



PROGRAM BOOK

JOINT CONFERENCE

The 9th PRWAC & IAWS Meeting
 The 9th International Symposium of IWoRS

BALI - INDONESIA
 26-29 September 2017



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9th International Symposium of IWoRS (Indonesian Wood Research Society) 2017

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TABLE OF CONTENTS

	Page
CONFERENCE COMMITTEE	1
INFORMATION AND OFFICIAL CONTACTS	5
TABLE OF CONTENTS	6
WELCOME MESSAGE	
Chairman of the 9 th Pacific Regional Wood Anatomy Conference & Annual Meeting of International Academy of Wood Science 2017	8
Chairman of the 9 th International Symposium of Indonesian Wood Research Society 2017	9
CONFERENCE VENUE	10
REGISTRATION DESK	13
ORAL PRESENTATION GUIDELINE	14
POSTER PRESENTATION GUIDELINE	15
SOCIAL EVENTS	16
Welcome Ceremony	
Field Trip	
Dinner	
PARTNER JOURNALS	17
SCHEDULE OF PROGRAMS	18
LIST OF ABSTRACT TITLES	24
ABSTRACTS/PAPERS FOR PLENARY LECTURES	40
ABSTRACTS FOR ORAL PRESENTATION	
Annual Meeting of IAWs	50
The 9 th PRWAC	57
The 9 th International Symposium of IWoRS	140
ABSTRACTS FOR POSTER PRESENTATION	
The 9 th PRWAC	246
The 9 th International Symposium of IWoRS	294
BALI AT GLANCE	307
AUTHORS INDEX	
Annual Meeting of IAWs	315
The 9 th PRWAC	317
The 9 th International Symposium of IWoRS	322
ACKNOWLEDGEMENTS and SPONSORS	329
LIST OF PARTICIPANTS	
Annual Meeting of IAWs	333
The 9 th PRWAC	334
The 9 th International Symposium of IWoRS	339

PARTNER JOURNALS

The 9th International Symposium of IWoRS has agreement with three journals, which their Board of Editors may select several articles that meet with their coverage and quality standar of publication. The journals are as follows:

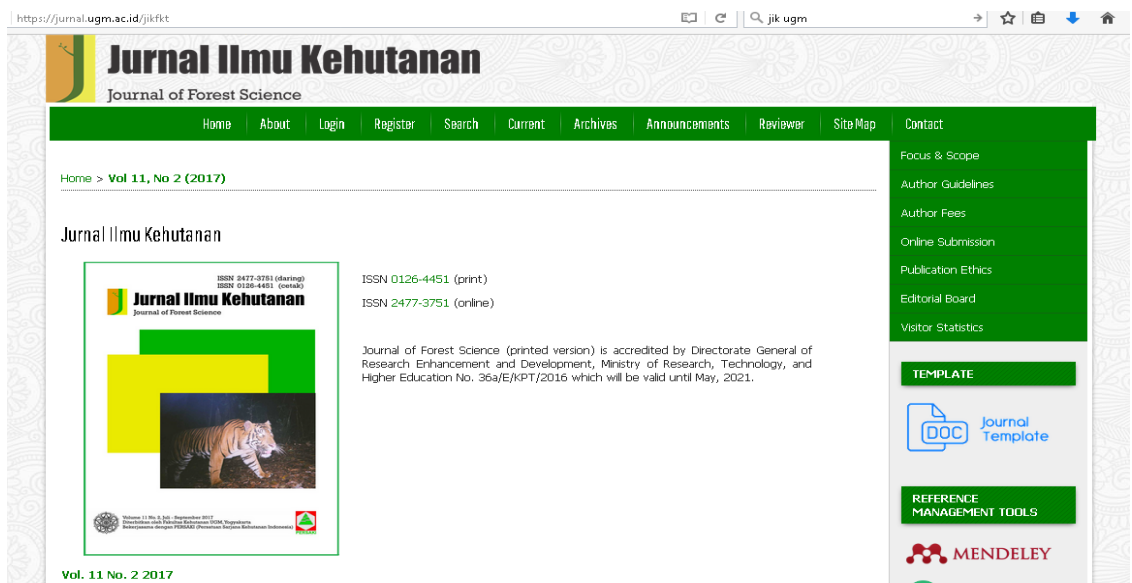
1. Wood Research Journal (published by Indonesian Wood Research Society),



2. Jurnal Ilmu dan Teknologi Kayu Tropis/Journal of Tropical Wood Science and Technology (published by Indonesian Wood Research Society). This journal is accredited by Directorate General of Higher Education No 212/P/2014.



3. Journal of Forest Science /Jurnal Ilmu Kehutanan. This journal is published biannually (January-March and July–September) by the Faculty of Forestry Universitas Gadjah Mada in cooperation with Indonesia Forestry Scholar Association (PERSAKI). This journal is accredited by Directorate General of Research Enhancement and Development, Ministry of Research, Technology, and Higher Education No. 36a/E/KPT/2016 which will be valid until May, 2021.



LIST OF ABSTRACTS TITLE

PRWAC-PO27 Yuiko Noguchi	Anatomy and Hypothetical Experiments to Demonstrate the Role of Parenchyma and Tracheids to Keep Water Conduction in <i>Cinnamomum camphora</i> (L.) J. Presl
PRWAC-PO28 Yuki Matsumoto	Diurnal and Seasonal Changes in Radial Growth and Trunk Diameter
PRWAC-PO29 Yus Andhini B. P.	Histological Observation of <i>Ochroma pyramidale</i> Wood Decayed by <i>Fomitopsis palustris</i> and <i>Trametes versicolor</i>
PRWAC-PO30 Y. Suranto	Diagnostic Study for Conservation of Dalimo Ethnic Vernacular House in Sijunjung District at Sumatera Barat Province.

List of Oral Presentations Title The 9th International Symposium of IWoRS

IW-WP-01	Dawam Abdullah	Hollow structure of Indonesian Based Bamboo Gombong (<i>Gigantochloa pseudoarundinacea</i>)
IW-WP-02	Wahyu Dwianto	An Overview of Platinum Teak Wood Observations: A Potential Fast Growing Wood in Indonesia for Forest Timber Estate
IW-WP-03	Hikaru Kobori	The Effect of Short Term Variability of Climatic Elements on The Degradation of Wood Based Panel
IW-WP-04	Maryoko Hadi	Property of Timber House Material Against Fire
IW-WP-05	Imam Wahyudi	Exploration and Recommendation for the Utilization of The Future Wood Species based on Its Anatomical Structure, Physical-Mechanical Properties, and Natural Durability
IW-WP-06	Ihak Sumardi	The Vascular Bundles in Surat Bamboo Culm (<i>Gigantochloa pseudoarundinacea</i>)
IW-WP-07	Jeon Woo-Seok	Anatomical Characteristics of Four Indonesian Bamboo Speies
IW-WP-08	Syahidah	Distribution, Retention and Penetration of Tuba Leaves (<i>Derris elliptica</i> Benth) Extract on <i>Aleurites moluccana</i> and <i>Agathis</i> sp. Woods with Cold and Hot Soaking Methods

IW-WP-09	Trisna Priadi	Physical Properties of Some Heated Tropical Fast Growing Wood Species
IW-WP-10	Ridwan Yahya	Effect of vessel on fiber properties in <i>Acacia mangium</i>
IW-WP-11	Umit Ayata	Effect of Heat Treatment (ThermoWood) on Color and Glossiness Properties of Zebrano, Sapeli and Merbau Woods
IW-WP-12	Umit Ayata	Determination of Surface Roughness Parameters of Heat-treated (ThermoWood)/Untreated Scotch pine, Oak and Beech Woods
IW-WP-13	Yuyu Rahayu Arifin	Stiffness Assesment of Sowang (<i>Xanthostemon</i> sp.)
IW-WP-14	Andi Tri Lestari	Wettability and Surface Roughness of Three Heat Treated Fast Growing Wood Species
IW-WP-15	Chun-Won Kang	Changes in Sound Absorption Capability in Transversal Direction and Air Permeability of Malas (<i>Homalium foetidum</i>) Specimens in Longitudinal Direction After High Temperature Heat Treatment
IW-WP-16	M. Aizat Abd Ghani	Effects of Post-Treatment Using Amine Compounds on Formaldehyde Emission and Properties of Urea Formaldehyde-Bonded Particleboard
IW-WP-17	Wahyu Hidayat	Physical and Mechanical Properties of Hybrid Particleboard From Fast Growing Tree Species and Bamboo
IW-WP-18	Herman Siruru	Chemical Component of Sago Solid Waste and Structure of Its Charcoal
IW-WP-19	Fanny Hidayati	Stem Diameter, Tree Height, and Pilodyn Penetration of 5-Year-Old <i>Acacia mangium</i> Families Planted in Central Java, Indonesia
IW-WP-20	Andrea Weiss	Opportunities of Timber Construction Material with Fast-Growing Wood Species for Transforming The Wood Processing Sector and Land Use in Indonesia
IW-WP-21	Aprilia Kartikawati	Basic Properties of Reaction Wood and Juvenility of 5 year-old of Eucalyptus (<i>Eucalyptus pellita</i>)
IW-WP-22	Sarah Augustina	Anatomical Structure, Physical Property, and Fiber Quality of Three Lesser Used and Lesser Known Wood Species Grown in North Kalimantan

Physical and Mechanical Properties of Hybrid Particleboard From Fast Growing Tree Species and Bamboo

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The objective of this study was to evaluate the physical and mechanical properties of hybrid particleboard from wood and bamboo. Particles were made from two fast growing tree species as Sengon/S (*Paraserianthes falcataria*) and Jabon/J (*Antocephalus cadamba*) and bamboo species as Betung/B (*Dendrocalamus asper*). The particles were steam-treated at 126°C and pressure of 1.4 kg/cm² for 1 h and heat-treated at 140°C for 2 h. Three-layer particleboards were formed and bonded with 7% of urea formaldehyde resin. Seven board combinations were made *i.e.*, S-S-S, J-J-J, B-B-B, S-B-S, J-B-J, B-S-B, B-J-B. The evaluation of physical and mechanical properties of the boards was conducted in accordance with the JIS A 5908:2003 standard. The results showed that steam treatment of particles increased the dimensional stability and mechanical properties of hybrid particleboards from wood and bamboo. Heat treatment increased the dimensional stability of the boards but slightly decreased the bending strength.

Keywords: bamboo, fast growing species, heat treatment, hybrid particleboard, steam