

Oral presentations

Session 1

Climate change

October 7 (Friday) 9:45-11:15 - Auditório Alcínio Miguel (EstIG)

Chair: tba

Population dynamics of alpine herbivores in a warmer climate

David Hik¹, Isabel Barrio², Scott Williamson¹, ¹*University of Alberta, Edmonton, Alberta, Canada*, ²*University of Iceland, Reykjavik, Iceland*

Potential impact of climate changes on wetland vegetation of the Eastern Pamir (Tajikistan, Central Asia)

Monika Metrak¹, Lukasz Chachulski², Pawel Pawlikowski¹, Marcin Sulwinski¹, Malgorzata Suska-Malawska¹, ¹*University of Warsaw, Warsaw, Poland*, ²*Warsaw University of Life Sciences, Warsaw, Poland*

Carbon fluxes and vegetal groups composition of an alpine grassland in relation to grazing and climate

Francesca Ugolini¹, Silvia Baronti¹, Giuseppe Mario Lanini¹, Antonio Raschi¹, ¹*Institute of Biometeorology, Firenze, Italy*

Urban Climate in a small mountain city with a complex terrain - Bragança (Portugal)

Artur Goncalves¹, António C. Ribeiro¹, Filipe Maia¹, Manuel Feliciano¹, ¹*CIMO - Mountain Research Centre, Instituto Politécnico de Bragança, Bragança, Portugal*

Aerobiological analysis of the grasslands of Sierra Nevada: effects of changes in land use and climatic conditions

Paloma Cariñanos¹, Jose A. Algarra-Ávila², Manuel Delgado-Capel¹, Javier Herrero³, David Santiago¹, Consuelo Díaz de la Guardia¹, ¹*Department of Botany. University of Granada., Granada, Spain*, ²*Director of the Botanic Garden Detunda-Cueva de Nerja. Environmental and Water Agency. Consejería de Medio Ambiente, Rural y Marino. Junta de Andalucía, Andalusia, Spain*, ³*Fluvial Dynamics and Hidrology Research Group. Andalusian Institute for Earth System research. University of Granada, Granada, Spain*

Effects of anthropogenic fragmentation on primary productivity and soil carbon storage in temperate mountain grasslands

Emilia Ionela Cojoc¹, Carmen Postolache¹, Bogdan Olariu¹, ¹*University of Bucharest, Bucharest, Romania*

Session 2

Biodiversity conservation

October 7 (Friday) 11:45-13:15 - Auditório Alcínio Miguel (EsTIG)

Chair: tba

Biomonitoring of the flora in the transboundary mountainous forest of the Central-West of Tunisia: the Case of Bouchebka's Mountains

Saadaoui Islem¹, Ilahi Hayet¹, Bryant Christopher^{2,1}, Rejeb Hichem¹, ¹*Higher Agronomic Institute of Chott Mariem, Sousse, Tunisia*, ²*Faculty of Art and Sciences, UdeM, Montreal, Canada*

Forests in mountain environments of Tierra del Fuego: Biodiversity and productive values

Vanessa Lencinas¹, Rosina Soler¹, Alejandro Huertas Herrera¹, Guillermo Martínez Pastur¹, ¹*CADIC CONICET, Tierra del Fuego, Argentina*

Biodiversity conservation value of mountain environments in Isla de los Estados

Guillermo Martínez Pastur¹, Alejandro Huertas Herrera¹, Sarah Kather¹, Boris Díaz², Vanessa Lencinas¹, ¹*CADIC CONICET, Tierra del Fuego, Argentina*, ²*INTA, Santa Cruz, Argentina*

Angolan mountains current research and conservation issues

Francisco Gonçalves^{1,2}, Nigel Barker³, David Goyder⁴, ¹*Herbarium of Lubango, ISCED-Huíla, Lubango, Angola*, ²*University of Hamburg, Biocentre Klein Flottbek, Hamburg, Germany*, ³*University of Rhodes, Great Escarpment Biodiversity Research Programme, Grahamstown, South Africa*, ⁴*Kew Herbarium, Royal Botanic Gardens, London, UK*

Conservation of native fish and mussel populations in mountainous streams of NE Portugal

Amílcar Teixeira¹, Ronaldo Sousa², Simone Varandas³, Elsa Froufe⁴, Manuel Lopes-Lima⁴, ¹*CIMO-ESA/IPB, Bragança, Portugal*, ²*CBMA- U. Minho, Braga, Portugal*, ³*CITAB-UTAD, Vila-Real, Portugal*, ⁴*CIIMAR-U. Porto, Porto, Portugal*

Biodiversity conservation in Calabria region (southern Italy): perspectives of management in the sites of the "Natura 2000" network.

Pasquale Marziliano¹, Fabio Lombardi¹, Giuliano Menguzzato¹, Angelo Scuderi¹, Valeria Altieri¹, Vittoria Coletta¹, Claudio Marcianò¹, ¹*Mediterranean University, Reggio Calabria, Italy*

Birds species richness in a calabrian pine stand on Etna volcano

Angelo Scuderi¹, Pasquale A. Marziliano¹, Giuliano Menguzzato¹, Valeria Altieri¹, Vittoria Coletta¹, Fabio Lombardi¹, ¹*Mediterranean University of Reggio Calabria, Reggio Calabria, Italy*

Session 3

Mountain systems

October 7 (Friday) 15:45-17:15 - Auditório Pequeno (ESA)

Chair: tba

Changes in Moroccan Mountains Livestock farming systems

Ahmed El Aich¹, *¹Department of Animal Productions, Agronomic and Veterinary Medicine Hassan II, Rabat, Morocco*

Application of near-infrared transmission (NIT) spectroscopy for estimation of quinoa (*Chenopodium quinoa* Willd) proximate composition

Christian Encina-Zelada^{1,3}, Jorge Pereda², Luz Gómez-Pando⁴, Vasco Cadavez³, Ursula Gonzales-Barron³, Martha Ibañez⁴, José A. Teixeira¹, *¹Department of Biological Engineering, School of Engineering, University of Minho, Braga, Portugal, ²Faculty of Food Industries, National Agricultural University, Lima, Peru, ³CIMO Mountain Research Centre, School of Agriculture, Polytechnic Institute of Bragança, Bragança, Portugal, ⁴Faculty of Agronomy, National Agricultural University, Lima, Peru*

“Dark Needle Conifer” Mortality in Southern Siberia Mountains

Viachaslav Kharuk¹, Sergey Im¹, Ilya Petrov¹, Alexey Golukov¹, *¹Sukachev Forest Institute, Krasnoyarsk, Russia, ²Sukachev Forest Institute, Krasnoyarsk, Russia, ³Sukachev Forest Institute, Krasnoyarsk, Russia, ⁴Sukachev Forest Institute, Krasnoyarsk, Russia*

Who gains from so-called Scientific Management of Community Forests in Nepal? A Case study from the Western Hills

Bijendra Basnyat^{1,2}, Thorsten Treue¹, Ridish K Pokharel¹, *¹Institute of Forestry, Pokhara, Nepal, ²Copenhagen University, Copenhagen, Denmark, ³Tribhuvan University, Kathmandu, Nepal*

The JRC Soil Erosion Map of the European Union: a critical insight on the Portuguese mountain areas

Lúcio Rosário^{1,2}, Tomás Figueiredo³, *¹Comissão Nacional de Coordenação do Combate à Desertificação, Lisboa, Portugal, ²Instituto da Conservação da Natureza e das Florestas/ISBOA, Lisboa, Portugal, ³CIMO/ESA/IPB, Bragança, Portugal*

Biofilm as nutrient removal from eutrophic waters: potential applications in a mountain urban river (Fervença River, NE Portugal)

Ana Maria Galdes¹, Cyntya Eustáquio de Sousa², Maria Cristina Crispim², *¹CIMO, Escola Superior Agrária do Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal, Bragança, Portugal, ²Universidade Federal da Paraíba, Paraíba, Brazil*

Session 4

Governance, heritage and identity

October 7 (Friday) 14:15-15:45 - Auditório Alcínio Miguel (EsTIG)

Chair: tba

Promoting sustainable use of Medicinal and Aromatic Plants for livelihood improvement and biodiversity conservation through Capacity Building training program in Himalaya mountain Swat District, Pakistan

Hassan Sher¹, Rainer Bussmann¹, Robbie Hart¹, ¹*University of Swat, Mingora, Pakistan*,
²*Missouri Botanical Garden, St. Louis, USA*, ³*Missouri Botanical Garden, St. Louis, USA*

Inner Areas in Italy - an innovative approach for detecting mountain areas?

Thomas Streifeneder¹, Andrea Omizzolo¹, Elisa Ravazzoli¹, ¹*European Academy (EURAC), Bolzano, Italy*

«There is something rotten in the state of Norway». A critique of post WWII exclusion of locals in mountain protection policy.

Tor Arnesen¹, ¹*Eastern Norway Research Institute, Lillehammer, Norway*

Mountain Environment: policies for the protection on Brazil and Peru

Luis Felipe Cesar¹, ¹*Universidade Federal Rural do Rio de Janeiro, Rio de Janeiro, Brazil*

Culture heritage management and local development in a South Sámi and Norse mountain borderland

Terje Skjeggedal¹, Kjell Overvåg², ¹*Norwegian University of Science and Technology, Trondheim, Norway*, ²*Eastern Norway Research Institute, Lillehammer, Norway*

Mountain cultural heritage in Montenegro: A Case study of *katuns* at the Kuči Mountain and Durmitor area

Tatjana Koprivica¹, Aleksandra Kapetanovic², Ivan Lakovic¹, ¹*University of Montenegro, Historical Institute, Podgorica, Montenegro*, ²*NGO Expeditio, Kotor, Montenegro*

Symposium 2

Land use change, value and sustainable development in mountain landscapes

October 7 (Friday) 9:45-11:15- Auditório Pequeno (ESA)

Conveners: Mônica Amorim, Universidade Federal do Ceará, Brazil; Ignacio Diaz-Maroto, Universidad de Santiago de Compostela, Spain

Valuing protected mountain landscape in the Sacred Himalayas: visitors perspective

Kamal Thapa¹, ¹*IUCN Nepal, Kathmandu, Nepal*

Assessing social values for ecosystem services in two mountain landscapes in the Romanian Carpathians

Sorina Mihaela Bogdan¹, Irina Iulia Nastase¹, Ileana Patru - Stupariu^{1,2}, Andreea Andra - Toparceanu¹, ¹*University of Bucharest, Faculty of Geography, Bucharest, Romania*, ²*University of Bucharest Research Institute, Bucharest, Romania*

Mountain landscape adding value to mountain products: a case study of Guaramiranga coffee - Brazil

Mônica Amorim¹, Renato Linhares de Assis², Adriana Maria de Aquino², ¹*Universidade Federal do Ceará, Fortaleza (CE), Brazil*, ²*Embrapa Agrobiologia - Núcleo de Pesquisa e Treinamento para Agricultores (NPTA), Nova Friburgo (RJ), Brazil*

Landscape dynamics in the eastern mountains of Galicia: anthropic intervention

Ignacio J. Diaz-Maroto¹, Olga Vizoso-Arribe², Maria C. Diaz-Maroto³, ¹*University of Santiago de Compostela, Lugo, Spain*, ²*University of Santiago de Compostela, Lugo, Spain*, ³*University of Castilla-La Mancha, Ciudad Real, Spain*

Mapping Land Cover from Spaceborne Imagery in Mountain Environment: The Impact of Image Spatial Resolution and Classification algorithms

Sami Ullah^{1,4}, Muhammad Shafique², Muhammad Farooq³, Matthias Dees¹, ¹*Chair of Remote Sensing and Landscape Information System, University of Freiburg, Freiburg, Baden Württemberg, Germany*, ²*National Center of Excellence in Geology, University of Peshawar, Peshawar, KPK, Pakistan*, ³*Pakistan Space and Upper atmospheric Research Commission (SUPARCO), Peshawar, KPK, Pakistan*, ⁴*Department of Forestry, Shaheed Benazir Bhutto University, Sheringal, Dir Upper, Pakistan*

Forest certification with broadleaved timber in NW of Spain: is it possible?

Pablo Vila-Lameiro¹, Adriana Conde-Fernandez¹, ¹*University of Santiago de Compostela, Lugo, Spain*

Spatial dynamics and land use changes in Serra da Estrela Natural Park: management impacts.

Catarina Fonseca^{1,2}, Teresa Santos¹, Margarida Pereira¹, Helena Calado², ¹*CICS.NOVA, Interdisciplinary Center of Social Sciences, Faculty of Social Sciences and Humanities, University Nova de Lisboa, Lisbon, Portugal*, ²*CIBIO - Research Center in Biodiversity and Genetic Resources /InBIO - Associate Laboratory, University of Porto, Ponta Delgada, Portugal*

Symposium 4

Mountains, traditional ecological knowledge and conservation of biocultural heritage

October 6 (Thursday) 16:45-18:15 - Theatre Auditorium

Convener: Ana Maria Carvalho, Mountain Research Centre/Polytechnic Institute of Bragança, Portugal

The World Heritage: nature conservation and the safeguarding of intangible culture

Amélia Frazão-Moreira^{1,2}, ¹*Faculdade Ciências Sociais e Humanas, Universidade Nova de Lisboa, Lisboa, Portugal*, ²*Centro em Rede de Investigação em Antropologia (CRIA), Lisboa, Portugal*

Dynamic ecological knowledge systems amid changing place and climate: Mt. Yulong rhododendrons

Robbie Hart¹, Jan Salick¹, ¹*Missouri Botanical Garden, St. Louis, MO, USA*

Traditional knowledge in the Caucasus - changing knowledge patterns in Georgia after the end of soviet occupation.

Rainer W Bussmann^{1,2}, Narel Y Paniagua Zambrana^{1,2}, Shalva Sikharulidze³, Ketevan Batsatsashvili³, Zaal Kikvidze³, David Kikodze³, Dato Chelidze³, Robert Hart¹, ¹*Missouri Botanical Garden, Saint Louis, MO, USA*, ²*Herbario Nacional de Bolivia, La Paz, Bolivia*, ³*Iliia State University, Tbilisi, Georgia*

Square Peg in Round Hole: Agriculture Development Strategy in Nepal

Krishna Prasad Paudel¹, Teeka Bhattarai², Sujata Tamang³, ¹*ForestAction, Nepal, Kathmandu, Nepal*, ²*Fastenofper, Kathmandu, Nepal*, ³*University of New South Wales, Sydney, Australia*

Territory, Identity and Belonging: the process of pomeranian repossession in environments mountain in Santa Maria de Jetibá - Brazil

Ricardo Linhares de Assis¹, Renato Linhares de Assis², ¹*Secretaria de Fazenda do Estado do Espírito Santo, Vitória, ES, Brazil*, ²*Embrapa Agrobiologia - Núcleo de Pesquisa e Treinamento para Agricultores (NPTA), Nova Friburgo, RJ, Brazil*

Dynamics of indigenous medicinal plants and medicines in Farwestern Nepal

Ripu Mardhan Kunwar^{1,5}, Sudan Uprety¹, Aron Evans¹, Abdul Sahim Ansari⁵, Ashok Ram^{2,5}, Janardan Mainali³, Bhagwat Rimal⁵, Rainer Bussmann⁴, ¹*Florida Atlantic University, Boca Raton, FL, USA*, ²*Api Nampa Conservation Area, Kathmandu, Nepal*, ³*University of North Carolina Wilmington, US, Wilmington, NC, USA*, ⁴*William L Brown Center, Missouri Botanical Garden, St Louis, USA*, ⁵*GPO Box 19225, Kathmandu, Nepal*

Traditional ecological knowledge and conservation of biocultural heritage: facing the challenge

Ana Maria Carvalho¹, ¹*Mountain Research Centre, School of Agriculture, Polytechnic Institute of Bragança, Bragança, Portugal*

Symposium 5

Forest adaptation and restoration under global change – the role of mountainous forests

October 6 (Thursday) 14:45-16:15 and 16:45-18:15 - União Freguesias Auditorium

Conveners: Donato Chiatante, Università degli Studi dell'Insubria, Italy; Andreas Bolte, Thünen Institute of Forest Ecosystems, Germany

Session 1 (14:45-16:15)

A task force on forest adaptation and restoration – concept and pathways

Andreas Bolte¹, ¹*Thünen Institut of Forest Ecosystems, Eberswalde, Germany*

Governance and restoration

Stephanie Mansourian^{1,2}, ¹*mansourian.org, Gingins, Switzerland*, ²*University of Geneva, Geneva, Switzerland*, ³*IUFRO, Vienna, Austria*

Impacts of forest governance regimes on Afromontane forest conditions and resilience to climate change on Mt. Elgon, East Africa

Aaron Russell^{1,2}, Daniel Waiswa³, Benjamin Owuor⁴, Paul Ongugo⁴, Allan Bomuhangi³, Abwoli Banana³, James Kimondo⁴, ¹*Independent, Leuven, Belgium*, ²*Center for International Forestry Research, Bogor, Indonesia*, ³*Makerere University, Kampala, Uganda*, ⁴*Kenya Forestry Research Institute, Nairobi, Kenya*

Adaptive management of a forest close to the alpine timberline

Nathalia Jandl¹, Robert Jandl², Andreas Schindlbacher², ¹*University Vienna, Vienna, Austria*, ²*Austrian Forest Research Center, Vienna, Austria*

Parallel disasters: wars and biodiversity loss in mountain areas

Bartolomeo Schirone¹, Iman Al-Hirsh¹, Nisreen Al-Qaddi¹, Corrado Battisti², Federico Vessella¹, Tatiana Marras¹, Maria Raffaella Ortolani¹, ¹*Dipartimento di Scienze Agrarie e Forestali (DAFNE), Università della Tuscia, Viterbo, Italy*, ²*'Torre Flavia' LTER (Long Term Ecological Research), Roma, Italy*

Session 2 (16:45-18:15)

Mountain forest management under global change: insights from model-based studies for Switzerland

Harald Bugmann¹, Nicolas Bircher¹, Maxime Cailleret¹, ¹*Forest Ecology ETHZ, Zurich, Switzerland*

Management and restoration of Italian afforestations under global change

Orazio la Marca¹, Roberto Mercurio², Leonardo Nocentini², ¹*Scuola di Agraria Università, Firenze, Italy*, ²*SIRF, Viterbo, Italy*

Response of rare and endangered species *Picea omorika* to climate change - the need for speed

Vladan Ivetic¹, ¹*University of Belgrade - Faculty of Forestry, Belgrade, Serbia*

Response of beech and oak forests to global change related stresses in Alps and Appennines

Donato Chiatante¹, Antonio Montagnoli¹, Mattia Terzaghi¹, Gabriella Stefania Scippa², ¹*University of Insubria, Varese, Italy*, ²*University of Molise, Pesche (IS), Italy*

Symposium 6

Mountain agriculture and agroecology

October 7 (Friday) 11:45-13:15 and 14:15-15:45 - Auditório Dionísio Gonçalves (ESA)

Conveners: Adriana Maria de Aquino, Embrapa Agrobiologia, Brazil; Renato Linhares de Assis, Embrapa Agrobiologia, Brazil; Margarida Arrobas, CIMO/ Polytechnic Institute of Bragança, Portugal

Session 1 (11:45-13:15)

Soil organic carbon stocks under banana plantation and forest in mountain areas, southeastern Brazil

Joyce Monteiro¹, Aline Oliveira¹, Mauricio Coelho¹, Wenceslau Teixeira¹, Rachel Prado¹, ¹*Embrapa Solos, Rio de Janeiro, Brazil*

Farmers' perceptions – Influence on sustainable regional development approaches in Alpine biosphere reserves

Adelheid Humer-Gruber^{1,2}, ¹*Interdisciplinary Mountain Research, Innsbruck, Austria*, ²*University of Innsbruck, Innsbruck, Austria*

Raising the local cattle breed Mirandesa in Trás-os-Montes mountain areas: traditional versus new production management systems

Sílvia Nobre¹, ¹*CIMO/IPB, Bragança, Portugal*

Production of winter green manure in mountain region in the state of Rio de Janeiro, Brazil.

Tayana Scheiffer¹, Adriana Aquino¹, Renato Linhares¹, Jose Guilherme Guerra¹, David Castor¹, ¹*EMBRAPA, SEROPÉDICA, Brazil*

Growing stevia in Northeastern of Portugal: effect of N rate and cutting regime

Sandra Afonso¹, Margarida Arrobas¹, Isabel Q. Ferreira¹, Manuel Ângelo Rodrigues¹, ¹*Polytechnic Institute of Bragança, Bragança, Portugal*

Session 2 (14:15-15:45)

Building and institutionalizing Participatory Guarantee Systems (PGS) in Rio de Janeiro State, Brazil: beyond the organic guarantee

Ana Paula Siqueira¹, Maria Fernanda Fonseca², Eiser Felipe³, ¹*UFRRJ/PPGCTIA, Seropédica/RJ, Brazil*, ²*PESAGRO, Nova Friburgo/RJ, Brazil*, ³*UFRRJ/PPGAO, Seropédica/RJ, Brazil*

Assessing the soil fertility and the tree nutritional status of chestnut groves grown in the region of Bragança, Northeastern of Portugal

Margarida Arrobas¹, Sandra Afonso¹, Isabel Q. Ferreira¹, Eje Röndahl², Manuel Ângelo Rodrigues¹, ¹*Polytechnic Institute of Bragança, Bragança, Portugal*, ²*Lillebaelt Academy of Professional Higher Education, Lillebaelt, Denmark*

Alternative models of territorial occupation and its contribution to endogenous development in Mountain systems.

Nádia Aun¹, Renato Assis¹, ¹*UFRRJ, Seropédica, Rio de Janeiro, Brazil*

Cover crops for the Mediterranean rainfed fruticulture

Manuel Ângelo Rodrigues¹, Sandra Afonso¹, Isabel Q. Ferreira¹, Eje Röndahl², Margarida Arrobas¹, ¹*Polytechnic Institute of Bragança, Portugal*, ²*Lillebaelt Academy, Denmark*

Symposium 8

New alternative sources of natural additives for food and cosmetic applications

October 7 (Friday) 14:15-15:45 - Auditório Alcínio Miguel (EsTIG)

Conveners: Isabel C.F.R. Ferreira, CIMO/ Polytechnic Institute of Bragança, Portugal; Maria Filomena Barreiro, LSRE/LCM, Polytechnic Institute of Bragança, Portugal

Polyphenols: old products for new ingredients

Celestino Santos-Buelga¹, ¹*University of Salamanca, Salamanca, Spain*

ValorNatural®: a Project and a Platform

Isabel C.F.R. Ferreira¹, Maria Filomena Barreiro², Luís S. Pais², ¹*Mountain Research Centre (CIMO), Polytechnic Institute of Bragança, Bragança, Portugal*, ²*Laboratory of Separation and Reaction Engineering (LSRE), Associate Laboratory LSRE/LCM, Polytechnic Institute of Bragança, Bragança, Portugal*

Microencapsulation of bioactives: from nature to products

Maria-Filomena Barreiro¹, Isabel C.F.R. Ferreira², ¹*Laboratory of Separation and Reaction Engineering - Laboratory of Catalysis and Materials (LSRE-LCM), Bragança, Portugal*, ²*Mountain Research Centre (CIMO), Bragança, Portugal*

Development of a natural colouring agent based on betacyanins from plant origin

Custódio Lobo Roriz^{1,2}, Lillian Barros^{1,3}, Miguel A. Prieto Lage^{1,4}, Ana Maria Carvalho¹, Patricia Morales², Maria Filomena Barreiro³, Isabel C.F.R. Ferreira¹, ¹*Mountain Research Centre (CIMO), ESA, Polytechnic Institute of Bragança, Bragança, Portugal*, ²*Dpto. Nutrición y Bromatología II. Facultad de Farmacia. Universidad Complutense de Madrid (UCM), Madrid, Spain*, ³*Laboratory of Separation and Reaction Engineering - Laboratory of Catalysis and Materials (LSRE-LCM), Polytechnic Institute of Bragança, Bragança, Portugal*, ⁴*Nutrition and Bromatology Group, Faculty of Food Science and Technology, University of Vigo, Ourense, Spain*

Development of a natural preservative based on catechin and derivatives from plant origin.

Bianca Albuquerque^{1,2}, Miguel Angel Prieto³, Celeide Pereira², Lillian Barros^{1,4}, Isabel C.F.R. Ferreira⁵, ¹*Centro de Investigação de Montanha (CIMO), ESA, Instituto Politécnico de Bragança, Portugal*, ²*Universidade Tecnológica Federal do Paraná, Campus de Medianeira, Medianeira, Brazil*, ³*Nutrition and Bromatology Group, Faculty of Food Science and Technology, University of Vigo, Ourense, Spain*, ⁴*Laboratory of Separation and Reaction Engineering (LSRE), Associate Laboratory (LSRE/LCM), Polytechnic Institute of Bragança, Portugal*, ⁵*Centro de Investigação de Montanha (CIMO), ESA, Instituto Politécnico de Bragança, Portugal*

Bioactive properties of dairy beverages functionalized with pure ergosterol and mycosterol extracts: a comparative study with phytosterol counterparts

Sandrina A. Heleno^{1,2}, Adenilson Rudke^{1,2}, Ricardo C. Calhelha¹, Lillian Barros^{1,2}, Odinei H. Gonçalves³, Alírio Rodrigues⁴, Maria Filomena Barreiro², Isabel C.F.R. Ferreira¹, ¹*Mountain Research Centre (CIMO), ESA, Polytechnic Institute of Bragança, Bragança, Portugal*, ²*Laboratory of Separation and Reaction Engineering - Laboratory of Catalysis and Materials (LSRE-LCM), Polytechnic Institute of Bragança, Bragança, Portugal*, ³*Universidade Tecnológica Federal do Paraná – UTFPR Campus Campo Mourão, Paraná, Brazil*, ⁴*Laboratory of Separation and Reaction Engineering (LSRE) – Associate Laboratory LSRE/LCM, Faculty of Engineering, University of Porto, Porto, Portugal*

Symposium 9

The systemic eco-social model applied to social work in rural areas

October 7 (Friday) 11:45-13:15 - Anfiteatro (EsTiG)

Conveners: Jorge Manuel Ferreira, University Institute of Lisbon, Portugal; Helena Belchior Rocha, University Institute of Lisbon, Portugal

The missing link: the role of social workers in the enhancement of agro- environmental payments in protected mountain settings

Pedro Gabriel Silva^{1,2}, Lívia Madureira^{1,2}, ¹*University of Trás-os-Montes e Alto Douro, Vila Real, Portugal*, ²*Centro de Estudos Transdisciplinares para o Desenvolvimento, Vila Real, Portugal*

The eco-social model and a the multifocal vision applied to sustainable social intervention with vulnerable populations

Helena Belchior Rocha¹, ¹*ISCTE-IUL, Lisboa, Portugal*

Eco-systemic social work and sustainable social development

Jorge Ferreira¹, ¹*ISCTE-IUL, Lisboa, Portugal*

Sustainable development, centered on people and territories: Reconfiguration of social work practices

Hermínia Gonçalves¹, ¹*Department of Economics, Sociology and Management (DESG) UTAD, Vila Real/ Portugal, Portugal*, ²*Transdisciplinary Studies Center for the Development of the same University /CETRAD- UTAD), Vila Real/Portugal, Portugal*, ³*Center for Studies and Health Research at the University of Coimbra (CEISUC), Coimbra/Portugal, Portugal*

Poverty neighborhoods: territorial intervention and strategies for human and social development

Isabel Santana¹, ¹*Isabel Santana - CIES -ISCTE, Lisbon, Portugal*

Symposium 10

Resources, risks and values: challenges for sustainable management in mountain viticulture

October 6 (Thursday) 14:45-16:15 - Conservatorium Auditorium

Conveners: Tomás de Figueiredo, CIMO/ Polytechnic Institute of Bragança, Portugal; Antonio Paz Gonzalez, University of A Coruna, Spain

Using sustainable development actions to promote relevance of mountain wines in export markets

Antonio Graça¹, Luis Simões¹, Miguel Pessanha¹, Rui Freitas¹, George Sandeman¹, ¹*SOGRAPE VINHOS SA, Avintes, Vila Nova de Gaia, Portugal*

Mountain viticulture, climate change mitigation and adaptation in Douro Wine Region

José Manso¹, ¹*ADVID, VILA REAL, Portugal*

Assessment of irrigation management in *Vitis vinifera* L., cv. Mencía: physiological and quality parameters - DO Ribeira Sacra – Spain

Javier J Cancela¹, María Fandiño¹, Esperanza Valdés², Benjamin J Rey¹, Xesús P González¹, Mar Vilanova³, ¹*GI-1716. Project and Planning. Dep. Agroforestry Engineering University of Santiago de Compostela, Lugo, Spain*, ²*CICYTEX-Technological Institute of Food and Agriculture-INTAEX (Junta de Extremadura), Badajoz, Spain*, ³*Misión Biológica de Galicia (CSIC), Pontevedra, Spain*

Vine response to deficit irrigation in NE Portugal: water productivity, yield and berry composition.

António Ribeiro¹, João Andrade¹, Diogo Ferrão², David Barreales², Joana Sobrinho³, ¹*CIMO-Polytechnic Institute of Bragança, Bragança, Portugal*, ²*ESA-Polytechnic Institute of Bragança, Bragança, Portugal*, ³*Soc. Clemente Menéres Lda. Quinta do Romeu, Mirandela, Portugal*

Distribution patterns of vineyards on volcanic soils from the Macaronesian Islands: altitudinal and soil drivers

Zulimar Hernandez¹, Juan Pedro Pérez Trujillo², Tomas de Figueiredo³, María José Marques¹, ¹*Autonomous University of Madrid, Madrid, Spain*, ²*University of La Laguna, Tenerife, Spain*, ³*CIMO-IPB, Braganza, Portugal*

Soil electrical resistivity profiles in terraced areas: methodological approaches and application to the Douro vineyards, Portugal

Jorge Dafonte¹, Aitor García-Tomillo^{1,3}, Tomás de Figueiredo², Antonio Paz González³, Felícia Fonseca², ¹*Universidad de Santiago de Compostela, Lugo, Spain*, ²*Instituto Politécnico de Bragança, Bragança, Portugal*, ³*Universidad de A Coruña, A Coruña, Spain*

Symposium 11

Tropical mountains: challenges in climate, soil and water resources management for sustainable development

October 7 (Friday) 9:45-11:15 - Anfiteatro (EsTiG)

Conveners: Tomás de Figueiredo, CIMO/ Polytechnic Institute of Bragança, Portugal; Felipe Macías Vasquez, University of Santiago de Compostela, Spain

Pacific SST variations and decadal glacier evolution in the eastern cordilleras of Peru and Bolivia

Bijeesh Kozhikkodan Veettil¹, Shanshan Wang², Ulisses Bremer¹, Sergio Florencio de Souza¹, Jefferson Simoes¹, ¹*Universidade Federal do Rio Grande do Sul, Porto Alegre, RS, Brazil*, ²*Key Laboratory of Arid Climate Change and Reducing Disaster of Gansu Province and Key Open Laboratory of Arid Climate Change and Disaster Reduction of CMA, Institute of Arid Meteorology CMA, Lanzhou, China*

Adaptive agriculture strategies to enhance ecosystem services provision in tropical mountain area in Brazil

Ana Paula Turetta¹, Fabiano Carvalho Balieiro¹, Aluisio Carvalho de Andrade¹, Rachel Bardy Prado¹, Aline Pacobayba de Oliveira¹, Guilherme Donagemma¹, Luciano Mansor de Mattos¹, ¹*Brazilian Agricultural Research Corporation - Embrapa, Rio de Janeiro, Brazil*

Zea Mays var FBC6 production in Borassus akeassii parkland in the southwestern Burkina Fasso

David Anokye Asamoah¹, Hayford Owusu⁴, Josephine YAMEOGO¹, ¹*International Assistance for Community Development (INACOD Ghana, ACCRA, Ghana)*, ²*CNRST/INERA, Ourgadougou, Burkina Faso*, ³*University of Ourgadougou, Ourgadougou, Burkina Faso*, ⁴*Office of MP for Asante Akim North of Ghana, ACCRA, Ghana*

Agricultural development, traditional water harvesting and the link to water scarcity in the foothills of the Western Ghats

Darren Crook¹, Sudhir Tripathi¹, Richard Jones², ¹*University of Hertfordshire, Hatfield, UK*, ²*University of Exeter, Exeter, UK*

Physical properties of Santiago Island soils, Cape Verde: challenges for water conservation in semiarid mountains

Ângela Moreno¹, Tiago Ramos², M: Conceição Gonçalves², Tomás Figueiredo³, Luís Santos Pereira⁴, ¹*Instituto Nacional de Investigação e Desenvolvimento Agrário, Cidade da Praia, Cape Verde*, ²*Instituto Nacional de Investigação Agrária e Veterinária, Oeiras, Portugal*, ³*CIMO/ESA/IPB, Bragança, Portugal*, ⁴*Instituto Superior de Agronomia, Lisboa, Portugal*

Effects of Climate Change on the Ecuadorian Moors Ecosystem and the Implications for the Sustainable Management of Key Ecosystem Services

KARLA BELTRAN¹, PIRAN WHITE¹, ¹*University of York, York, UK*

Symposium 13

Natural and human induced hazards in mountain areas under global change: trends and challenges

October 6 (Thursday) 14:45-16:15 - Conservatorium Gallery

Conveners: Felícia Fonseca, CIMO, Polytechnic Institute of Bragança, Portugal; Adélia Nunes, University of Coimbra, Portugal; Antonio Jordan, University of Seville, Spain

Linear erosion in mountain scrublands of North and Centre Portugal: the case studies of Seirós and Corgo gullies

Bruno Martins¹, Luciano Lourenço¹, Felícia Fonseca², Tomás Figueiredo², Cármen Ferreira³, ¹*Universidade de Coimbra, Coimbra, Portugal*, ²*Instituto Politécnico de Bragança, Bragança, Portugal*, ³*Universidade do Porto, Porto, Portugal*

Effect of prescribed fire on soil erosion and soil chemical properties in a mountain area, Northeast Portugal

Felícia Fonseca¹, Tomás Figueiredo¹, Anabela Quierrós¹, Clotilde Nogueira¹, ¹*Instituto Politécnico de Bragança, Bragança, Portugal*

Increase of social-ecological vulnerability to natural disasters in the mediterranean mountains: what changed? The example of Piódão and Pomares basins, Portugal

Adélia Nunes^{1,2}, Luciano Lourenço^{1,2}, ¹*Department of Geography and Tourism, Coimbra, Portugal*, ²*CEGOT, Univ. Coimbra, Portugal*

On the impact of global change on landslide disasters in Latin America

Irasema Alcántara-Ayala¹, Ricardo Garnica-Peña¹, ¹*Institute of Geography, National Autonomous University of Mexico (UNAM), Mexico City, Mexico*

Risk assessment of tropospheric ozone and atmospheric nitrogen deposition effects on terrestrial ecosystems in Spanish mountain areas

Rocío Alonso¹, Héctor García-Gómez¹, Susana Elvira¹, Ignacio González-Fernández¹, Isaura Rábago¹, Fernando Valiño¹, Javier Sanz¹, Héctor Calvete¹, Victoria Bermejo¹, ¹*CIEMAT, Madrid, Spain*

Tailored programme for biological control by hypovirulence of Chestnut Blight in Portugal. Rules, regulation and practical application

Eugénia Gouveia¹, ¹*Instituto Politécnico de Bragança, Bragança, Portugal*

Symposium 15

Land abandonment and ecosystem services: threats and opportunities for mountain sustainability

October 7 (Friday) 15:45-17:15 – Auditório Alcínio Miguel (EsTiG)

Conveners: João P. Honrado, InBIO/CIBIO, University of Porto, Portugal; João C. Azevedo, CIMO, Polytechnic Institute of Bragança, Portugal

Eco-Eco: Ecological - Economical Assessment of Grazing Services Using a Target Based Model

Tzach Aharon Glasser¹, Alberd Kaminer¹, Ella Segal², ¹*Ramat-Hanadiv Nature Park, Zichron Ya'akov, Israel*, ²*Technion-Israel Institute of Technology, Haifa, Israel*

Distinct types of LU-trajectories reveal cascading effects on the multi-functionality of mountain landscapes

Lukas Egarter Vigl¹, Erich Tasser¹, Uta Schirpke^{1,2}, Ulrike Tappeiner^{1,2}, ¹*EURAC research, Bolzano, Italy*, ²*University of Innsbruck, Innsbruck, Austria*

Current and future role of forest composition as a fire-mitigation ecosystem service

Paulo M. Fernandes¹, Rui Lourenço¹, Helder Fraga¹, João A. Santos¹, ¹*Centro de Investigação e de Tecnologias Agro-Ambientais e Biológicas, UTAD, Vila Real, Portugal*

Declining of natural and social capital in the Portuguese mountain protected areas, how to invert the trends?

Lívia Madureira^{1,2}, Pedro Gabriel Silva^{1,2}, ¹*Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal*, ²*CETRAD - Centre for Transdisciplinary Development Studies, Vila Real, Portugal*

Assessment of fire hazard regulation ecosystem service in a mountain area in northeastern Portugal

Ângelo Sil¹, Paulo Fernandes², Cristina Marta-Pedroso¹, Joaquim Alonso³, João Honrado⁴, Ajith Perera⁵, João Azevedo¹, ¹*CIMO - Polytechnic Institute of Bragança, Bragança, Portugal*, ²*CITAB - University of Trás-os-Montes and Alto Douro, Vila Real, Portugal*, ³*Polytechnic Institute of Viana do Castelo, Viana do Castelo, Portugal*, ⁴*InBIO - University of Porto, Porto, Portugal*, ⁵*Ontario Forest Research Institute, Ontario, Canada*

No man's land. A tail on mountain areas socio-economic and environmental degradation at the Portuguese Centro Region

António Dinis Ferreira¹, ¹*CERNAS - ESAC - IPC, Coimbra, Portugal*

Symposium 16

Livestock farming systems in European mountains: challenges and opportunities

October 7 (Friday) 15:45-17:15 – Auditório Dionísio Gonçalves (ESA)

Convener: Giampiero Lombardi, University of Torino, Italy

Grassland vegetation influenced by farming systems in Romanian Carpathian Mountains (case studies)

Veronica Sarateanu¹, ¹*Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Timisoara, Romania*

Sustainable grazing in tundra? Assessing the ecological impacts of sheep grazing in Iceland

Bryndís Marteinsdóttir¹, Isabel C Barrio¹, Ingibjörg Svala Jónsdóttir^{1,2}, ¹*University of Iceland, Reykjavik, Iceland*, ²*University Centre in Svalbard, Longyearbyen, Norway*

Agroforestry systems in North-Eastern mountains of Portugal: a portrait in the transition for the XXIst century

Filipa Torres-Manso¹, Ana Marta-Costa¹, Marina Castro², Manuel Tibério¹, ¹*UTAD, Vila Real, Portugal*, ²*IPB, Bragança, Portugal*

Management of range resources in mountain areas of Middle Atlas - Morocco and in North Portugal

Ahmed El Aich¹, Marina Castro², ¹*Institut Agronomique et Vétérinaire Hassan II, Rabat, Morocco*, ²*IPB-CIMO, Bragança, Portugal*

Innovation and tradition in livestock farming in the south-western Alps

Massimiliano Probo¹, Giampiero Lombardi¹, ¹*University of Torino, Torino, Italy, Italy*

Recovery of mountain rangelands

Esther Fernández-Núñez¹, Ricardo Faria¹, Margarida Arrobas¹, Thiago Rizzi¹, Carlos Aguiar¹, Manuel Rodrigues¹, Nuno Moreira¹, Jaime Pires¹, ¹*Mountain Research Centre, Instituto Politécnico de Bragança, Portugal*

Symposium 17

Past environments in mid-latitude mountain regions

October 7 (Friday) 15:45-17:15 – Auditório Pequeno (ESA)

Conveners: Marc Oliva, University of Lisbon, Portugal; Jesús Ruiz-Fernández, University of Oviedo, Spain

Karst depressions as sediment traps for glacial deposits: Case studies from the Dinaric karst

Manja Žebre¹, Petra Jamšek Rupnik¹, Jernej Jež¹, ¹*Geological Survey of Slovenia, Ljubljana, Slovenia*

Environmental changes in a high Atlantic mountain area (Western Massif of the Picos de Europa, NW Iberia) since the Last Glaciation

Jesús Ruiz-Fernández¹, Marc Oliva², Anabela Cruces³, Vera Lopes³, Maria da Conceição Freitas³, César Andrade³, José Antonio López-Sáez⁴, Cristina García-Hernández¹, David Gallinar¹, Miguel Galdes², ¹*Department of Geography, University of Oviedo, Spain*, ²*Centre for Geographical Studies - Institute of Geography and Spatial Planning, University of Lisbon, Portugal*, ³*IDL, Faculty of Sciences, University of Lisbon, Portugal*, ⁴*Center for Humanities and Social Sciences, CSIC, Madrid, Spain*

Morphometry and interpretation of Pleistocene and Holocene mass movements at Ancares Range (NW of Iberia)

Alexandre Luis Vázquez-Rodríguez¹, Marcos Valcárcel Díaz¹, ¹*University of Santiago de Compostela, Santiago de Compostela, Spain*

Pleistocene glaciation in low altitude atlantic mountains: The Xistral mountains (NW Iberia)

Marcos Valcárcel¹, Alexandre Luis Vázquez-Rodríguez¹, Jonathan Hall-Riaza¹, ¹*University of Santiago de Compostela, Santiago de Compostela, Spain*

The periglacial of the Iberian Peninsula. Spatial and temporal variability

Marc Oliva¹, Enrique Serrano², Antonio Gómez-Ortiz³, María José González-Amuchastegui⁴, Alexandre Nieuwendam¹, David Palacios⁵, Augusto Pérez-Alberti⁶, Ramon Pellitero-Ondicol⁷, Jesús Ruiz-Fernández⁸, Dermot Antoniades⁹, ¹*Centro de Estudos Geográficos, IGOT - Universidade de Lisboa, Portugal*, ²*Department of Geography, University of Valladolid, Spain*, ³*Department for Physical and Regional Geography, University of Barcelona, Spain*, ⁴*Department of Geography, Prehistory and Archaeology, University of the Basque Country, Spain*, ⁵*Department for Regional and Physical Geography, Complutense University of Madrid, Spain*, ⁶*Department of Geography, University of Santiago de Compostela, Spain*, ⁷*Department of Geography and Environment, University of Aberdeen, UK*, ⁸*Department of Geography, University of Oviedo, Spain*, ⁹*Department of Geography & Centre for Northern Studies (CEN), Université Laval, Canada*

Macro-fabric analysis in relict rock glaciers, Cantabrian Mountains (NW Spain)

Rosa Blanca González-Gutiérrez¹, Javier Santos-González¹, João António Bessa Santos², José María Redondo-Vega¹, Amelia Gómez-Villar¹, Jeffrey Reed Irwin³, ¹*University of León, León, Spain*, ²*San Jose State University, San Jose, California, USA*, ³*South Dakota State University, Brookings, South Dakota, USA*

Symposium 18

Forest management tools for sustainability approach in mountain regions

October 6 (Thursday) 16:45-18:15 - Conservatorium Gallery

Conveners: Fernando Pérez-Rodríguez, CIMO, Polytechnic Institute of Bragança, Portugal; Alberto Rojo-Alboreca, University of Santiago de Compostela, Spain; Esteban Gomez-Garcia, Forest Research Center of Lourizán, Spain

20 years developing models and tools for forest growth and yield in a sustainability context in Galicia (Spain)

Alberto Rojo-Alboreca¹, Juan G. Álvarez-González¹, Ulises Diéguez-Aranda¹, Roque J. Rodríguez-Soalleiro¹, ¹*Unidade de Xestión Forestal Sostible, Escola Politécnica Superior, Universidade de Santiago de Compostela, Lugo, Spain*

Providing tools to improve forest management in the northeastern region of Portugal

Fernando Pérez-Rodríguez^{1,2}, Luís Nunes^{1,2}, Ângelo Sil^{1,2}, João Azevedo^{1,2}, ¹*Instituto Politécnico de Bragança, Bragança, Portugal*, ²*Centro de Investigação de Montanha, Bragança, Portugal*

Decision Support System for Sustainable Forest Management in Galicia (Spain)

Ulises Diéguez-Aranda¹, José Mario González-González¹, Manuel Arias-Rodil¹, ¹*University of Santiago de Compostela, Lugo, Spain*

SIMANFOR. Support tool on cloud for simulate alternatives in sustainable forest management in Spain.

Felipe Bravo¹, A.Cristóbal Ordóñez¹, ¹*University of Valladolid, Palencia, Castilla y León, Spain*

AppTitude: Integration of different ecosystem services in forest optimization approaches

Fernando Pérez-Rodríguez^{1,2}, João Azevedo^{1,2}, ¹*Instituto Politécnico de Bragança, Bragança, Portugal*, ²*Centro de Investigação de Montanha, Bragança, Portugal*

Symposium 19

Erosion threats in mountain environments: processes, impacts and mitigation

October 6 (Thursday) 16:45-18:15 - Conservatorium Auditorium

Conveners: Tomás de Figueiredo, CIMO, Polytechnic Institute of Bragança, Portugal; Arlindo Almeida, CIMO, Polytechnic Institute of Bragança, Portugal; Jean Poesen, KU Leuven, Belgium; Estela Nadal Romero, University of Zaragoza, Spain;

Testing Lithogenic Thorium-232 for Fingerprinting of Slush Flows Debris Sources and Sinks in the Khibini Mountains, Kola Peninsula, North-Western Russia

Ekaterina V. Garankina¹, Vladimir R. Belyaev¹, Maxim M. Ivanov¹, ¹*Lomonosov Moscow State University, Moscow, Russia*

Spatial variation of Hydrological processes in slope Intability evaluation in agricultural terraces: S. Luiz Estate, Alto Douro Wine Region.

Joana Fernandes¹, Carlos Bateira⁴, Laura Soares², António Costa¹, Bruno Fonseca¹, Rui Moura³, ¹*FLUP – Faculty of Arts of the University of Porto, Porto, Portugal*, ²*CEGOT – Centre of Studies on Geography and Spatial Planning, Porto, Portugal*, ³*FCUP - Faculty of Sciences of the University of Porto, Porto, Portugal*, ⁴*Riskam, CEG, IGOT/FLUP, UP, Porto, Portugal*

Using roughness and C-factor in a connectivity index to evaluate the impact of land use/cover changes in a Mediterranean mountain catchment

Ivan Lizaga¹, Laura Quijano¹, Leticia Palazón¹, Leticia Gaspar², Ana Navas¹, ¹*EEAD-CSIC, Zaragoza, Spain*, ²*MNCN-CSIC, Madrid, Spain*

Soil Erosion Risk Modeling in the Alps - Modeling Approach and Importance for a Soil Erosion Risk Assessment in Swiss Alpine Grassland

Simon Schmidt¹, Katrin Meusburger¹, Christine Alewell¹, ¹*Environmental Geosciences, University Basel, Basel, Switzerland*

Soil rock fragment profiles in degraded and pristine sites of a mountain area, NE Portugal

Felícia Fonseca¹, Tomás Figueiredo¹, Ana Sofia Pires¹, Jean Poesen², ¹*Instituto Politécnico de Bragança, Bragança, Portugal*, ²*Catholic University of Leuven, Leuven, Belgium*

Symposium 20

The XXI century mountains: sustainable management of mountainous areas based on animal traction

October 7 (Friday) 9:45-11:15 – Auditório Dionísio Gonçalves (ESA)

Conveners: João B. Rodrigues, APTRAN-Portuguese Association of Animal Traction, Portugal; Pit Schlechter, FECTU – European Draught Horse Federation, Luxembourg

The renaissance of draught animal power in Europe

Pit Schlechter¹, ¹FECTU, Schoos, Luxembourg

Animal traction in the Portuguese mountain areas: challenges and opportunities towards sustainable production systems.

João B. Rodrigues¹, ¹APTRAN - Associação Portuguesa de Tracção Animal, Bragança, Portugal

The working horse in Swiss mountain agriculture

Henri Spychiger¹, ¹Association Suisse des Atteleurs Professionels, Sumiswald, Switzerland

Ardennes horses in Sintra forests - tradition and sustainability

Nuno Oliveira¹, ¹Parques de Sintra Monte da Lua, Sintra, Portugal

Animal and mechanical traction in forest operations: substitution or synergy?

Raffaele Spinelli¹, ¹CNR IVALSA, Sesto Fiorentino, Italy

Comparing effects of tillage treatments performed with animal traction on soil physical properties: preliminary experimental results

Aitor García-Tomillo¹, Tomás de Figueiredo², Arlindo Almeida², Jorge Dafonte³, Antonio Paz-González¹, João Rodrigues⁴, João Nunes⁴, ¹Facultad de Ciencias - Universidad de Coruña, Coruña, Spain, ²Escola Superior Agraria - Instituto Politécnico de Bragança, Bragança, Portugal, ³Escuela Politécnica Superior - Universidad de Santiago de Compostela, Lugo, Spain, ⁴Associação Portuguesa de Tracção Animal- APTRAN, Bragança, Portugal

Symposium 21

Moving toward sustainable mountain social-ecological systems: the challenge and promise of cross-level governance

October 6 (Thursday) 14:45-16:15 – Theatre Auditorium

Conveners: Catherine Tucker, University of Florida, USA; Alexey Gunya, Russian Academy of Sciences

Relevance of social capital in the institutionalization process of a socio-environmental conflict around water management in a micro basin in the Andes Region: Lullán-Parón basin – Huaylas – Perú.

Fabio Azzolin¹, ¹*University of Genova, Genova, Liguria, Italy*

Challenges for cross-level watershed governance and sustainable water provision in the mountains of Honduras

Catherine Tucker¹, ¹*University of Florida, Gainesville, Florida, USA*

Management of National Parks in Norway, Sweden, Austria and Scotland.

Kjell Overvåg¹, Terje Skjeggedal², ¹*Eastern Norway Research Institute, Lillehammer, Norway*, ²*Norwegian University of Science and Technology, Trondheim, Norway*

Applying analyses of historical conservation policies and rural livelihoods strategies to inform development of socio-ecological climate change adaptation strategies in Afromontane East Africa.

Aaron Russell^{2,1}, Abwoli Banana³, Emily Obonyo⁴, Wen Zhou¹, Joel Serovic⁵, Allan Bomuhangi³, Daniel Waiswa³, Kennedy Githinji⁴, David Langat⁴, Houria Djoudi¹, ¹*Center for International Forestry Research, Bogor, Indonesia*, ²*Independent, Leuven, Belgium*, ³*Makerere University, Kampala, Uganda*, ⁴*Kenya Forestry Research Institute, Nairobi, Kenya*, ⁵*Rotterdam University, Rotterdam, The Netherlands*

Globalisation, climate change and traditional social-ecological systems: Insights from transhumance system in the Himalayas

Suman Aryal¹, ¹*University of Southern Queensland, QLD, Australia*

Understanding the relevance of the Biosphere Reserve concept for the provision of public goods in the mountain region of Lungau, Austria

Thilo Nigmann¹, Thomas Dax¹, Ingrid Machold¹, ¹*Federal Institute for Less-Favored and Mountainous Areas, Vienna, Austria*