



2022 International symposium

of Institute of Forest Science
for the 40th Anniversary of College of Forest and Environment Science

| **DATE** October 21, 2022

| **PLACE** CHUNG KANG HALL, Mirae Library, Kangwon National University (KNU)

| **ORGANIZED BY** College of Forest and Environment Science, KNU,
The Institute of Forest Science (IFS), KNU

Programs

Time	Contents	Place	
09:30~10:00	Registration		
10:00~10:05	Opening Ceremony Prof. Eun Ju Cheong, Chair of Committee of Institute of Forest Science, KNU, Korea		
10:05~10:10	Opening Remark Prof. Seung-Hwan Lee, Dean of College of Forest and Environmental Sciences, KNU, Korea		
10:10~10:15	Congratulatory Remark 1 Prof. Heon-Young Kim, President of KNU, Korea		
10:15~10:20	Congratulatory Remark 2 Dr. Sang Seop Lim, Deputy Minister of Korea Forest Service, Korea		
10:20~10:30	Photo and Coffee Break	CHUNG KANG HALL, Mirae Library	
Plenary Session (Perspectives of Forest Science in the Era of Climate Change)			
10:30~10:50	Global Standard & Policy based Forestry Renaissance Promotion Strategy (2022~2027) (Dr. Sang Seop Lim, Deputy Minister of Korea Forest Service, Korea)		
10:50~11:10	Challenge and crisis of forest under climate change (Prof. Su Young Woo, President of Korean Society of Forest Science, Korea)		
11:10~11:30	Discourse on the Coming Age of Wood Use (Prof. Sei Chang Oh, President of the Korean Wood Science and Technology, Korea)		
11:30~13:00	Luncheon	Knuteria (DURI Hall 2F)	
General Session			
13:00~18:00	Session 1. Research achievement on nanocellulose and its applications in the Key Research Institute Program of the Institute of Forest Science Chair: Prof. Yong-Sik Kim	pH and Electric field-answering microparticles prepared from Cinnamoyl Nanocellulose and Cinnamoyl Gelatin (Kwanjira Wangpimool, Kangwon National University, Korea) Carbon dots attached nanocellulose as a recyclable nanozyme for colorimetric cholesterol detection (Dr. Rajkumar Bandi, Kangwon National University, Korea) Preparation of zwitterionic lignin/Nafion composite membranes for proton exchange membrane (Ji Won Heo, Kangwon National University, Korea) Nanocellulose assisted hydrogel platforms for improved wound healing and sensing applications (Dr. Dinesh K. Patel, Kangwon National University, Korea) Cellulose nanocrystal-donepezil HCl gel structure for sustained drug release (Da In Jeong, Kangwon National University, Korea) Characterization of cellulose nanocrystal-graphene hybrid film for electronic device applications (Woo Jin Shin, Kangwon National University, Korea)	College of Forest and Environment Sciences (Buld 407, Room 415)
	Session 2. Recent advances on the efficient utilization of low-value woody resources Chair: Prof. Nam-Hun Kim	Quality Evaluation of Commercial Wood Resources in Korea (Prof. Nam-Hun Kim, Kangwon National University, Korea) Properties of Thermally Treated Beech Wood at Different Scale Levels (Prof. Rastislav Lagana, Technical University in Zvolen, Slovakia) Food Preservatives Sensor from Oil Palm Processing Waste (Prof. Nyoman Wistara, IPB University, Indonesia) Research Development of Wood/Bamboo-Based Composites (Wood/Bamboo Scrimber) (Dr. Yue Qi, Chinese Academy of Forestry, China) An Overview of the Basic Properties of Several Wood Species from North Sumatra (Prof. Apri Heri Swanto, University of North Sumatra, Indonesia) Durability Evaluation of Heat-Treated Moso Bamboo Grown in Korea (Prof. Se-yeong Park, Kangwon National University, Korea) Physical and Mechanical Properties of Agriboard from Agro-Industrial Wastes Bonded with Formaldehyde-Free Natural Rubber Latex Adhesive (Prof. Wahyu hidayat, University of Lampung, Indonesia) Physical and Mechanical Properties of Water Permeable Cork Paving Materials (Dr. Jae-Hyuk Jang, FC KOREA LAND Co., Ltd., Korea) The Industry Trends and Future Strategies of Korean MDF Business (Dr. Se-Hwi Park, Dongwha Enterprise Co., Ltd., Korea) Anatomical Characteristics of Reaction Wood in Tropical Softwood Species Grown in Indonesia (Dr. Byantara Darsan Purusatama, Kangwon National University, Korea)	College of Forest and Environment Sciences (Buld 407, Room 203) [Online] https://kangwon-ac-kr.zoom.us/j/99671988267
	Session 3. Researches on the Multi-purpose forest plant resources Chair: Prof. Eun Ju Cheong	Sustainable propagation and establishment of young, grafted pinon pines (<i>Pinus edulis</i>) for optimal pine-nut crop production on and off tribal lands in the western US. (Prof. Ryan Stewart, Brigham Young University, U.S.A.) Breeding and silviculture advance for timber and nut production of <i>Pinus koraiensis</i> in China (Prof. Shen Hailong, Northeast Forestry Univ. China) Large investment of stored nitrogen and phosphorus in female cones is consistent with infrequent reproduction events of <i>Pinus koraiensis</i> , a high value woody oil crop in Northeast Asia (Dr. Haibo Wu, Northeast Forestry Univ. China) Ethnobotany Knowledge of Community Surrounding Peat Forest Park as a Basis of Forest Sustainability: Case study Orang Kayo Hitam Forest Park, Jambi, Indonesia (Prof. Christine Wulandari, University of Lampung, Indonesia) Flower development and the expression analysis, genetic transformation and functional verification of <i>LEAFY</i> in <i>Juratsun mandshurica</i> (Lijie Zhang, Shenyang Agricultural University, China) Effects of biochar application pyrolyzed at different temperatures on soil properties, growth and leaf secondary metabolite accumulation in <i>Cyclocarya paliurus</i> (Dr. Rui Deng, Nanjing Forestry University, China) Coupling effects of nitrogen and phosphorus growth, photosynthesis and chlorophyll fluorescence parameters of <i>Cyclocarya paliurus</i> (Dr. Xiliang Yue, Nanjing Forestry University, China) Depletion of stem non structural carbohydrates supports release of lateral branches from apical control in <i>Quercus monolica</i> seedlings (Prof. Xiujun Lu, Shenyang Agricultural University, China) Effect of soil microorganism in the habitats of <i>Sophora koreensis</i> Nakai on secondary metabolite production (Prof. Eun Ju Cheong, Kangwon National University, Korea)	College of Forest and Environment Sciences (Buld 407, Room 117) [Online] https://kangwon-ac-kr.zoom.us/j/4638358682
	Session 4. Long-term monitoring on forest thinning of major planting tree species Chair: Prof. Jungkee Choi	Looking for efficient solutions for utilizing growth and yield experiments in model development and validation (Dr. Jari Hynynen, Natural Resources Institute Finland (Luke), Finland) Forest management regimes for mixed forests in Finland-need for new empirical data and long-term experiments (Dr. Saji Huuskonen, Natural Resources Institute Finland (Luke), Finland) Estimation of diameter distribution and individual tree height-DBH allometry in hybrid aspen plantations using monitoring data (Dr. Daesung Lee, Natural Resources Institute Finland (Luke), Finland) A Study on the effect of site factors on the growth of Japanese Larch (Mr. Heejun Jin, Kangwon National University, Korea) Introduction on Forest resources and silvicultural practices in Vietnam (Mr. Minhui Bui, Kangwon National University, Korea)	College of Forest and Environment Sciences (Buld 406, Room 315) [Online] https://kangwon-ac-kr.zoom.us/j/99884732328
	Session 5. Design and Management toward Low Carbon Landscapes Chair: Prof. Hyun-Kil Jo	Greenspace design strategies for low-carbon urban ecosystems (Prof. Hyun-Kil Jo, Kangwon National University, Korea) A study on the review of carbon sequestration calculation model on urban areas (Prof. Youngeun Kang, Gyeongsang National University, Korea) A study on the environmental function and benefits of campus green spaces (Prof. Yun Eui Choi, Kangwon National University, Korea) A study on carbon neutral landscape implementation plan using spatial-temporal simulation modeling (Dr. Kihwan Song, OJEong Resilience Institute (OJERI), Korea University, Korea) A review and comparison of quantitative models to estimate carbon reduction for trees (Dr. Hye-Mi Park, Kangwon National University, Korea) Carbon emissions by management of landscape trees for multifamily residential sites (Dr. Jin-Young Kim, Korea Research Institute on Climate Change, Korea)	College of Forest and Environment Sciences (Buld 406, Room 416) [Online] https://kangwon-ac-kr.zoom.us/j/96926965220?pwd=TnNEMVpwS3k1UGdQK0RrdE9V3JEdz09
	Session 7. Virome Database Construction, Infection Mechanism and Spread Model Research for Preemptive Response to Virus Spread Chair: Prof. Yung Chul Park	The spread of lumpy skin disease in Asia (Prof. Yung Chul Park, Kangwon National University, Korea) Transmission dynamics, molecular identification, and genomic characterization of lumpy skin disease virus in Bangladesh (Prof. M Mafizur Rahman, Islamic University, Bangladesh) Phylogenetic analysis of emerging infectious diseases in pigs and cattle during 2019~2022 in Vietnam (Dr. Van Tan Do, Institute of Veterinary Research and Development of Central Vietnam (IVRD), Vietnam) Visiting pattern of wildlife to agricultural land (Dr. Sangjin Lim, Kangwon National University, Korea) Perspectives on mathematical models applied to invasive virus diseases for animals (Dr. Tae Soo Chon, Ecology and Future Research Institute, Busan 46228, Korea)	College of Forest and Environment Sciences (Buld 407, Room 608) [Online] https://kangwon-ac-kr.zoom.us/j/97192504433
	18:00~21:00	Banquet	MIRAE WEDDING CONVENTION 3F

* Special Session (Multidisciplinary Session for Young Generation)

- Date: Thursday, Oct. 20, 2022, Venue: College of Forest and Environmental Sciences (Buld 407, Room 117), Online: <https://kangwon-ac-kr.zoom.us/j/97569512782>, ID: 975 6951 2782

Special Session.

Multidisciplinary Session for Young Generation

Thursday, Oct. 20, 2022

- Venue: Buld 407 Room 117, College of Forest and Environmental Sciences

Online: <https://kangwon-ac-kr.zoom.us/j/97569512782>, ID: 975 6951 2782

Time	Title (Speaker)
Chair : Prof. Eun Ju Cheong (Kangwon National University, Korea)	
13:30~13:45	Control of particle size of cellulose beads prepared by spraying method using a coaxial needle (Young-Lae Kim, Kangwon National University, Korea)
13:45~14:00	Effect of Taxifolin-3-O-arabinopyranoside from root extract of Korean <i>Rhododendron mucronulatum</i> on anti-hair loss (Tae Hee Kim, Kangwon National University, Korea)
14:00~14:15	Assessing the value of carbon storage and sequestration for street trees on campus using various parameters (Hyeong-Uk Ahn, Kangwon National University, Korea)
14:15~14:30	Preparation of Oxidated Nanocellulose Hydrogels Crosslinked by Surface-Deacetylated Chitin Nanofiber via Amidation (Seung-Woo Cho, Kangwon National University, Korea)
14:30~14:45	Thermal imaging detects the physiological responses to drought stress of <i>Dalbergia cochinchinensis</i> seedlings (Ukhan Jeong, Kangwon National University, Korea)
14:45~15:00	Effects of Carbon and PM_{2.5} Reduction by urban street trees in Gangneung (Seong-Gyeong Choi, Kangwon National University, Korea)
15:00~15:15	The Analysis of Fuel moisture contents on aspects and four tree leaves by weather factors in the Forest (Song hee Han, Kangwon National University, Korea)
15:15~15:30	Coffee Break
Chair : Prof. Sun-Eun Choi (Kangwon National University, Korea)	
15:30~15:45	Comparison of lignin fractions extracted from heartwood and sapwood of spruce using microwave-assisted deep eutectic solvents (DES) (Jiayun Xu, Abo Akademi University, Finland)
15:45~16:00	Sensitive Wearable Sensor Based on Strong, Conductive, Anti-Freezing, and Double Network Hydrogel (Meng Zhang, Tianjin University of Science and Technology, China)
16:00~16:15	3D Porous Carbon Aerogel Framework for Dendrite-free Zn Anode (Qingshuang Zhao, Tianjin University of Science and Technology, China)
16:15~16:30	Comparative Evaluation of Preparation of Nanocellulose from Corn Straw Skin and Corn Straw Core and Application of Nanocellulose Film (Hongbin Yang, Tianjin University of Science and Technology, China)
16:30~16:45	Multifunctional Natural Polysaccharides as Promising Composites for Emerging Intelligent Packaging (Yaxuan Wang, Tianjin University of Science and Technology, China)
16:45~17:00	General Discussion