattori, K. Baba, H. Inui, Y. Nakano and M. Shimada*

The Enzymatic Study for Utilization of Fatty Acids and Lipid as a Carbon Source for Mycelial Growth of Ectomycorrhizal Fungi: *T. Hattori, M. Itaya, A. Ohta, A. Kuwabara, J. Tahshin and M. Shimada*

Evaluation of Polysaccharide Degrading Activities of Some Fungi of the Genus Termitomyces: *R.I.H. Ibrahim, K. Hamamoto, J. Azuma and M. Sakamoto*

Microarray Analysis of Genes Expression during Bamboo Shoot Elongation: *M. Sakamoto, Y. Ookushi and J. Azuma*

Molecular Cloning and Characterization of Isoprene Synthase from Populus alba: *K. Sasaki, K. Ohara and K. Yazaki*

The Functions of Carthamus tinctorius CoAOMT and AldOMT: *T. Nakatsubo, N. Sakakibara, T. Hattori, L. Li, V.L. Chiang, M. Shimada and T. Umezawa*

(E)-Hinokiresinol Synthase: *S. Suzuki, M. Yamamura, M. Shimada and T. Umezawa*

Analysis of the Cinnnamate/Monolignol Pathway by Means of the Metabolic Profiling: *N. Sakakibara, S. Suzuki, T. Nakatsubo, M. Shimada, D. Shibata and T. Umezawa*

Characteri- zation of Carthamus tinctorius Cinnamyl Alcohol Dehydrogenase: *N. Shiraiwa, N. Sakakibara, T. Nakatsubo, L. Li, V.L. Chiang, M. Shimada and T. Umezawa*

Molecular Diagnosis of Forest Trees -The Case Studies on Pine Trees: *H. Kuroda, K. Yazaki and M. Shiotani*

Preliminary Analysis of Growth-rings for Tropical Trees: *M. Tanio and T. Tsuda*

Histological Study of Hybrid Aspen that Over-express Arabidopsis Transcriptional Activator CBF1: *H. Komata, T. Itou, Y. Sano, K. Arakawa, T. Chen and S. Fujikawa*

Primary Production of a Young Salix subfragilis Community on Abandoned Paddy Field: *S. Kawaguchi, H.Saitou and Y. Imamura*

Gravitropic Response of Poplar Stem Overexpressing Xyloglucanase: *K. Baba, M. Takeuchi, Y.W. Park, B. Clair, M. Yoshida, Y. Ohmiya, T. Taniguchi, Y. Ojio, T. Kondoh, T. Okuyama and T. Hayashi*

Promotion of Cellulose Accumulation by Degradation of Xyloglucan in Poplar: *Y.W. Park, K. Baba, T. Hayashi, Y. Furuta, I. Iida, K. Sameshima and M. Arai*

Wood Material

Seasoning Treatment of Sugi Living Trees Using Injection Method: *Y. Kobayashi, S. Sasaki, Y. Ishii, H. Yoshida and H. Takeda,*

Improvement of Drying Characteristics of Sugi Log by Pond Storage: *Y. Kawai, Y. Kobayashi and I. Miura,*

Stress Relaxation Behavior of Indonesian Wood Species to the Moisture Content and/or Temperature Change: *Sudijono, W. Dwianto, S. Yusuf, I. Iida and K. Minato*

Effect of Accelerated Aging Treatment on the Mechanical and Physical Properties of Different Wood Species: *M. Yokoyama and S. Kawai*

Transparent Composites Reinforced with Plant-based Nanofiber: *S. Iwamoto, A.N. Nakagaito, M. Nogi and H. Yano*

Possibilities of Bamboo Based High Strength Materials: *M. Inoue and M. Norimoto*

The Properties of Wood Flour/thermoplastic Polymer Composites with a High Wood Content: *M. Takatani, R. Ikuto and T. Okamoto*

Utilization of Acacia mangium in Polymer Composites: *M. Karina, A. Syampurwadi, Sudirman and T. Okamoto*

Evaluation of Indonesian Wood Species from the Physical, Mechanical and Chemical Aspects: *S. Yusuf, W. Dwianto, Sudijono, Y. Kawato, I. Iida and K. Minato*

Pull-out properties of Lagscrewbolted Timber Joints with Epoxy Resin Adhesive: *M. Nakatani, T. Mori and K. Komatsu*

Conception: Utilization of Fast-growing Wood Species for Interior Semi-structural Timber Wall: *T. Shiratori and K. Komatsu*

Shear Performance of Earth-wall that is a Typical Town House of Kyoto: *A. Tabuchi, A. Kitamori, T.*

Mori and K. Komatsu

Development of Wooden Wall for House Using Natural Structural Materials: *T. Mori, M. Inoue, K. Komatsu and M. Nakatani*

Structural Characteristics of Traditional Wooden Architecture in Zen Buddhism Temple: *Y. Kataoka, Y. Toyoda, K. Komatsu and M. Nikko*

Preliminary Study on Wood Deterioration in the Simulated Space Environment: *N. Katsumata, T. Mitani, T. Yoshimura, N. Shinohara and Y. Imamura*

Manufacture and Properties of Light-weighted Roselle-core Particleboard: *N. Laemsak*

Extractives of Tanjung Wood: Isolation of Phenolic Substances and Their Antioxidant and Antifungal Activities: *T. Katayama, T. Suzuki, W. Syafii, S. Miyoshi and M. Maeda*

Synthesis and Characterization of Poly(vinyl alcohol) levulinate: *Y.M. Wang, A. Ikeda, N. Hori, A. Takemura, H. Ono and T. Tsukatani*

Effect of Alkyl Ammonium Compounds, DDAC and DBF, on Wood of Different Natural Durability: *W.J. Hwang, S. N. Kartal, Y. Imamura and K. Shinoda,*

A Novel Method for Analyzing Starch and Sugar Contents of Bamboo: *Y. Okahisa, T. Yoshimura and Y. Imamura*

Catalytic Graphitization of Biomass Carbon with Alumina by Pulse Current Heating: *T. Hata, P. Bronsveld, T. Vystavel, J. deHosson, H. Kikuchi, K. Ishimaru, M. Fujisawa, T. Nishizawa and Y. Imamura*

Development of SiC/C Composites from Wood Charcoal by Pulse Current Sintering and Their Thermoelectric Properties: *M. Fujisawa, T. Hata, P. Bronsveld, V. Castro, F. Tanaka, H. Kikuchi and Y. Imamura*

The Formation Process of Wood Charcoal Prepared by Flash Heating: *F. Kurosaki, K. Ishimaru, T. Hata, P. Bronsveld and Y. Imamura*

目次にもどる

The 6th International Wood Science Symposium
August 29-31, 2005, Bali, Indonesia

Keynote

Research and Development on Forestry Sector: *Hadi Parasibu*

Development of Soil Conditioning Agent from Pulp and Paper Waste Liquor: *Gyosuke Meshitsuka and Dongxiang Wang*

Wood Material

The Preparation of a High Strength Material from Bamboo Fiber Bundles: *Misato Norimoto, Akira Matsumoto, Masahiko Sasada, Masafumi Inoue, Takuro Mori, and Shuichi Kawai*

Bamboo Bending: *Masafumi Inoue, Misato Norimoto, and Shuichi Kawai*

Bamboo as Space Truss Elements (A Preliminary Research): *Gina Bachtiar, Surjono Surjokusumo, Yusuf Sudo Hadi, and Naresworo Nugroho*

Effect of Time Period between the Harvesting and Soaking on the Mechanical Properties of Black Bamboo (*Gigantochloa atroviolacea*): *Musrizal Muin and Andi Detti Yunianti*

Characterization of the Mechanical Properties of Plant Fiber Bundles: *Sasa Sofyan Munawar, Kenji Umemura, and Shuichi Kawai*

Physical and Mechanical Properties of Teak Wood (*Tectona grandis L.f.*) on Various Age Class (I – VIII): *Yoyo Suhaya, Atmawi Darwis, and Ihak Sumardi*

Physical Properties of Sukun Wood (*Artocarphus communis* FORST) Ground in Bantul Regency Yogyakarta: *Harry Feryanto and Sri Nugroho Marsoem*

Axial and Radial Variation on Physical and Mechanical Properties of 15 Years Old Acacia Wood (*Acacia auriculiformis* A. Cunn. ex. Benth.) Grown in Gunungkidul: *I.B. Maha Satwika and Sri Nugroho Marsoem*

Reinforced-Matrix Theory - A Basic Concept of Wood Cell Wall Physics and Mechanics: *Hiroyuki Yamamoto*

Wood Strength Analysis Based on Non Destructive Testing: *Lina Karlinasari, Surjono Surjokusumo, Yusuf Sudo Hadi, and Naresworo Nugroho*

Evaluation of the Aging of Wood as Perceived by Japanese Sculptors of Buddhist Statues: *Misao Yokoyama, Ken-ichiro Yano, Yuko Fujiwara, Yoshimasa Kishimoto, Yoshihisa Fujii and Shuichi Kawai*

On the Moisture Content of Wood at High Temperatures: *Teppei Asada and Toshiro*

Morooka

Affecting Factors on Recovery of Shrinkage in Dried Waterlogged Wood: *Yuko Kawata, Toshinari Kawada and Kazuya Minato*

Temperature and Steam Pressure Dependency on the Fixation of Compressed Wood by Close System Compression: *Yusup Amin and Wahyu Dwianto*

Performance of Pilot-scale Wood Bending Machine: *Teguh Darmawan, Jayadi, Sudijono, Yusup Amin, Ika Wahyuni, and Wahyu Dwianto*

Production of Laminated Veneer Lumber (LVL) using Phenol Resorcinol Formaldehyde (PRF): *Bambang Subiyanto, Mohamad Gopar, Sadrah Devi, Yoyo Suhaya, and Kuniharu Yokoo*

Construction Durability of School Buildings – Case Study on Elementary School Buildings: *Sulaiman, Surjono Surjokusumo, and Naresworo Nugroho*

Studies on LVL Processed Wood for Structure of Construction Building: *Sutadji Yuwasdiki, Kohei Komatsu, Bambang Subiyanto, Anita Firmanti, Maryoko Hadi*

Comparison between Graveyard and Laboratory Tests on Rubber-Wood Acetylated Flakeboard Attacked by *Macrotermes gilvus* Subterranean Termite (An Intermediate Results IV): *Rebecca E. Ibach, Craig M. Clemons, Yusuf Sudo Hadi, and Sulaeman Yusuf*

Structural Changes of Sugar-Palm Tree Fibers and their Feasibility as a Physical Barrier against Subterranean Termites: *Musrizal Muin and Astuti Arif*

Potential of Gamma-Irradiation as a Termite Control Measure: *Noriaki Katsumata, Kawaguchi Seima, Yuliati Indrayani, Tsuyoshi Yoshimura, Saito Takeshi, and Yuji Imamura*

Termite Control on the High Rise Building: *James Rilatupa and Surjono Surjokusumo*

Synergistic Effects of Heartwood Extractives and Preservative Chemicals on Termite Resistance of Woods with Different Natural Durability: *Won-Joung Hwang, S. Nami Kartal, Yuji Imamura, and Katsumi Shinoda*

Analyze of The Infection of Canker Fungi on Light Red Meranti (*Shorea smithiana*): A Scanning Electron Microscopic Study: *Erwin, Won-Joung Hwang, and Yuji Imamura*

Wood Preferences of Dry-wood Termite *Incisitermes minor* (Hagen) (Isoptera: Kalotermitidae) to Japanese and U.S. timbers: *Yuliati Indrayani, Tsuyoshi Yoshimura, and Yuji Imamura*

Isolation of Microorganism (Yeast) from the Death Termites Body as Biological Control of Termites Attack: *Ikhsan Guswenrivo, Titik Kartika, Suciatmih, Arif Heru Prianto, Didi Tarmadi, and Sulaeman Yusuf*

Assessment of Termite Assemblages of Different Forest Types using Standardized Sampling Protocol – Comparison between Disturbed Forest and Undisturbed Forest: *Yoko Takematsu, Tetsushi Inoue, Yupaporn Sornnuwat, and Charunee Vongkaluang*

Field Habitat of an Alien Termite *Reticulitermes kanmonensis* (Isoptera, Rhinotermitidae) in Japan: *Kohei Kambara and Yoko Takematsu*

Preparation and Property of Environmentally Friendly Plywood Bonded with Poly (lactic acid) Emulsion as Adhesive: *Bin Usami, Kyoko Fukui, Masahiro Takatani, and Tadashi Okamoto*

Particle Board of Fiber from Oil Palm Empty Fruits Bunch and Adhesive from Gambir: *Anwar Kasim*

The Effects of Synthesis Conditions on Bond Strength of Natural Rubber Latex – Styrene as Plywood Adhesive: *Euis Hermiati, Widya Fatriasari, and Faizatul Falah*

Color Change of UV Treated PMDI: *Kenji Umemura, Shuichi Kawai, Hidefumi Yamauchi, Masaaki Shibata, and Takeshi Ito*

Binder-less Insulation Panel for Building Use Made from Wood Processing Residues and Agricultural Wastes: *Noboru Sekino*

Manufacture of Core–Kenaf Particleboard: *Dede Hermawan*

Quality of Core–Kenaf Particleboard at Several Paraffin Levels: *Dede Hermawan*

Manufacture of Core–Kenaf Particleboard using Bamboo Matting: *Dede Hermawan*

Manufacturing Technology of Laminated Particle Lumber using Core–Kenaf Particles: *Dede Hermawan*

Panel Product from Long Fibers of Abaca (*Musa textilis* Nee): *Firda Aulya Syamani, Ismail Budiman, Subyakto, and Bambang Subiyanto*

Natural Fiber – Polypropylene Composites: Myrtha Karina, Holia Onggo, Anung Syampurwadi and Tadashi Okamoto

The Development of Composite Panels by using Sawdust and PVC Powder: *Lasino and Anita Firmanti*

New Method for the Production of Microfibrillated Cellulose: *A.N. Nakagaito, Lisman Suryanegara, Hiroyuki Yano, and N. Seiki*

XPS and RAMAN Spectroscopy on Diamond/Graphite Composite from Carbonized Wood: *Toshimitsu Hata, Kengo Ishimaru, P. Bronsveld, M. Fujisawa, Fumio Kurosaki, H. Kikuchi, and Yuji Imamura*

Effect of Pre-Heating and Flash-Heating on Microstructures of Carbonized Cellulose: *Fumio Kurosaki, Kengo Ishimaru, Toshimitsu Hata, Junji Sugiyama, and Yuji Imamura*

Wood Biomass

Bioconversion of Sugarcane Bagasse Into a Feed for Ruminants using White-rot Fungi: *Kanji Okano, Yuko Iida, Muhammad Samsuri, Euis Hermiati, Tami Idiyanti,*

Bambang Prasetya, and Takashi Watanabe

Pre-treatment of Japanese Cedar Wood by White-rot Fungi for the Production of Bioethanol and a Feed for Ruminants: *Takashi Watanabe, Kanji Okano, Yasunori Baba, Kenta Yano, Rudianto Amirta, Syafwina, Toshiaki Tanabe, Takahito Watanabe, and Yoichi Honda*

Production of Compost from Wood Waste using Wood-Rotting Fungi: *M. Kuwahara, S. Hatakeyama, M. Oyadomari, and T. Takata*

Seasonal and Height-Depending Changes of Starch and Free Glucose Contents in Moso Bamboo (*Phyllostachys pubescens*): *Yoko Okahisa, Tsuyoshi Yoshimura and Yuji Imamura*

Identifying the Lignin Derived Secondary Ions using ToF-SIMS: *Kaori Saito and Kazuhiko Fukushima*

Waste Utilization of Plywood Sandpapering Process Become Ethanol through Ferment Process: *Ahmad Jauhari*

The Potential Usage of Mangrove Residues: *Cicilia M.E. Susanti, Yosias Gandhi, and Anom Indra A*

Potential Biomass of Gewang (*Corypha utan* Lamk) for Biocomposites: *Subyakto, Kurnia Wiji Prasetyo, Bambang Subiyanto, and B. Paul Naiola*

Bio Sulphate Pulping of Gmelina Wood (*Gmelina arborea*) using White Rot Fungi *Phanerochaete chrysosporium* as Pre Treatment: *Errick Alberto, Sri Nugroho Marsoem, and Kuswanto*

Bio Kraft Pulping of Sengon with *Phanerocheate chrysosporium* Fungi: *N. Pujirahayu and Sri Nugroho Marsoem*

Yield and Physical Properties Variation of Sulphate Pulp from *Acacia auriculiformis* a. Cunn. Ex. Benth Trunk Base for Different Age and Sulfidity: *Diah Ratna Susanti and Sri Nugroho Marsoem*

Cellulose–Hemicellulose Present in Hydrocolloids from Salvia spp.: *Rike Yudianti, Lucia Indrarti, Jun-ichi Azuma, and Masahiko Sakamoto*

Hemicellulosic Polysaccharide Present in the Cellulosic Hydrogel of Oscimum Seed: *Lucia Indrarti, Jun-ichi Azuma, Rike Yudianti and Masahiko Sakamoto*

Biodiesel Manufature from Curcas Oil Using Estrans Process: *R. Sudradjat, I. Jaya, and Dadang Setiawan*

Pre–treatments for Ethanol Production from Bagasse by Simultaneous Saccharification and Fermentation: Muhammad Samsuri, Bambang Prasetya, Euis Hermiati, Tami Idiyanti, Kanji Okano, Syafwina, Yoichi Honda, and Takashi Watanabe

Solid State Fermentation of Dyes –Adsorbed Agricultural Residue: *Yanni Sudiyani, Vera Barlianti, and Edi Iswanto Wiloso*

Lignin Degradation Content in Rice Straw Pre-treated by White–Rot Fungi: *Riksfardini*

Annisa Ermawar, Dede Heri Yuli Yanto, Fitria, and Euis Hermiati

The Influence of Soaking in Sodium Hydroxide to the Mechanical Properties of Pineapple Leaf Fiber: *Holia Onggo and J. Triastuti*

Effect of Different Harvesting Time and Stem Height on Kenaf Bast Fiber Characteristics: *Wiwin Suwinarti and Kazuhiko Sameshima*

Soda–Ethanol Pulping of Dadap (*Erythrina variegata* L) – The Properties of Pulp Obtained from Bark and Wood Components: *Nyoman Wistara*

Utilization of Bark Extractives from Some Tropical Hardwoods as Natural Wood Preservatives – Termitidical Activities of Extractives from Bark of Some Tropical Hardwoods: *Syamsul Falah, Takeshi Katayama, and Mulyaningrum*

Extractives of Tanjung Wood, Akar Kuning and Gimbul Wood and their Antioxidant and Antifungal Activities: *Takeshi Katayama, Mami Maeda, Toshisada Suzuki, Wasrin Syafii, and Sipon Muladi*

Investigation of Brine Shrimp Lethal and Termiticidal Extractives of Jack Fruit (*Artocarpus heterophylla* Lam.) Heartwood: *Koichi Ogiyama, M. Watanabe, N. Sekine, M. Kano, Nyoman J. Wistara, and Wasrin Syafii*

Wood Bioscience & Environmental Science

Characteristic of Basswood (*Ochroma bicolor* Rowlee) Planted Indonesia: *Imam Wahyudi and Istie Sekartining Rahayu*

Fibre Wall Layer in Stems of 14 and 25 Year-Old Oil Palm (*Elaeis guineensis*) Jacq.: *Mohd. Hamami Sahri and Shirley Marylinda Bakansing*

Reorientation of Xylem Cells in Horizontal and Vertical Bridges after Girdling of Trunks in *Acer pycnanthum* (Aceraceae): *Takao Itoh and Junichiroh Toyoda*

Toward Understanding the Functional Difference of Short and Long Parenchyma Cells in Bamboo Culms: *Xin-Qiang He and Takao Itoh*

Reinvestigation of Preferential Orientation of Cellulose Lattice Planes By Infrared Spectrometry: *Yoshiki Horikawa, Takao Itoh and Junji Sugiyama*

Introduction to RISH Wood Diversity Database: *Junji Sugiyama and Takao Itoh*

Callus Induction from Various Types of Explants in Sengon (*Paraserianthes falcataria* (L.) Nielsen): *J. Eizawa, Y. Saito, S. Yokota, F. Ishiguri, K. Iizuka, N. Sumiasri, and N. Yoshizawa*

The Influence of Aril on Germination Rate and the Shoot Formation from Axillary Buds: *Y. Saito, S. Yokota, J. Eizawa, F. Ishiguri, K. Iizuka, N. Sumiasri, and N. Yoshizawa*

Control of the Fenton Reaction by Ceriporic Acid B, an Extracellular Metabolite of Ceriporiopsis subvermispora Possible Roles in Selective White Rot: *Yasunori Ohashi, Noor Rahmawati, Yoshihiko Kan, Takahito Watanabe, Yoichi Honda, and Takashi*

Watanabe

The Functions of *Carthamus tinctorius* CoAOMT and AldOMT: *Tomoyuki Nakatsubo, Laigeng Li, Vincent L. Chiang, Mikio Shimada, and Toshiaki Umezawa*

First cDNA Cloning of a Lignan *O*-methyltransferase Catalyzing a Regioselective Methylation of Matairesinol: *Toshiaki Umezawa, Laigeng Li, Norikazu Sakakibara, Tomoyuki Nakatsubo, Shohei Wada, Shiro Suzuki, and Vincent L. Chiang*

cDNA Cloning of *Asparagus officinalis* Hinokiresinol Synthase: *Masaomi Yamamura, Shiro Suzuki, Tomoyuki Nakatsubo, Takefumi Hattori, Mikio Shimada, and Toshiaki Umezawa*

Characterization of cDNA *FPICL1* Encoding Isocitrate Lyase from Wood-rotting Basidiomycete *Fomitopsis palustris: Shunsuke Sakai, Tatsunori Nishide, Erman Munir, Takefumi Hattori, and Mikio Shimada*

Fatty Acid Desaturases from Lignin-Degrading Basidiomycetes: *Takahito Watanabe, Saeko Tsuda, Taro Yoshida, Takeshi Ougi, Hiroshi Nishimura, Yuko Kawasaki, Yoichi Honda, and Takashi Watanabe*

The Character of Cellulase from *Aspergillus niger* on Sengon (*Paraserianthes falcataria*) Sawdust Holocellulose Hydrolysis by NaOH Addition as a Pre Treatment: *Denny Irawati, Sri Nugroho Marsoem, and J.P. Gentur Sutapa*

Physical Properties of Sawdust as an Artificial Soil Matrix from Primary and Secondary Forests in East Kalimantan: *Rizki Maharani and Minoru Terazawa*

Preliminary Study of Forest Characteristics and Carbon Potential of Peat Swamp Forest Ecosystem in Ketapang West Kalimantan: *Dwi Astiani*

The Use of Rhizosphere Bacterial Isolates to Improve the Quality of Tailing in Mandor for Biological Reclamation Effort: *Wiwik Ekyastuti, Tri Rima Setyawati, and Rafdinal*

Pioneer Plant as Phytosymbiont and Arbuscular Mycorrhizal Fungi as Mycosymbionts for Phytoremediation of Tailing in Landak West Kalimantan: *Hanna Artuti Ekamawanti and Dwi Astiani*

Strategy to Improvement Wood's Value Added on Plywood Industry with Ecoefficiency: *Yulia Nurendah, Gumbira Said, Anas Miftah Fauzy, Zahrial Coto, Muhammad Romli, Hartrisari Hardjomidjojo, and Sri Nugroho Marsoem*

The Total Economic Value of the Gunung Walat Educational Forest and Its Contribution to the Welfare of the Surrounding Community: *Emi Roslinda*

Anatomical Changes of Oil Palm Stem (*Elais guineensis* Jacq.) during Microwave Heating: *Krisdianto*

Isoprene Emission from Trees. A Benefit for Plants or for Human?: *Kazufumi Yazaki, Kanako Sasaki, Kazuaki Ohara, and Takuya Saito*

The Application of Medium and Growth Regulators on Calli Induction from Different Explants of Mangium (*Acacia mangium* Willd.) and Sengon (*Paraserianthes falcataria*

(L.) Nielsen): *Nurul Sumiasri, Dody Priadi, S. Yokota, and N. Yoshizawa*

Expression of Cellulase Gene in *Paraserianthes falcataria*: *Enny Sudarmonowati, Sri Hartati, Retna Hartati, Yong Woo Park, and Takahisa Hayashi*

Agrobacterium–Mediated Genetic Transformation of Acacia mangium Bearing Xyloglucanase Gene: *Sri Hartati, Yong Woo Park, Enny Sudarmonowati, and Takahisha Hayashi*

Wood Material

Mechanical Properties of Solid Bamboo (*Dendrocalamus strictus* Ness.): *Yosias Gandhi*

Selected Physical and Mechanical Properties at Four *Hevea* Species Grown in Malaysia: *Mohd. Hamami Sahri and Wong Kin Lip*

Characterization of Fifteen Indonesian Wood Species from the Physical, Mechanical and Chemical Aspects: *Sulaeman Yusuf, Wahyu Dwianto, Sudijono, Yusuke Kawato, Ikuho Iida, and Kazuya Minato*

Influence of NaOH Pre-treatment on Fixation of Compressed Wood: *Wahyu Dwianto, Ika Wahyuni, Yusup Amin and Teguh Darmawan*

Non Destructive Testing on Six Tropical Woods using Ultrasonic Method: *Lina Karlinasari, Surjono Surjokusumo, Yusuf Sudo Hadi, and Naresworo Nugroho*

Machining Properties of Sowang Wood (*Xanthostemnon novaguinensis* Val.) from Doyo Transad Village, Jayapura – Papua: *Yuyu Rahayu, Muhammad Makrus, and Abdurrahman Wasaraka*

Shear Resistance of Thick Floor Panels Nailed to Wood Frame Floor Systems: *Shinjiro Takino, Kohei Komatsu, Yakni Idris, Bambang Subiyanto and Sutadji Yuwasdiki*

Effect of Testing Methods on the Mechanical Behaviors of Wooden Plate Shear Walls: *Takuro Mori, Akihisa Kitamori, and Kohei Komatsu*

Radial Stress in Glulam Frame Corner with Large Finger Joint (LFJ): *Kohei Komatsu, Aki Nitta, Yasunobu Noda, and Takuro Mori*

BEAM–COLUMN JOINT OF ACACIA MANGIUM–ALBIZIA FALCATARIA GLULAM WITH BOLT FASTENERS: *Maryoko Hadi, Bambang Subiyanto, Anita Firmanti, Kohei Komatsu, and Sutadji Yuwasdiki*

Quality of Two Veneer Thicknesses Following Microwave Drying: *Wahyudi*

The Combination of Solar Energy and Heating Stoves System for Drying Wood: *Efrida Basri and Karnita Yuniarti*

Termite Resistance of Nine Indonesian and Compression Wood: *Didi Tarmadi, Yusup Amin, Arief Heru Prianto, Teguh Darmawan, Sulaeman Yusuf and Wahyu Dwianto*

Feasibility of Several Particulate Materials as a Physical Barrier against Termites: *Yoshiyuki Yanase, Yoshihisa Fujii, Shogo Okumura, Tsuyoshi Yoshimura, Yuji*

Imamura, Hirotoshi Kawaguchi and Toshinobu Okumura

Tropical Termite Resistance of Wood–Mineral Composites using the Colloidal Silica Solution System: *Takeshi Furuno, Takashi Goto, and Sulaeman Yusuf*

Feasibility the Application of *Fusarium* sp. as Pathogenic Fungi to *Coptotermes* sp.: *Titik Kartika, Suciatmih, Ikhsan Guswenrivo, Didi Tarmadi, Arief Heru Prianto, and Sulaeman Yusuf*

The Entomopathogenic Fungus from Various Host in Nature: Physiological Characterization and their Pathogenicity to Subterranean Termites *Coptotermes* sp. : *Desyanti, Yusuf Sudo Hadi, Sulaeman Yusuf, and Teguh Santoso*

An Application of the Stable Isotope Analysis to Wood Preservation: *Tomoe Nakayama, Tsuyoshi Yoshimura, and Yoko Fujikawa*

The Resistance of Wood Plastic Composites with Ultra–Violet Stabilizer to Dry Wood Termite: *Husnah Latifah, Yusuf Sudo Hadi, Fauzi Febrianto, and Myrtha Karina*

Durability of Sawdust and Recycled Polypropylene Composite with UV Stabilizer to Weathering: *Iwan Risnasari, Yusuf Sudo Hadi, Fauzi Febrianto, and Myrtha Karina*

Energy Gas Production from Wood Biomasses by Termites – A Preliminary Result: *Seima Kawaguchi, Tsuyoshi Yoshimura, Yuji Imamura, Masahiro Miura, Yoshiyuki Yanase, Yoshihisa Fujii, Shogo Okumura, and Kengo Suzuki*

Acacia mangium

The Development of Sawlog Plantation of *Acacia mangium* at PT Musi Hutan Persada, South Sumatra: *Eko B. Hardiyanto and Bambang Supriyadi*

A Case Study on the Carbon Flow Analysis in Large-scale Plantation Forest of *Acacia mangium: Emi Tanaka, Anita Firmanti, and Shuichi Kawai*

Wood Properties and Utilization of *Acacia mangium* Willd. in Indonesia: *Sri Nugroho Marsoem*

Atmospheric Observations Over the Forest: *M. Shiotani, T. Nakamura, and J. Furumoto*

A Series of Studies on the Utilization of *Acacia mangium* Timber as Structural Materials: *Anita Firmanti and Shuichi Kawai*

Possibility of using *Acacia mangium* as Structural Timber: *Indah Sulistyawati, Surjono Surjokusumo, A. Muhar Husin*

Effect of Growth Rate on Specific Gravity and Selected Mechanical Properties in Mangium Wood: *Imam Wahyudi*

Particleboard from *Acacia mangium* Bark – Effects of Resin Type and Amount of Wax Emulsion on the Board Properties: *Mohamad Gopar, Ismail Budiman, Subyakto, and Bambang Subiyanto*

Acacia mangium Bark Utilization: *Hiroyuki Yano*

Wood Biomass

Wood Material

Wood Bioscience & Environmental Science

目次にもどる

International Symposium
on Sustainable Utilization of *Acacia mangium*
October 21-22, 2003, Kyoto, Japan

Opening remarks
M. Norimoto

Opening speech
T. Enomoto

Session 1 Overview
(Moderator, Shuichi Kawai, Kyoto University)

Acacia mangium the Prospective Wood in Indonesia: Challenge for a New Resource: *B. Subiyanto, A. Firmanti and P. Permadi*

Potential Utilization of *Acacia mangium* - Its Future in Indonesia: *Myrtha Karina*

Current Status of *Acacia mangium* Planting, Research and Utilization in Malaysia: *E. D. Wong, Y. Siti-Norralakmam and A.-K. Razali*

Session 2 Wood Formation
(Moderator, Takao Itoh, Kyoto University)

Some Characteristics of Wood Formation and Future Trends of Plantation in *Acacia mangium: T. Nobuchi*

Wood Structures and Wood Properties Relationship in Planted *Acacia*s: Malaysian Examples: *M. Hamami Sahri and S Bokhari*

The Effect of the Growth Rate on the Surface Growth Stress and the Residual Stress in the Logs of the *Acacia* species: *H. Yamamoto, T. Okuyama, M. Yoshida, I. Wahyudi and T. Ona*

Heart Wood Proportion in *Acacia* Species of Various Age Groups Planted in Sabah: *M. Hamami Sahri and S. Bokhari*

Session 3 Biotechnology

Functional Genomics in Legume plants: *D. Shibata*

Screening for the Species with High Plant Regeneration Ability in the Genus *Acacia: Y. Itakura and M. Mii*

The Genetic Resources of *Mangium* (*Acacia mangium* Willd) in Indonesia: Its Development and Problem: *N. Sumiasri and D. Priadi*

Exploration of Bacterial Nitrogen Fixation on Different Ages of *Acacia mangium* Willd.

Seedlings: *H. Artuti Ekamawanti, D. Astiani and W. Ekyastuti*

The Effects of Various Growth Media on the Performance of *Acacia mangium* Willd Seedling on in Vitro Culture During the Acclimatization Periods: *Y. Sudiyani, D. Priadi and N. Sumiasri*

The Fine Structure and Selected Cytochemistry of Ungerminated Basidiopores of *Pluteus cervinus: K. Nurtjahja1 and D. G. Ruch*

Session 4 Pulping

(Moderator, Takashi Watanabe, Wood Research Institute, Kyoto University)

Clonal Forestry of *Acacia* Hybrid in Vietnam and Clonal Orchard Management by DNA Marker: *K. Tomita and K. Ito*

Kraft Pulping of *Acacia mangium*: *T. Miyanishi and K. Watanabe*

Utilization of the Branch Including the Bark of *Acacia mangium* Willd as Raw Material for Pulp and Paper Manufacture: *R. Yahya*

Prospective of *Acacia mangium* Willd as Raw Material of Pulp and Paper in Indonesia: *S. Muladi, Z. Arifin, E. Tangke Arung, Yuliansyah, R. Amirta and R. Patt*

Session 5 Bark Utilization

(Moderator, Bambang Prasetya, R & D Unit for Biomaterial, LIPI)

The Direct Conversion of *Acacia mangium* Bark into Waterproof Wood Adhesives: *H. Yano, S. Ogawa and C. M. E. Susanti*

Characterization of Polyphenols from Tropical Trees Species Acacia auriculiformis Cunn. Ex Benth.: *S. Yusuf, K. Hashida and S. Ohara*

Utilization of Bark from *Acacia mangium* Wild as Bonding-Components in Some Applications in Wood Composite: *B. Prasetya, Subyakto, B. Subiyanto, Sudijono, S. Yusuf and E. Hermiati*

Development of Binder Less Particleboard from *Acacia mangium* Bark: *Subyakto, L. Suryanegara, Sudijono, M. Gopar, B. Prasetya and B. Subiyanto*

Session 6 Wood-Based Materials

(Moderator, Ee Ding Wong, Universiti Putra Malaysia)

Report of *Acacia* Hybrid Plantation in Sabah, Malaysia: *Y. Matsumoto*

Mechanical Properties, Fire Performance and Termite Resistance of *Acacia mangium* Willd.: *W. Dwianto, Sudijono, I. Iida, Subyakto and S. Yusuf*

The Utilization of Branches and Top of Tree of *Acacia mangium* Wood as Fiberboard: *A. D. Yunianti and T.A. Prayitno*

Utilizing *Acacia mangium* for Construction Materials: *A. Firmanti, S. Surjokusumo, K. Komatsu, S. Kawai and B. Subiyanto*

Session 7 Biological Deterioration

(Moderator, Tsuyoshi Yoshimura, Wood Research Institute, Kyoto University)

Decay Resistance of *Acacia mangium, A. auriculiformis* and Hybrid *Acacia* wood: *K. Yamamoto, N. T. Nhan and D. T. N. Bich*

Lignocellulolytic Enzymes from Thermotolerant White Rot Fungus *Coriolus versicolor* Cultured on Tropical Fast-Growing Tree Wood Meal: *C. Khanongnuch, T. Saowapark, S. Lumyong, Y. Honda and T. Watanabe*

Biodegradation of Oil Palm Empty Fruit Bunches by *Ganoderma lucidum* and Its Waste Product Potential Use: *D. Taniwiryono*

Closing remarks

Y. Imamura

目次にもどる

Snapshots in JSPS-LIPI Core University Program in the Field of Wood Science

1st IWSS in Uji (1996)

Opening address
by Prof. M. Kuwahara (Coordinator)

Lecture hall
scene

Banquet scene

2nd IWSS in Serpong (1998)

Lecture hall
scene

Signing of MOU

3rd IWSS in Uji (2000)

Lecture hall scene

After business meeting

Banquet

4th IWSS in Serpong (2002)

Opening address by Prof. Imamura

The 4th IWS Symposium : Serpong,Indonesia (2-3,Sep.2002)

Prof. Norimoto (Coordinator) at the banquet

Business meeting

5th IWSS in Kyoto (2004)

Signing ceremony of MOU

Closing ceremony
Dr. Endang Sukara (left) and Prof. S. Kawai (right)

Banquet

Scientific excursion to Himeji Caatle

After business meeting

6th IWSS in Kyoto (2005)

Opening ceremony
Prof. Matsumoto

Opening ceremony
Mr. Endo

Excursion in the Ekakarya Botanical Garden

Participants

Workshop and Expose LIPI-JSPS in Jakarta (2003)

International Symposium on Sustainable Utilization of Acacia mangium in Uji (2003)

目次にもどる