



Transilvania
University
of Brasov
FACULTY OF SILVICULTURE
AND FOREST ENGINEERING



9TH INTERNATIONAL SYMPOSIUM *FOREST AND SUSTAINABLE DEVELOPMENT*
BRAȘOV, ROMANIA, 16 OCTOBER 2020

09:30 - 10:00 EET	<p>Opening session [On-line – Link https://conf.bbb.unitbv.ro/vdp-tbe-ntp-uy1]</p> <p>Prof. Dr. Ioan Vasile Abrudan – Rector of the Transilvania University of Brasov, Romania Prof. Dr. Alexandru Lucian Curtu – Dean of the Faculty of Silviculture and Forest Engineering Ass. Prof. Dr. Bogdan Strîmbu – Oregon State University, IUFRO Coordinator 4.03.02</p>
10:00 – 11:30 EET	<p>Plenary session [On-line – Link https://conf.bbb.unitbv.ro/vdp-tbe-ntp-uy1]</p> <p>Moderator: Assoc. Prof. Dr. Victor Dan Păcurar</p>
10:00 - 10:30 EET	<p>Using genomics to characterize evolutionary potential for conservation and use of forest tree resources</p> <p>Dr. Santiago C. González-Martínez, INRAE, France</p>





10:30 - 11:00 EET	Management of valuable oaks Prof. Dr. Heinrich Spiecker, University of Freiburg, Germany
11:00 - 11:30 EET	The emerging economic role of forest-based cultural services Prof. Dr. Davide Matteo Pettenella, University of Padova, Italy
11:30 - 12:00	Coffee break
12:00 – 13:30 EET	Plenary session [On-line – Link https://conf.bbb.unitbv.ro/vdp-tbe-ntp-uy1] Moderator: Assoc. Prof. Dr. Victor Dan Păcurar
12:00 - 12:30 EET	From silviculture to ecosystem management – challenges and perspectives Prof. Dr. Hans Rudolf Heinimann, ETH Zurich, Switzerland
12:30 - 13:00 EET	Copernicus assisted services for forest management Dr. Ioannis Manakos, Centre for Research and Technology Hellas (CERTH), Greece
13:00 - 13:30 EET	Road surfacing: aggregate shortages and the effect on roads and logging Prof. Dr. Kevin Lyons, Oregon State University, United States of America
13:30 – 14:30	Lunch Break and Virtual Poster Session
14:30 – 16:30 EET	Parallel thematic sessions Forest ecosystem management [On-line – Link https://conf.bbb.unitbv.ro/adr-cal-ykk-uke] Forest engineering [On-line – Link https://conf.bbb.unitbv.ro/ste-bqt-whm-hvz] Wildlife management [On-line – Link https://conf.bbb.unitbv.ro/o-i-t44-baj-xh9] Geomatics [On-line – Link https://conf.bbb.unitbv.ro/mih-eco-eyh-1vg]



16:30 - 16:50	Coffee break and Virtual Poster Session
16:50 - 18:50 EET	<p style="text-align: center;">Parallel thematic sessions</p> <p style="text-align: center;">Forest ecosystem management [On-line – Link https://conf.bbb.unitbv.ro/adr-cal-ykk-uke]</p> <p style="text-align: center;">Forest engineering [On-line – Link https://conf.bbb.unitbv.ro/ste-bqt-whm-hvz]</p> <p style="text-align: center;">Wildlife management [On-line – Link https://conf.bbb.unitbv.ro/o-i-t44-baj-xh9]</p> <p style="text-align: center;">Geomatics [On-line – Link https://conf.bbb.unitbv.ro/mih-eco-eyh-1vg]</p> <p style="text-align: center;">Informatics, modelling and statistics [On-line – Link https://conf.bbb.unitbv.ro/luc-pmj-mss-vdX]</p> <p style="text-align: center;">Discussion and concluding remarks</p>



16/10/2020	Parallel Thematic Sessions		
14:30 – 16:30	Forest engineering [On-line – Link https://conf.bbb.unitbv.ro/ste-bqt-whm-hvz] Moderator: Stelian Alexandru BORZ	Wildlife management [On-line – Link https://conf.bbb.unitbv.ro/o-i-t44-baj-xh9] Moderator: Ovidiu IONESCU	Geomatics [On-line – Link https://conf.bbb.unitbv.ro/mih-eco-eyh-1vg] Moderator: Mihai Daniel NIȚĂ
14:30 – 14:50	Environmental Impact Assessment of Forest Road Networks Hans Rudolf HEINIMANN	Assessing the Regional Landscape Connectivity for Multispecies to Coordinate On-The-Ground Needs for Mitigating Linear Infrastructure Impact in Brasov – Prahova Region Ancuta FEDORCA , Marius POPA, Ramon JURJ, Maria Georgeta IONESCU, Ovidiu IONESCU, Mihai FEDORCA	The Effect of LiDAR Data Density on DTM Accuracy for Areas with Heavy Forest Cover Mihnea CĂȚEANU , Arcadie CIUBOTARU
14:50 – 15:10	Moisture Content Management, Fuel Reduction Technologies, and Optimization-based Planning Techniques for More Sustainable Transport Operations Mauricio ACUNA	The Estimation of Mammals Population using Photo Trap Cameras Ion MIREA , Adrian LORENT, Ovidiu IONESCU	Testing AR (Augmented Reality) Point Cloud Reconstruction For 3D Position and DBH (Diameter at Breast Height) of Trees George RUSU , Mihai Daniel NIȚĂ
15:10 – 15:30	Performance of Wood Transport Combining Crane-Truck and Semi-Trailer Truck – A Simulation Study Peter RAUCH , Christoph KOGLER, Alexander STENITZER	Wolf Diet Adaptability to Prey Availability Ovidiu IONESCU , Maria Georgeta IONESCU	Analyzing Tree Shape Variability in Similar Site Conditions for Quercus frainetto, Quercus petraea, Quercus pubescens and Quercus robur using LiDAR Technology Vlad Remus TOMȘA , Alexandru Lucian CURTU, Mihai Daniel NIȚĂ
15:30 – 15:50	Multicriteria Decision Making Techniques for Improvement Sustainability of Forest Road Engineering Georgios TASONAS , Vasileios C. DROSOS , Ioannis KOUKOULOS, Iordanis KASAPIDIS, Vasileios STAVRIDIS, Ioannis SISMANIDIS	Fallow Deer in the Western Plain of Romania Dan POPOVICI	Using Remote Sensing and Satellite Technology to Identify Past Anthropogenic Activities in Białowieża Forest Deemed to Be Primeval Chris J. CIESZEWSKI
15:50 – 16:10	Examining Effects of Forest Roads Pavement Types on Carbon Footprint	Airport Fauna Study from Timișoara Airport Area Iulia BACIU , Ovidiu IONESCU	Morphological Analysis of a Lake Basin in the Context of Bathymetric Determinations



	Ebru BILICI , Abdullah E. AKAY, Tolga ÖZTÜRK		Ionuț MAICAN , Tudor BORȘAN, Mireștean Ioan REMETE, Constantin Irinel GREȘIȚĂ
16:10 – 16:30	Performance of Forwarding Operations in Biomass Recovery from Dismantled Apple Orchards Maria Francesca CATALDO , Marina Viorela MARCU, Giuseppe ZIMBALATTI, Andrea Rosario PROTO, Stelian Alexandru BORZ	Antler Size and Form of Red Deer (Cervus Elaphus L.) in Relation with Elements of Cranial Architecture, Applied to a Segment of the Population in the Curvature Carpathians George Eugen Adrian SIRBU , Simon DIETER, Ovidiu IONESCU, Cezar SPATARU, Andreea-Alexandra SIRBU	Signal performance analysis of the latest quartet of Galileo satellites during the first operational year Constantin-Octavian ANDREI , Jan JOHANSSON, Hannu KOIVULA, Markku POUTANEN
16:30 – 16:50	Coffee break and Virtual Poster Session		
Parallel Thematic Sessions			
16:50 – 18:30	Forest engineering [On-line – Link https://conf.bbb.unitbv.ro/ste-bgt-whm-hvz] Moderator: Stelian Alexandru BORZ	Wildlife management [On-line – Link https://conf.bbb.unitbv.ro/o-i-t44-baj-xh9] Moderator: Ovidiu IONESCU	Geomatics [On-line – Link https://conf.bbb.unitbv.ro/mih-eco-eyh-1vg] Moderator: Mihai Daniel NIȚĂ
16:50 – 17:10	Improving Environmental Efficiency and Energy Efficiency in Wood Transportation for a Carbon-Neutral Forest Industry Teijo PALANDER, Hanna HAAVIKKO , Emma KORTELAJINEN, Stelian Alexandru BORZ, Kalle KÄRHÄ	The Size of Beaver (Castor Fiber) Territories, in Different Habitat Conditions of Southeastern Transylvania, Romania Claudiu Nicolae PAȘCA , Marius POPA, Maria Georgeta IONESCU, Daniel VIȘAN, Ovidiu IONESCU	GPS Precision in the Forest Constantin Irinel GREȘIȚĂ
17:10 – 17:30	Analytic Hierarchy Process and Benefit Cost Analysis for the Selection of Suitable Eucalypt Re-Establishment Methods: A Case Study un Kwazulu-Natal, South Africa Muedanyi RAMANTSWANA , Michal BRINK, Keith LITTLE, Raffaele SPINELLI	Final Remarks & Conclusions	VirtSilv - timber measurement A.I. platform. From vision to reality Mihai Daniel NIȚĂ , Bogdan CANDREA, Cătălin CUCU-DUMITRESCU, Servet GIAFER, Bogdan GRAMA, Claudia IFRIM, Oana IUGA, Iulian IUGA
17:30 – 17:50	Content of Trace Element in Needles and Leaves as an Indicator of Forest Soil Fertilization with Wood Ash Ilze KARKLINA		Final Remarks & Conclusions



17:50 – 18:10	Does Diameter at Breast Height Affect the Mechanical Characteristics of Fine Roots? Azade DELJOUEI , Ehsan ABDI, Zahra KARIMI, Stelian Alexandru BORZ		
18:10 – 18:30	Final Remarks & Conclusions		



16/10/2020	Forest ecosystem management [On-line – Link https://conf.bbb.unitbv.ro/adr-cal-ykk-uke] Moderator: Victor Adrian INDREICA
14:30 – 16:30	
14:30 – 14:45	The Impacts of Silvicultural Interventions on Nature-Based Recreational Activities: The Visitors’ Perspective Alessandro PALETTO , Isabella DE MEO
14:45 – 15:00	Assessing and Forecasting the Soil Protection Ecosystem Service of Forests in Different Management and Climate Change Scenarios - A Case Study in Romanian Mountains Cosmin COȘOFREȚ , Gabriel DUDUMAN, Ionuț BARNOAIEA, Olivier BOURIAUD, Laura BOURIAUD
15:00 – 15:15	Current Responses to Severe Drought Events of Silver Fir, Black Pine, and Scots Pine Species from the Romanian Carpathians Are Determined by Legacies of Past Forest Management Ana-Maria HERES , Ion Catalin PETRITAN, Christof BIGLER, Alexandru Lucian CURTU, Ștefan PETREA, Any Mary PETRITAN, Josué M. POLANCO-MARTÍNEZ, Andreas RIGLING, Jorge Curiel YUSTE
15:15 – 15:30	The Mid-Term Impact of Stump Removal on Some Aspects of Nutrient Cycling and Tree Growth in Meso-Eutrophic Forests in Latvia Ivars KĻAVIŅŠ , Zane KALVĪTE, Arta BĀRDULE, Andis LAZDIŅŠ, Zane LĪBIETE, Laura ĀBOLIŅA
15:30 – 15:45	A Fractal Analysis of the Phenological Green Wave in South Eastern Transylvania Victor Dan PACURAR , Cristina-Maria PACURAR
15:45 – 16:00	Measuring the Effect of Forest Land the Consolidation in State Owned Forest Enterprise in Bulgaria Nikolay NEYKOV , Petar ANTOV, Ilko DOBRICHOV, Aureliu-Florin HALALISAN, Emil KITCHOUKOV
16:00 – 16:15	Analysis of Public Forestry Institutions in the Republic of Moldova using a Causative Model Nicolae TALPĂ , Aureliu Florin HĂLĂLIȘAN, Bogdan POPA
16:15 – 16:30	Mapping Stakeholder’s Perceptions on Power and Interest in Managing Protected Forest Habitats in Romania Ciprian-Valentin NEGRU , Aureliu-Florin HALALISAN, Bogdan POPA



16:30 – 16:50	Coffee break and Virtual Poster Session
16:50 – 17:05	A Large Translocation Experiment Revealed Low Population Differentiation but High Phenotypic Plasticity of European Beech in Germany Markus MÜLLER , Tanja KEMPEN, Reiner FINKELDEY, Oliver GAILING
17:05 – 17:20	Combining of Leaf Transcriptome Analysis and Growth Measurements to Monitor the Development of Poplar in Pure and Mixed with Black Locust Stands Oleksandra KUCHMA , Dennis JANZ, Jessica REBOLA-LICHTENBERG, Ludger LEINEMANN, Konstantin V. KRUTOVSKY, Christian AMMER, Andrea POLLE, Oliver GAILING
17:20 – 17:35	Leaves and Xylem Phenology, a Tool for Evaluating Forest Reproductive Material in the Context of Climate Change Ecaterina - Nicoleta APOSTOL , Luc E. PAQUES, Anca SEMENIUC, Alexandru - Lucian CURTU, Cristiana - Georgeta CIUVĂȚ, Robert IVAN, Gheorghe Cristian SIDOR, Marius BUDEANU, Neculae ȘOFLETEA
17:35 – 17:50	Detecting Genomic Signatures of Ecological Speciation and Parallel Evolution in Oaks Desanka LAZIC , John E. CARLSON, Alexandru Lucian CURTU, Oliver GAILING
17:50 – 18:05	Forest Ecosystem Services for Sustainable Development in a Protected Area Vasileios DROSOS , Georgios TASONAS, Ioannis KOUKOULOS, Iordanis KASAPIDIS, Vasileios STAVRIDIS, Ioannis SISMANIDIS
18:05 – 18:20	Spatial Planning Indicators for the Sustainable Development of Mountainous Areas Ioannis KOUKOULOS , Georgios TASONAS, Vasileios C. DROSOS, Iordanis KASAPIDIS, Vasileios STAVRIDIS, Ioannis SISMANIDIS
18:20 – 18:35	The Spatial Heterogeneity and Recent Evolution of the Gaps in the Largest Beech Virgin Forest of South-Eastern Europe – The Nera Forest Reserve Daniel Ond TURCU , Mihai Daniel NIȚĂ, Gheorghe Florian BORLEA
18:35 – 18:50	Variation of Radial Growth in Norway Spruce Provenance Trials Alin Mădălin ALEXANDRU , Georgeta MIHAI, Elena CIOCÎRLAN, Andrei Marian TIMUȘ, Dragoș Iulian TIMOFTE, Iulian Cosmin DANDU, Alexandru Lucian CURTU
	Final Remarks & Conclusions



16/10/2020	Informatics, modelling and statistics [On-line – Link https://conf.bbb.unitbv.ro/luc-pmj-mss-idx]
16:50 – 18:50	Moderator: Bogdan STRÎMBU
16:50 – 17:10	Impact of Regulations on Sustainable Forest Management: A Rotation Perspective Tamara L. CUSHING, Bogdan STRIMBU, Valeriu Norocel NICOLESCU, Vilém PODRÁZSKÝ, Karel PULKRAB
17:10 – 17:30	Advanced Site Model for Intensive Plantation Management Loblolly Pine Stands in Georgia, USA Chris J. CIESZEWSKI
17:30 – 17:50	Individual Tree Detection and Measurement from Terrestrial Point Cloud Chu QI, Bogdan STRIMBU
17:50 – 18:10	Modelling Site Index Curves and Romanian Yield Tables Variables Albert CICEU, Juan GARCIA-DURO, Ovidiu BADEA
18:10 – 18:50	Efficient Synthetic Generation Of Ecological Data With Preset Spatial Association Of Individuals Bogdan STRIMBU, Andrei PAUN, Alexandru AMARIOAREI, Mihaela PAUN, Victor STRIMBU
	Final Remarks & Conclusions



Virtual Poster Presentations – available on Friday 16 October 2020

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No.	Title	Authors
1.1	Spring and Autumn Phenology in Sessile Oak (<i>Quercus petraea</i>) near the Eastern Limit of Its Distribution Range	Ioana Maria GAFENCO (PLEȘCA), Bogdan Ionuț PLEȘCA, Ecaterina Nicoleta APOSTOL, Neculae ȘOFLETEA
1.2	Quantitative Determining of Ecological Factors of Edaphic Nature Implied in Establishing the Productive Potential of Mixed Mountain Sites	Avram CICIȘA, Maria BOROEANU, Gheorghe Marian TUDORAN
1.3	Particularities of the Structure of Mixed Stands of Beech and Silver Fir Covered with Regeneration Cuttings	Maria BOROEANU, Avram CICIȘA, Gheorghe Marian TUDORAN
1.4	The Effect of Thinning on the Stands Structure	Alexandru-Bogdan CUCU, Ioan-Corneliu IACOB, Gheorghe Marian TUDORAN
1.5	Assessing the Characteristics of Trees and Stands using UAV Photogrammetric Data	Gheorghe Marian TUDORAN, Alexandru-Claudiu DOBRE, Avram CICIȘA
1.6	Growth and Adaptive Capacity of Douglas Fir Genetic Resources in Western Romania	Georgeta MIHAI, Alexandru-Lucian CURTU, Alin-Madalin ALEXANDRU, Ion-Andrei NITA, Elena CIOCIRLAN, Mariu-Victor BIRSAN
1.7	Runoff from Small Forested Catchment Areas on Drained Peat Soils	Zane KALVĪTE, Ivars KĻAVIŅŠ, Laura VOITIŅA, Aigars INDRIKSONS, Zane LĪBIETE
1.8	Monitoring of Phoma Blight in Forest Nurseries of Belarus	Maryna SIAREDZICH, Vasily YARMALOVICH
1.9	Genetic Diagnostics of Invasive Alien Phytopathogens of the Forest Forming Species in Belarus	Maryna O. SIAREDZICH, S.V. PANTELEEV, Vasily A. YARMALOVICH, L.V. GOLOVCHENKO, N.G. DISHUK, V.A. TIMOFEEVA, O.Yu. BARANOV
1.10	The Influence of Forest Ecosystems on Precipitation based on Geomatic Technologies	Mihai Valentin HERBEI, Codruta BADALUȚĂ-MINDA, Constantin Irinel GREȘIȚĂ
1.11	Economic Valuation of Carbon Sequestration in Retezat National Park	Robert-George PACHE, Mihai-Daniel NIȚĂ
1.12	Assessing the Hydrological Impact of Land and Forest Management Change under Climate Projections in the Tarlung River Basin (Upstream Sacele Reservoir)	Nicu Constantin TUDOSE, Cezar UNGUREAN, Mirabela MARIN, Serban DAVIDESCU, Alin Lucian MIHALACHE
1.13	The Impact of Forest and Climate Change on Seasonal Dynamics of Hydrological Processes in Upper Tarlung Watershed	Mirabela MARIN, Ioan CLINCIU, Nicu Constantin TUDOSE, Cezar UNGUREAN, Serban DAVIDESCU, Alin Lucian MIHALACHE, Oana Nicoleta TUDOSE



No.	Title	Authors
1.14	Specimens of Sequoia gigantea from Romania	Diana VASILE, Raluca ENESCU, Virgil SCĂRLĂTESCU, Emilia VECHIU, Vlad CRIȘAN
1.15	Assessment of the Physical Status of the Torrent Control Structures in Romania	Alin Lucian MIHALACHE, Mirabela MARIN, Serban DAVIDESCU, Cezar UNGUREAN, Nicu Constantin TUDOSE, Adriana DAVIDESCU, Oana Nicolaeta TUDOSE, Ioan CLINCIU
1.16	Identification of Autochthonous Norway Spruce Gene Pools for Conservations in the Romanian Carpathians	Maria TEODOSIU, Elena CIOCÎRLAN, Alexandru Lucian CURTU, Neculae ȘOFLETEA, Georgeta MIHAI
1.17	Green for Care - Stakeholder Analysis in Romania	Sergiu FLOREA, Sebastian CUCUIAT, Vladut TOMSA
1.18	Seasonal Heterogeneity of Soil Microclimates at Different Stand Ages in Beech Forest	Cosmin Ion BRAGĂ, Gheorghe SPARCHEZ
1.19	Changes in Community Composition of Tropical Evergreen Forests during Succession in Ta Dung National Park, Central Highlands of Vietnam	Nguyen Hong HAI, Nguyen Thanh TAN, Tran Quang BAO, Any Mary PETRITAN, Trinh Hien MAI, Ion Catalin PETRITAN
1.20	Genetic Diversity in Norway Spruce Clonal Seed Orchards and Natural Populations	Elena CIOCÎRLAN, Neculae ȘOFLETEA, Maria TEODOSIU, Georgeta MIHAI, Alexandru Lucian CURTU
2.1	Postural Risk in Manual Planting Operations of Poplar: Two Options Compared	Tiberiu MAROGEL-POPA, Marina Viorela MARCU, Stelian Alexandru BORZ
2.2	Estimation of the Efficiency Machine for Timber Primary Transportation Taking its Influence on Forest Environment into Consideration	Oleg STYRANIVSKY, Mykola HERYS, Mykhaylo OLIYNYK, Mykhaylo BOYKO, Andriy SHCHUPAK
2.3	Development of a Web-GIS Geoportal to Support Forest Road Inventory and Management for the National Forest Administration - RNP Romsilva	Rudolf Alexandru DERCZENI, Mihai Daniel NIȚĂ, Elena Camelia MUSAT, Valentina Doina CIOBANU, Jean VIȘAN, Mihai LUCAN
2.4	Root Rot Detection in Norway Spruce Standing Trees using Rotfinder® Device	Gheorghe PEI, Radu VLAD, Cristian G. SIDOR, Alexandra ISPRAVNIC
2.5	Particularities regarding Wood Volume with Stem Decay in Norway Spruce Stands from Eastern Carpathians	Gheorghe PEI, Radu VLAD, Arcadie CIUBOTARU, Cristian G. SIDOR, Alexandra ISPRAVNIC
2.6	Effects of Sampling Strategy on the Accuracy of Postural Classification: An Example from Motor-Manual Timber Felling and Processing	Stelian Alexandru BORZ, Marina Viorela MARCU, Eugen IORDACHE
2.7	Following the Time Behavior of Forest Roads	Ioan BITIR, Elena Camelia MUSAT, Valentina Doina CIOBANU



No.	Title	Authors
3.1	Research Methods on Factors that Can Have an Influence in Small Game Population Dynamics in Romania	Cezar - Georgian SPĂTARU, Ovidiu IONESCU, George – Eugen SÂRBU
4.1	Research regarding the Consolidation of Cadastral Parcel Plans of Forest Plots with Forest Management Plans	Cornel Cristian TEREȘNEU
5.1	Improving the Local Calibration of Allometric Biomass Models	Ioan DUTCA, Vasile Victor MIHAILA, Gheorghe STEFAN, Cosmin Ion BRAGĂ, Jorge CURIEL-YUSTE, Any Mary PETRITAN
5.2	Artificial Neural Network Application to Estimation of Productivity of Brazilian Plantation of Eucalyptus	Ricardo Rodrigues de OLIVEIRA NETO, Helio GARCIA LEITE, José Marinaldo GLEIRIANI, Bogdan M. STRIMBU