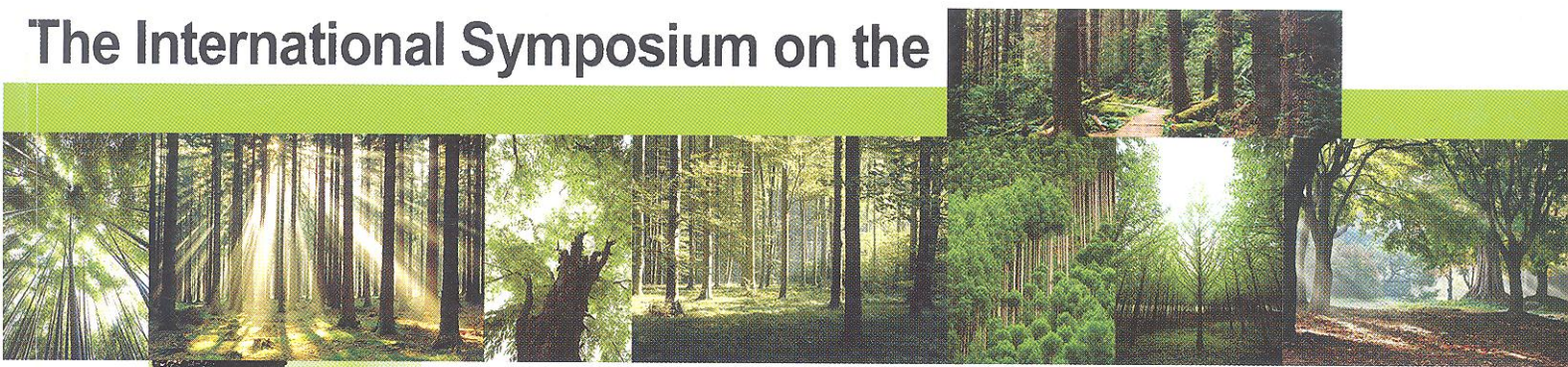
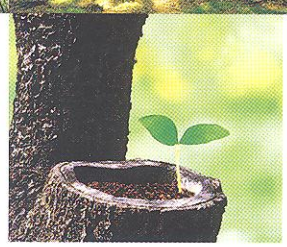
The International Symposium on the





Role of Forest Sciences in Mitigating Climate Change

Date August 30, 2010

Place Conference Room at College of Forest & Environmental Sciences, Kangwon National University, Korea.

Organized by Korean Forest Society, The Institute of Forest Science(KNU)

Sponsored by Kangwon National University,
College of Forest & Environmental Sciences (KNU)

Program

August 30, 2010

10:00 - 10:20	Registration
10:20 - 10:30	Opening Remark (Chair: Dr. Jung-Kee Choi)
10:30 - 11:50	Oral Sessions Ⅰ
11:50 - 13:00	Lunch
13:00 - 13:30	Poster Session
13:30 - 17:50	Oral Sessions Ⅱ~Ⅲ
17:50 - 18:20	Discussion and Closing Remark
18:20 - 20:30	Banquet

▫ **Oral Sessions Ⅰ**

Moderator : Dr. Yong-Eui Choi (Kangwon National Univ., Korea)

10:30 - 11:20 (Keynote)

Genomics of Forest Tree Responses and Adaptation to Global Climate Change

(Dr. Om P. Rajora, University of New Brunswick, Canada)

11:20 - 11:50

Willows as Woody Bioenergy Resource - Growth of rooted cuttings and heating values -

(Dr. Jae-Seon Yi, Kangwon National University, Korea)

11:50 – 13:00 Lunch

13:00 – 13:30 **Poster Sessions**

▫ **Oral Sessions Ⅱ**

Moderator : Dr. Jung-Kee Choi (Kangwon National Univ., Korea)

13:30 – 14:00

Forest Inventory and Monitoring Systems

(Dr. Dieter Rudolf Pelz, University of Freiburg, Germany)

14:00 - 14:30

The effective method of forming the Korean pine forests

(Dr. Alexeenko A., Far East Forestry Research Institute, Russia)

14:30 - 15:00

Stand Establishment Strategies for Loblolly Pine in the Southern USA

(Dr. Ralph L. Amateis, Virginia Tech, USA)

15:00 - 15:30
Intensive managed fast-grown Radiata pine and Eucalyptus sp. plantations in Chile
(Dr. Guillermo Trincado, Universidad Austral de Chile, Chile)

15:30 – 15:50 **Coffee Break**

▫ **Oral Sessions Ⅲ**
Moderator : Dr. Byoung-Uk Cho (Kangwon National Univ., Korea)

15:50 - 16:20
Wood Bark and Peat Based Bioactive Compounds, Speciality Chemicals, and Remediation Materials: from Innovations to Applications
(Dr. Denis Izotov, Far East Forestry Research Institute, Russia)

16:20 - 16:50
Effect of Bamboo Species and Resin Content on the Physical and Mechanical Properties of Bamboo Oriented Strand Board
(Dr. Fauzi Febrianto, Bogor University, Indonesia)

16:50 - 17:20
Influential factors to enhance the moving rate of Acetobacter xylinum due to its nanofiber secretion on oriented templates
(Dr. Tetsuo Kondo, Kyushu University, Japan)

17:20 - 17:50
Utility of mitochondrial DNA-based barcodes for detecting species identification and biodiversity in ecosystem
(Dr. Yung-Chul Park, Kangwon National University, Korea)

17:50 - 18:20 Discussion and Closing Remark

18:20 – 20:30 Banquet

Speakers

1. **Dr. Om P. Rajora** (Om.Rajora@unb.ca)
   Canadian Genomics and Conservation Genetics Institute
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4. **Dr. Alexeenko A.** (Alexeenko.alex@gmail.com)
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5. **Dr. Ralph L. Amateis** (ralph@vt.edu)
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   Virginia Tech (USA)

6. **Dr. Guillermo Trincado** (gtrincad@uach.cl)
   Facultad de Ciencias Forestales y Recursos Naturales
   Universidad Austral de Chile (CHILE)

7. **Dr. Denis V. Izotov** (izotov.d@gmail.com)
   Laboratory of biologically active substances
   Far East Forest Research Institute (RUSSIA)

8. **Dr. Fauzi Febrianto** (febrianto76@yahoo.com)
   Department of Forest Products
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   Bogor Agricultural University (INDONESIA)

9. **Dr. Tetsuo Kondo** (tekondo@agr.kyushu-u.ac.jp)
   Graduate School of Bioresource and Bioenvironmental Sciences
   Kyushu University (JAPAN)

10. **Dr. Yung-Chul Park** (parky@kangwon.ac.kr)
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Effect of Bamboo Species and Resin Content on the Physical and Mechanical Properties of Bamboo Oriented Strand Board

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The objective of this research was to evaluate the effect of bamboo species and resin content on the physical and mechanical properties of bamboo oriented strand board (BOSB). Three (3) different species of Indonesian bamboos (i.e.,Andong bamboo (*Gigantochloa verticillata* (Willd.) Munro), Betung bamboo (*Dendrocalamus asper* (Schult.f) Backer ex Heyne), and Ampel bamboo (*Bambusa vulgaris* Schrader ex Wendland)) were used as BOSB raw materials. The densities of *G. verticillata* (A), *D. asper* (B), and *B. vulgaris* (C) bamboos were 0.49, 0.68, and 0.58 g.cm^{-3}, respectively. The strands were steamed at 126° C at 1.4 kg.cm^{-2} pressure for 1 hour and then air-dried. Three-layered OSBs bonded with 3, 4 and 5% methane di-isocyanate (MDI, Type H3M) resin with the core layer orientation perpendicular to the face and back layers. The strand composition for face, core, and back was 25%, 50% and 25%, respectively. Paraffin was added in amount of 1%. Target density of OSB was 0.70 g.cm^{-3}. The results indicated that the physical and mechanical properties of BOSB were much affected by bamboo species and resin content. BOSB prepared from steamed Betung and Andong bamboo strands were much better than BOSB prepared from steamed Ampel bamboo strand. The higher the resin content resulted in the better the physical and mechanical properties of BOSB. BOSB can be manufactured from steamed Andong and Betung bamboo strands using 3% resin content with satisfactory properties. All parameters of OSB made from homogeneous and mixing bamboo strands evaluated in this experiment met the requirement of CSA 0437.0 standard for grade O-1 OSB panels, except for IB value of ABA board.

Key words: OSB, *Gigantochloa verticillata, Dendrocalamus asper, Bambusa vulgaris,* steamed, resin content