<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Venue</th>
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<tr>
<td><strong>October 5 (Wednesday)</strong></td>
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<tr>
<td>9:00-18:00</td>
<td><strong>Field trips</strong></td>
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<tr>
<td><strong>October 6 (Thursday)</strong></td>
<td><strong>Venue</strong></td>
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<tr>
<td>Morning</td>
<td><strong>Registration</strong></td>
<td>Theatre</td>
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<tr>
<td>9:00-10:00</td>
<td><strong>Opening of the I International Conference on Research for Sustainable Development in Mountain Regions</strong></td>
<td>Theatre Auditorium</td>
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<td>Jaime Pires, CIMO Coordinator</td>
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<td>Adriana de Aquino, Embrapa representative</td>
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<td>Martin F. Price, Chairholder of the UNESCO Chair in Sustainable Mountain Development</td>
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<tr>
<td>10:30-11:15</td>
<td><strong>Keynote address</strong></td>
<td>Theatre Auditorium</td>
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<td></td>
<td><em>Mountains matter</em>, by Martin F. Price, University of the Highlands and Islands, UK</td>
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<tr>
<td>11:15-11:45</td>
<td><strong>Coffee break</strong></td>
<td>Theatre Foyer</td>
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<tr>
<td>11:45-12:30</td>
<td><strong>Keynote address</strong></td>
<td>Theatre Auditorium</td>
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<td><em>Mountain forests in a rapidly changing world - should we worry?</em> by Harald Bugmann, ETH Zurich – Institute of Terrestrial Ecosystems, Switzerland</td>
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<td>12:30-13:00</td>
<td><strong>New Global GIS Coverages Provide spatially explicit frameworks for mountain research</strong> by Gregory B. Greenwood, Mountain Research Initiative</td>
<td>Theatre Foyer</td>
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<tr>
<td>13:00-14:00</td>
<td><strong>Lunch</strong></td>
<td>Theatre Foyer</td>
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<tr>
<td>Afternoon</td>
<td><strong>Keynote address</strong></td>
<td>Theatre Auditorium</td>
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<tr>
<td>14:00-14:45</td>
<td><em>Challenges and opportunities for understanding social-ecological dynamics, linking science with action, and moving towards sustainability in the world’s mountains</em> by Julia Klein, Colorado State University, USA</td>
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<tr>
<td>14:45-16:15</td>
<td><strong>Symposium and parallel sessions</strong></td>
<td>Theatre Auditorium</td>
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<td><strong>Symposium 21</strong>: Moving toward sustainable mountain social-ecological systems: the challenge and promise of cross-level governance</td>
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<td><strong>Symposium 5</strong>: Forest adaptation and restoration under global change – the role of mountainous forests (session 1)</td>
<td>União Freguesias</td>
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<td><strong>Symposium 10</strong>: Resources, risks and values: challenges for sustainable management in mountain viticulture</td>
<td>Conservatorium: Miguel de Cervantes</td>
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<td><strong>Symposium 13</strong>: Natural and human induced hazards in mountain areas under global change: trends and challenges</td>
<td>Conservatorium: Luís de Camões</td>
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<td><strong>Coffee break</strong></td>
<td>Theatre Foyer</td>
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<tr>
<td>16:45-18:15</td>
<td><strong>Symposia and parallel sessions</strong></td>
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<td><strong>Symposium 4</strong>: Mountains, traditional ecological knowledge and conservation of biocultural heritage</td>
<td>Theatre Auditorium</td>
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<td><strong>Symposium 5</strong>: Forest adaptation and restoration under global change – the role of mountainous forests (session 2)</td>
<td>União Freguesias</td>
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<td><strong>Symposium 19</strong>: Erosion threats in mountain environments: processes, impacts and mitigation</td>
<td>Conservatorium: Miguel de Cervantes</td>
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<td><strong>Symposium 18</strong>: Forest management tools for sustainability approach in mountain regions</td>
<td>Conservatorium: Luís de Camões</td>
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<tr>
<td>18:15-19:45</td>
<td><strong>Poster session</strong></td>
<td>Theatre Foyer</td>
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<tr>
<td>19:45-21:30</td>
<td>Buffet dinner</td>
<td>Theatre Sala de Atos</td>
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<td>22:00-23:00</td>
<td><strong>Music concert – Galandum Galundaina</strong></td>
<td>Theatre Auditorium</td>
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<tr>
<td>October 7 (Friday)</td>
<td>Venue</td>
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<tr>
<td><strong>Morning</strong></td>
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<tr>
<td>9:00-9:45</td>
<td><strong>Keynote address</strong>&lt;br&gt; <em>Mountain Forests - traps or treasures?</em> by <strong>Georg Gratzer</strong>, University for Natural Resources and Life Sciences, Austria</td>
<td>Aud. D. Gonçalves (ESA)</td>
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<tr>
<td>9:45-11:15</td>
<td><strong>Symposia and parallel sessions</strong>&lt;br&gt; - Symposium 20: The XXI century mountains: sustainable management of mountainous areas based on animal traction&lt;br&gt; - Symposium 2: Land use change, value and sustainable development in mountain landscapes&lt;br&gt; - Session 1: <em>Climate change</em>&lt;br&gt; - Symposium 11: Tropical mountains: challenges in climate, soil and water resources management for sust. development</td>
<td>Aud. D. Gonçalves (ESA)&lt;br&gt;Aud. Pequeno (ESA)&lt;br&gt;Aud. Alcínio Miguel (EsTIG)&lt;br&gt;Anniteatro (EsTIG)</td>
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<td>11:15-11:45</td>
<td><strong>Coffee break</strong></td>
<td>Aud. D. Gonçalves Lobby</td>
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<tr>
<td>11:45-13:15</td>
<td><strong>Symposia and parallel sessions</strong>&lt;br&gt; - Symposium 6: Mountain agriculture and agroecology (session 1)&lt;br&gt; - Symposium 17: Past environments in mid-latitude mountain regions&lt;br&gt; - Session 2: <em>Biodiversity conservation</em>&lt;br&gt; - Symposium 9: The systemic eco-social model applied to social work in rural areas</td>
<td>Aud. D. Gonçalves (ESA)&lt;br&gt;Aud. Pequeno (ESA)&lt;br&gt;Aud. Alcínio Miguel (EsTIG)&lt;br&gt;Anniteatro (EsTIG)</td>
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<td>13:15-14:15</td>
<td><strong>Lunch</strong></td>
<td>ESA cafeteria</td>
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<td><strong>Afternoon</strong></td>
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<tr>
<td>14:15-15:45</td>
<td><strong>Symposia and parallel sessions</strong>&lt;br&gt; - Symposium 6: Mountain agriculture and agroecology (session 2)&lt;br&gt; - Symposium 8: New alternative sources of natural additives for food and cosmetic applications&lt;br&gt; - Session 4: Governance, heritage and identity</td>
<td>Aud. D. Gonçalves (ESA)&lt;br&gt;Aud. Pequeno (ESA)&lt;br&gt;Aud. Alcínio Miguel (EsTIG)</td>
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<tr>
<td>15:45-17:15</td>
<td><strong>Symposia and parallel sessions</strong>&lt;br&gt; - Symposium 16: Livestock farming systems in European mountains: challenges and opportunities&lt;br&gt; - Session 3: Mountain farming systems and mountain forestry&lt;br&gt; - Symposium 15: Land abandonment and ecosystem services: threats and opportunities for mountain sustainability</td>
<td>Aud. D. Gonçalves Lobby&lt;br&gt;Aud. Pequeno (ESA)&lt;br&gt;Aud. Alcínio Miguel (EsTIG)</td>
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<td>17:15-17:45</td>
<td><strong>Coffee break</strong></td>
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<td>17:45-18:30</td>
<td><strong>LuMont - The Lusophony Mountain Research Network meeting</strong>&lt;br&gt; <em>A common research agenda for mountain areas in Portuguese speaking countries</em></td>
<td>Aud. D. Gonçalves (ESA)</td>
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<tr>
<td>18:30-19:15</td>
<td><strong>Closing ceremony</strong>&lt;br&gt; - João Sobrinho Teixeira, IPB President&lt;br&gt; - Pedro Machado, Embrapa-Labex Europa Coordinator&lt;br&gt; - Martin F. Price, Chairholder of the UNESCO Chair in Sustainable Mountain Development&lt;br&gt; - Paulo Ferrão, President of Fundação para a Ciência e a Tecnologia (FCT)&lt;br&gt; - Manuel Heitor, Portuguese Minister of Science, Technology and Higher Education</td>
<td>Aud. D. Gonçalves (ESA)</td>
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<td>21:30</td>
<td><strong>Bragança Jazz Festival</strong></td>
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<tr>
<td>Thu Oct 6</td>
<td>13:30-14:00</td>
<td>Journal of Mountain Science - Special Issue meeting</td>
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<td>Fri Oct 7</td>
<td>15:15</td>
<td>Open Agriculture - Special Issue meeting: (at the end of Symposium 6 (Session 2))</td>
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<tr>
<td>Thu Oct 6</td>
<td>18:00</td>
<td>Regional Combat Desertification Working group (Núcleo Regional de Combate à Desertificação do Norte (NRCD-N), Portugal) awareness session (at the end of Symposium 19)</td>
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Oral Presentations (sessions and symposia)

October 6 (Thursday)
Teatro Municipal de Bragança, União de Freguesias, Conservatorium

Symposium 21: Moving toward sustainable mountain social-ecological systems: the challenge and promise of cross-level governance
Convener: Catherine Tucker, University of Florida, USA
Theatre Auditorium
14:45-16:15h

Sy21O01 Relevance of social capital in the institutionalization process of a socio-environmental conflict around water management in a micro basin in the Andes Region: Llullán-Parón basin – Huaylas – Perú.
Fabio Azzolin1, 1University of Genova, Genova, Liguria, Italy

Sy21O02 Challenges for cross-level watershed governance and sustainable water provision in the mountains of Honduras
Catherine Tucker2, 1University of Florida, Gainesville, Florida, USA

Sy21O03 Management of National Parks in Norway, Sweden, Austria and Scotland.
Kjell Overvåg1, Terje Skjeggedal2, 1Eastern Norway Research Institute, Lillehammer, Norway, 2Norwegian University of Science and Technology, Trondheim, Norway

Sy21O04 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 Russell2, 1Abwoli Banana3, Emily Obonyo4, Wen Zhou1, Joel Serovic5, Allan Bomuhangi3, Daniel Waswa2, Kennedy Githunjii3, David Langat5, Houria Djoudi1, 1Center for International Forestry Research, Bogor, Indonesia, 2Independent, Leuven, Belgium, 3Makerere University, Kampala, Uganda, 4Kenya Forestry Research Institute, Nairobi, Kenya, 5Rotterdam University, Rotterdam, The Netherlands

Sy21O05 Globalisation, climate change and traditional social-ecological systems: Insights from transhumance system in the Himalayas
Suman Arval1, 1University of Southern Queensland, Qld, Australia

Sy21O06 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, 1Federal Institute for Less-Favoured and Mountainous Areas, Vienna, Austria

Symposium 5: Forest adaptation and restoration under global change – the role of mountainous forests
(session 1)
Conveners: Donato Chiatante, Università degli Studi dell’Insubria, Italy, Andreas Bolte, Thünen Institute of Forest Ecosystems, Germany
União Freguesias
14:45-16:15h

Sy05O01 A task force on forest adaptation and restoration – concept and pathways
Andreas Bolte1, 1Thünen Institute of Forest Ecosystems, Eberswalde, Germany

Sy05O02 Governance and restoration
Stephanie Mansourian1, 1mansourian.org, Gingins, Switzerland, 2University of Geneva, Geneva, Switzerland, 2IUFRO, Vienna, Austria

Sy05O03 Impacts of forest governance regimes on Afromontane forest conditions and resilience to climate change on Mt. Elgon, East Africa
Aaron Russell2, 1Abwoli Banana3, Benjamin Owuor4, Paul Ongugo4, Allan Bomuhangi3, Abwoli Banana4, James Kimondo4, 1Independent, Leuven, Belgium, 2Center for International Forestry Research, Bogor, Indonesia, 3Makerere University, Kampala, Uganda, 4Kenya Forestry Research Institute, Nairobi, Kenya

Sy05O04 Adaptive management of a forest close to the alpine timberline
Nathalia Jandl1, Robert Jandl2, Andreas Schindlbacher2, 1Austrian Forest Research Center, Vienna, Austria, 2University Vienna, Vienna, Austria

Sy05O05 Parallel disasters: wars and biodiversity loss in mountain areas
Bartolomeo Schirone1, Iman Al-Hirsh1, Nisreen Al-Qaddi1, Corrado Battisti1, Federico Vessella1, Tatiana Marra1, Maria Raffaella Ortolani1, 1Dipartimento di Scienze Agrarie e Forestali (DAFNE), Università della Tuscia, Viterbo, Italy, 2Torre Flavia’ LTER (Long Term Ecological Research), Roma, Italy
Symposium 10: Resources, risks and values: challenges for sustainable management in mountain viticulture
Conveners: Tomás de Figueiredo, CIMO/IPB, Portugal; Antonio Paz Gonzalez, Univ, of A Coruña, Spain
Conservatorium: Miguel de Cervantes
14:45-16:15h

Sy10O01 Using sustainable development actions to promote relevance of mountain wines in export markets
Antonio Graça1, Luis Simões1, Miguel Pessanha1, Rui Freitas1, George Sandeman1, SOGRAPE VINHOS SA, Avintes, Vila Nova de Gaia, Portugal

Sy10O02 Mountain viticulture, climate change mitigation and adaptation in Douro Wine Region
José Manso1, ADVID, VILA REAL, Portugal

Sy10O03 Assessment of irrigation management in Vitis vinifera L., cv. Mencia: physiological and quality parameters - DO Ribeira Sacra – Spain
Javier J Cancela1, María Fandiño1, Esperanza Valdés2, Benjamin J Rey1, Xesús P González1, Mar Vilanova1, GI-1716. Project and Planning. Dep. Agroforestry Engineering University of Santiago de Compostela, Lugo, Spain, CICYTEX-Technological Institute of Food and Agriculture-INTAEX (Junta de Extremadura), Badajoz, Spain, Misión Biológica de Galicia (CSIC), Pontevedra, Spain

Sy10O04 Vine response to deficit irrigation in NE Portugal: water productivity, yield and berry composition.
António Ribeiro1, João Andrade1, Diogo Ferrão2, David Barreiras2, Joana Sobrinho3, CIMO-Polytechnic Institute of Bragança, Bragança, Portugal, ESA-Polytechnic Institute of Bragança, Bragança, Portugal, Soc. Clemente Menéres Lda. Quinta do Romeu, Mirandela, Portugal

Symposium 13: Natural and human induced hazards in mountain areas under global change: trends and challenges
Conveners: Felícia Fonseca, CIMO/IPB; Adélia Nunes, U.Coimbra, Portugal; Antonio Jordan, U.Seville, Spain
Conservatorium: Luís de Camões
14:45-16:15h

Sy13O01 On the reconstruction of pre-landslide topography in mountain areas
Mario Parise1, CNR IRPI, Bari, Italy

Sy13O01 Linear erosion in mountain scrublands of North and Centre Portugal: the case studies of Seirols and Corgo gullies
Bruno Martins1, Luciano Lourenço1, Felícia Fonseca2, Tomás Figueiredo2, Cármem Ferreira2, Universidade de Coimbra, Coimbra, Portugal, Instituto Politécnico de Bragança, Bragança, Portugal, Universidade do Porto, Porto, Portugal

Sy13O02 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, Instituto Politécnico de Bragança, Bragança, Portugal

Sy13O03 Increase of social-ecological vulnerability to natural disasters in the mediterranean mountains: what changed? The example of Pliódáo and Pomares basins, Portugal
Adélia Nunes1,2, Luciano Lourenço1,2, Department of Geography and Tourism, Coimbra, Portugal, CEGOT, Univ. Coimbra, Portugal

Sy13O04 On the impact of global change on landslide disasters in Latin America
Irasema Alcántara-Ayala1, Ricardo García-Peña1, Institute of Geography, National Autonomous University of Mexico (UNAM), Mexico City, Mexico

Sy13O05 Risk assessment of tropospheric ozone and atmospheric nitrogen deposition effects on terrestrial ecosystems in Spanish mountain areas
Rocio Alonso1, Héctor García-Gómez1, Susana Elvira1, Ignacio González-Fernández1, Isaura Rábago1, Fernando Valiño1, Javier Sanz1, Héctor Calvete1, Victoria Bermejo1, CIEMAT, Madrid, Spain
Sy13O06 Tailored programme for biological control by hypovirulence of Chestnut Blight in Portugal. Rules, regulation and practical application
Eugénia Gouveia1, 1Instituto Politecnico de Bragança, Bragança, Portugal

Symposium 4: Mountains, traditional ecological knowledge and conservation of biocultural heritage
Convener: Ana Maria Carvalho, CIMO/IPB, Portugal
Theatre Auditorium
16:45-18:15

Sy04O01 The World Heritage: nature conservation and the safeguarding of intangible culture
Amélia Frazão-Moreira1, 1Faculdade Ciências Sociais e Humanas, Universidade Nova de Lisboa, Lisboa, Portugal, 2Centro em Rede de Investigação em Antropologia (CRIA), Lisboa, Portugal

Sy04O02 Dynamic ecological knowledge systems amid changing place and climate: Mt. Yulong rhododendrons
Robbie Hart1, Jan Salick1, 1Missouri Botanical Garden, St. Louis, MO, USA

Sy04O03 Traditional knowledge in the Caucasus - changing knowledge patterns in Georgia after the end of soviet occupation.
Rainer W Bussmann1, 2, Narel Y Paniagua Zambrana1, 2, Shalva Sikharulidze3, Ketevan Batsatsashvili4, Zaal Kikvidze5, David Kikodze3, Dato Chelidze3, Robert Hart1, 1Missouri Botanical Garden, Saint Louis, MO, USA, 2Herbario Nacional de Bolivia, La Paz, Bolivia, 3Ilia State University, Tbilisi, Georgia

Sy04O04 Square Peg in Round Hole: Agriculture Development Strategy in Nepal
Krishna Prasad Paudel1, 1ForestAction, Nepal, Kathmandu, Nepal, 2Fastenofper, Kathmandu, Nepal, 3University of New South Wales, Sydney, Australia

Sy04O05 Territory, Identity and Belonging: the process of pomeranian repossession in environments mountain in Santa Maria de Jetibã - Brazil
Ricardo Linhares de Assis1, 1Secretaria de Fazenda do Estado do Espírito Santo, Vitória, ES, Brazil, 2Embrapa Agrobiologia - Núcleo de Pesquisa e Treinamento para Agricultores (NPTA), Nova Friburgo, RJ, Brazil

Sy04O06 Dynamics of indigenous medicinal plants and medicines in Farwestern Nepal
Ripu Mardhan Kunwar1, 1, 2, Sudhan Uprety1, Aron Evans1, Abdul Sahim Ansari1, Ashok Ram1, 1, 2, Janardan Mainali2, Bhagwat Rimal3, Rainer W Bussmann4, 1Florida Atlantic University, Boca Raton, FL, USA, 2Api Nampa Conservation Area, Kathmandu, Nepal, 3University of North Carolina Wilmington, US, Wilmington, NC, USA, 4William L Brown Center, Missouri Botanical Garden, St Louis, USA, 5GPO Box 19225, Kathmandu, Nepal

Sy04O07 Traditional ecological knowledge and conservation of biocultural heritage: facing the challenge
Ana Maria Carvalho1, 1Mountain Research Centre, Scholl of Agriculture, Polytechnic Institute of Braganca, Braganca, Portugal

Symposium 5: Forest adaptation and restoration under global change – the role of mountainous forests (session 2)
Conveners: Donato Chiatante, Università degli Studi dell’Insubria, Italy; Andreas Bolte, Thünen Institute of Forest Ecosystems, Germany
União Freguesias
16:45-18:15

Sy05O06 Mountain forest management under global change: insights from model-based studies for Switzerland
Harald Bugmann1, Nicolas Bircher1, Maxime Cailleret1, 1Forest Ecology ETHZ, Zurich, Switzerland

Sy05O07 Management and restoration of Italian afforestations under global change
Orazio la Marca1, Roberto Mercurio2, Leonardo Nocentini3, 1Scuola di Agraria Università, Firenze, Italy, 2SIRF, Viterbo, Italy

Sy05O08 Response of rare and endangered species Picea omorika to climate change - the need for speed
Vladan Ivetic1, 1University of Belgrade - Faculty of Forestry, Belgrade, Serbia

Sy05O09 Response of beech and oak forests to global change related stresses in Alps and Appennines
Donato Chiatante1, Antonio Montagnoli1, Mattia Terzaghi1, Gabriella Stefania Scippa1, 1University of Insubria, Varese, Italy, 2University of Molise, Pesche (IS), Italy
Symposium 19: Erosion threats in mountain environments: processes, impacts and mitigation
Conveners: Tomás de Figueiredo, CIMO/IPB; Arlindo Almeida, CIMO/IPB, Portugal; Jean Poesen, KU Leuven, Belgium; Estela Nadal Romero, University of Zaragoza, Spain
Consortium: Miguel de Cervantes
16:45-18:15

Sy19O01 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, lLomonosov Moscow State University, Moscow, Russia

Sy19O02 Spatial variation of Hydrological processes in slope Intability evaluation in agricultural terraces: S. Luiz Estate, Alto Douro Wine Region.
Joana Fernandes¹, Carlos Bateira¹, Laura Soares², António Costa¹, Bruno Fonseca¹, Rui Moura³, ¹FLUP – Faculty of Arts of the University of Porto, Porto, Portugal, ²CEGOT – Centre of Studies on Geography and Spatial Planning, Porto, Portugal, ³FCUP - Faculty of Sciences of the University of Porto, Porto, Portugal, ⁴Riskam, CEG, IGOT/FLUP, UP, Porto, Portugal

Sy19O03 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 Gaspar¹, Ana Navas¹, ¹EEAD-CSIC, Zaragoza, Spain, ²MNCN-CSIC, Madrid, Spain

Sy19O04 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, ¹Environmental Geosciences, University Basel, Basel, Switzerland

Sy19O05 Soil rock fragment profiles in degraded and pristine sites of a mountain area, NE Portugal
Felícia Fonseca¹, Tomás Figueiredo¹, Ana Sofia Pires¹, Jean Poesen², ¹Instituto Politécnico de Bragança, Bragança, Portugal, ²Catholic University of Leuven, Leuven, Belgium

Symposium 18: Forest management tools for sustainability approach in mountain regions
Conveners: Fernando Pérez-Rodríguez, CIMO/IPB, Portugal; Alberto Rojo-Alboereca, University of Santiago de Compostela, Spain; Esteban Gomez-Garcia, Forest Research Center of Lourizán, Spain
Consortium: Luís de Camões
16:45-18:15

Sy18O01 20 years developing models and tools for forest growth and yield in a sustainability context in Galicia (Spain)
Alberto Rojo-Alboereca¹, Juan G. Álvarez-González¹, Ulises Diéguez-Aranda¹, Roque J. Rodríguez-Soalleiro¹, ¹Unidade de Xestión Forestal Sostible, Escola Politècnica Superior, Universidade de Santiago de Compostela, Lugo, Spain

Sy18O02 Providing tools to improve forest management in the northeastern region of Portugal
Fernando Pérez-Rodríguez¹,2, Luis Nunes¹,2, Ângelo Sílº¹,2, João Azevedo¹,2, ¹Instituto Politécnico de Bragança, Bragança, Portugal, ²Centro de Investigación de Montanha, Bragança, Portugal

Sy18O03 Decision Support System for Sustainable Forest Management in Galicia (Spain)
Ulises Diéguez-Aranda¹, José Mario González-González¹, Manuel Arias-Rodil¹, ¹University of Santiago de Compostela, Lugo, Spain

Sy18O04 SIMANFOR. Support tool on cloud for simulate alternatives in sustainable forest management in Spain.
Felipe Bravo¹, A Cristóbal Ordóñez¹, ¹University of Valladolid, Palencia, Castilla y León, Spain

Sy18O05 AppTitude: Integration of different ecosystem services in forest optimization approaches
Fernando Pérez-Rodríguez¹,2, João Azevedo¹,2, ¹Instituto Politécnico de Bragança, Bragança, Portugal, ²Centro de Investigación de Montanha, Bragança, Portugal
Symposium 20: The XXI century mountains: sustainable management of mountainous areas based on animal traction
Conveners: João B. Rodrigues, APTRAN-Portuguese Association of Animal Traction, Portugal; Pit Schlechter, FECTU – European Draught Horse Federation, Luxembourg
Aud. D. Gonçalves (ESA)
9:45-11:15

Sy20001 The renaissance of draught animal power in Europe
Pit Schlechter¹, ¹FECTU, Schoos, Luxembourg

Sy20002 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

Sy20003 The working horse in Swiss mountain agriculture
Henri Spychiger¹, ¹Association Suisse des Atteliers Professionels, Sumiswald, Switzerland

Sy20004 Ardennes horses in Sintra forests - tradition and sustainability
Nuno Oliveira¹, ¹Parques de Sintra Monte da Lua, Sintra, Portugal

Sy20005 Animal and mechanical traction in forest operations: substitution or synergy?
Raffaele Spinelli¹, ¹CNR IVALSA, Sesto Fiorentino, Italy

Sy20006 Comparing effects of tillage treatments performed with animal traction on soil physical properties: preliminary experimental results
Aitor García-Tomillo¹, Tomás de Figueiredo², Arlindo Almeida³, Jorge Dafonte³, Antonio Paz-González¹, João Rodrigues¹, João Nunes¹, 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, ¹Associação Portuguesa de Tracção Animal- APTRAN, Bragança, Portugal

Symposium 2: Land use change, value and sustainable development in mountain landscapes
Conveners: Mônica Amorim, Universidade Federal do Ceará, Brazil; Ignacio Diaz-Maroto, Universidad de Santiago de Compostela, Spain, Renato Linhares de Assis, Embrapa Agrobiologia, Brazil
Aud. Pequeno (ESA)
9:45-11:15

Sy02001 Valuing protected mountain landscape in the Sacred Himalayas: visitors perspective
Kamal Thapa¹, ¹Environmental Friendly Local Governance Programme (EFLGP), Besishahar Municipality, Lamjung, Nepal

Sy02002 Assessing social values for ecosystem services in two mountain landscapes in the Romanian Carpathians
Sorina Mihaela Bogdan¹, Irina Iulia Nastase¹, Ileana Patru - Stupariu¹,², Andreea Andra - Toparceanu¹, ¹University of Bucharest, Faculty of Geography, Bucharest, Romania, ²University of Bucharest Research Institute, Bucharest, Romania

Sy02003 Mountain landscape adding value to mountain products: a case study of Guaramiranga coffee - Brazil
Mônica Amorim¹, Renato Linhares de Assis², Adriana Maria de Aquino², ¹Universidade Federal do Ceará, Fortaleza (CE), Brazil, ²Embrapa Agrobiologia - Núcleo de Pesquisa e Treinamento para Agricultores (NPTA), Nova Friburgo (RJ), Brazil

Sy02004 Landscape dynamics in the eastern mountains of Galicia: anthropic intervention
Ignacio J. Diaz-Maroto¹, Olga Vizoso-Arribe², Maria C. Diaz-Maroto³, ¹Univ.Santiago de Compostela, Lugo, Spain, ²Univ. Santiago de Compostela, Lugo, Spain, ³Univ. Castilla-La Mancha, Ciudad Real, Spain

Sy02005 Mapping Land Cover from spaceborne imagery in mountain environment: the impact of image spatial resolution and classification algorithms
Sami Ullah¹,²,³, Muhammad Shafique, Muhammad Farooq³, Matthias Dees¹, ¹Chair of Remote Sensing and Landscape Information System, University of Freiburg, Freiburg, Baden Württemberg, Germany, ²National Center of Excellence in Geology, University of Peshawar, Peshawar, KPK, Pakistan, ³Pakistan Space and Upper atmospheric Research Commission (SUPARCO), Peshawar, KPK, Pakistan, ¹Department of Forestry, Shaheed Benazir Bhutto University, Sheringal, Dir Upper, Pakistan

Sy02006 Forest certification with broadleaved timber in NW of Spain: is it possible?
Pablo Vila-Lameiro¹, Adriana Conde-Fernandez¹, ¹Univ. Santiago de Compostela, Lugo, Spain
**Sy02O07 Spatial dynamics and land use changes in Serra da Estrela Natural Park: management impacts**

Catarina Fonseca¹,², Teresa Santos¹, Margarida Pereira¹, Helena Calado², ¹CICS.NOVA, Interdisciplinary Center of Social Sciences, Faculty of Social Sciences and Humanities, University Nova de Lisboa, Lisbon, Portugal, ²CIBIO - Research Center in Biodiversity and Genetic Resources /InBIO - Associate Laboratory, University of Porto, Ponta Delgada, Portugal

**Session 1: Climate change**

Chair: Artur Gonçalves, CIMO/ IPB, Portugal

Aud. Alcino Miguel (EsTIG)

9:45-11:15

**S01O01**

Population dynamics of alpine herbivores in a warmer climate

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

**S01O02**

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

Monika Metrak¹, Lukasz Chachulski², Pawel Pawlikowski⁵, Marcin Sulwinski⁵, Malgorzata Suska-Malawska⁵, ¹University of Warsaw, Warsaw, Poland, ²Warsaw University of Life Sciences, Warsaw, Poland

**S01O03**

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, ¹Institute of Biometeorology, Firenze, Italy

**S01O04**

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

Artur Gonçalves¹, António C. Ribeiro¹, Filipe Maia¹, Manuel Feliciano¹, ¹CIMO - Mountain Research Centre, Instituto Politécnico de Bragança, Bragança, Portugal

**S01O05**

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, ¹Department of Botany, University of Granada., Granada, Spain, ²Director of the Botanic Garden Detunda-Cueva de Nerja. Environmental and Water Agency, Consejería de Medio Ambiente, Rural y Marino. Junta de Andalucía, Andalusia, Spain, ³Fluvial Dynamics and Hidrology Research Group. Andalusian Institute for Earth System research. University of Granada, Granada, Spain

**S01O06**

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

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

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**Symposium 11: Tropical mountains: challenges in climate, soil and water resources management for sustainable development**

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

Anfiteatro (EsTIG)

9:45-11:15

**Sy11O01**

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 Simoes², ¹Universidade Federal do Rio Grande do Sul, Porto Alegre, RS, Brazil, ²Key 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

**Sy11O02**

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 Oliveira¹, Guilherme Donagemma¹, Luciano Mansor de Mattos¹, ¹Brazilian Agricultural Research Corporation - Embrapa, Rio de Janeiro, Brazil

**Sy11O03**

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

Darren Crook¹, Sudhir Tripathi¹, Richard Jones², ¹University of Hertfordshire, Hatfield, UK, ²University of Exeter, Exeter, UK
Sy11O04 Physical properties of Santiago Island soils, Cape Verde: challenges for water conservation in semiarid mountains

Sy11O05 Effects of Climate Change on the Ecuadorian Moors Ecosystem and the Implications for the Sustainable Management of Key Ecosystem Services
KARLA BELTRAN, PIRAN WHITE, University of York, York, UK.

Symposium 6: Mountain agriculture and agroecology (session 1)
Aud. D. Gonçalves (ESA)
Conveners: Adriana Maria de Aquino and Renato Linhares de Assis, Embrapa Agrobiologia, Brazil; Margarida Arrobas, CIMO/IPB, Portugal
11:45-13:15

Sy06O01 Soil organic carbon stocks under banana plantation and forest in mountain areas, southeastern Brazil
Joyce Monteiro, Aline Oliveira, Mauricio Coelho, Wenceslau Teixeira, Rachel Prado, Embrapa Solos, Rio de Janeiro, Brazil.

Sy06O02 Farmers’ perceptions – Influence on sustainable regional development approaches in Alpine biosphere reserves
Adelheid Humer-Gruber, Interdisciplinary Mountain Research, Innsbruck, Austria, University of Innsbruck, Innsbruck, Austria.

Sy06O03 Raising the local cattle breed Mirandesa in Trás-os-Montes mountain areas: traditional versus new production management systems
Silvia Nobre, CIMO/IPB, Bragança, Portugal.

Sy06O04 Production of winter green manure in mountain region in the state of Rio de Janeiro, Brazil.
Tayana Scheiffer, Ariana Aquino, Renato Linhares, José Guilherme Guerra, David Castor, EMBRAPA, SEROPÉDICA, Brazil.

Sy06O05 Growing stevia in Northeastern of Portugal: effect of N rate and cutting regime
Sandra Afonso, Margarida Arrobas, Isabel Q. Ferreira, Manuel Angelo Rodrigues, Polytechnic Institute of Bragança, Bragança, Portugal.

Symposium 17: Past environments in mid-latitude mountain regions
Aud. Pequeno (ESA)
Conveners: Marc Oliva, University of Lisbon, Portugal; Jesús Ruiz-Fernández, University of Oviedo, Spain
11:45-13:15

Sy17O01 Karst depressions as sediment traps for glacigenic deposits: Case studies from the Dinaric karst

Sy17O02 Environmental changes in a high Atlantic mountain area (Western Massif of the Picos de Europa, NW Iberia) since the Last Glaciation
Jesús Ruiz-Fernández, Marc Oliva, Anaíla Cruces, Vera Lopes, Maria da Conceição Freitas, César Andrade, José Antonio López-Sáez, Cristina Garcia-Hernández, David Gallinar, Miguel Geraldes, Department of Geography, University of Oviedo, Oviedo, Spain, Centre for Geographical Studies - Institute of Geography and Spatial Planning, University of Lisbon, Lisbon, Portugal, Iberian LISLAB, Faculty of Sciences, University of Lisbon, Lisbon, Portugal, Center for Humanities and Social Sciences, CSIC, Madrid, Spain.

Sy17O03 Morphometry and interpretation of Pleistocene and Holocene mass movements at Ancares Range (NW Iberia)
Alexandre Luís Vázquez-Rodríguez, Marcos Valcárcel Diaz, University of Santiago de Compostela, Santiago de Compostela, Spain.

Sy17O04 Pleistocene glaciation in low altitude atlantic mountains: The Xistral mountains (NW Iberia)
Marcos Valcárcel, Alexandre Luís Vázquez-Rodríguez, Jonathan Hall-Riaza, University of Santiago de Compostela, Santiago de Compostela, Spain.
Sy17O05 The periglaciation of the Iberian Peninsula. Spatial and temporal variability
Marc Oliva1, Enrique Serrano2, Antonio Gómez-Ortiz2, María José González-Amuchastegui3, Alexandre Nieuwendam4, David Palacios5, Augusto Pérez-Alberti6, Ramon Pellittero-Ondicol7, Jesús Ruiz-Fernández8, Dermot Antoniades9, 
1Centro de Estudos Geográficos, IGOT - Universidade de Lisboa, Lisboa, Portugal, 2Department of Geography, University of Valladolid, Valladolid, Spain, 3Department for Physical and Regional Geography, University of Barcelona, Barcelona, Spain, 4Department of Geography, Prehistory and Archaeology, University of the Basque Country, Spain, Vitoria, Spain, 5Department for Regional and Physical Geography, Complutense University of Madrid, Madrid, Spain, 6Department of Geography, University of Santiago de Compostela, Spain, Santiago de Compostela, Spain, 7Department of Geography and Environment, University of Aberdeen, Aberdeen, UK, 8Department of Geography, University of Oviedo, Spain, Oviedo, Spain, 9Department of Geography & Centre for Northern Studies (CEN), Université Laval, Laval, Canada

Sy17O06 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, 
1University of León, León, Spain, 2San Jose State University, San Jose, California, USA, 3South Dakota State University, Brookings, South Dakota, USA

Session 2: Biodiversity conservation
Chair: Guillermo Martinez Pastur, CADIC CONICET, Argentina
Aud. Alcínio Miguel (EsTIG)
11:45-13:15
S02O01 Biomonitoring of the flora in the transboundary mountainous forest of the Central-West of Tunisia: the Case of Boucheika’s Mountains
Saadaoui Islem1, Ilahi Hayet1, Bryant Christopher1, rejeb hicem1, 1Higher Agronomic Institute of Chott Mariem, Sousse, Tunisia, 2Faculty of Art and Sciences, UdeM, Montreal, Canada
S02O02 Forests in mountain environments of Tierra del Fuego: Biodiversity and productive values
Vanessa Lencinas1, Rosina Soler1, Alejandro Huertas Herrera1, Guillermo Martínez Pastur1, 1CADIC CONICET, Tierra del Fuego, Argentina
S02O03 Biodiversity conservation value of mountain environments in Isla de los Estados
Guillermo Martinez Pastur1, Alejandro Huertas Herrera1, Sarah Kather1, Boris Díaz2, Vanessa Lencinas1, 1CADIC CONICET, Tierra del Fuego, Argentina, 2INTA, Santa Cruz, Argentina
S02O04 Angolan mountains current research and conservation issues
Francisco Gonçalves1,2, Nigel Barker3, David Goyder3, 1Herbarium of Lubango, ISCED-Huíla, Lubango, Angola, 2University of Hamburg, Biocentre Klein Flottbek, Hamburg, Germany, 3University of Rhodes, Great Escarpment Biodiversity Research Programme, Grahamstown, South Africa, 4Kew Herbarium, Royal Botanic Gardens, London, UK
S02O05 Conservation of native fish and mussel populations in mountainous streams of NE Portugal
Amílcar Teixeira1, Ronoldo Sousa2, Simone Varandas3, Elsa Froufe4, Manuel Lopes-Lima5, 1CIMO-ESA/IPB, Bragança, Portugal, 2CBMA- U. Minho, Braga, Portugal, 3CITAB-UTAD, Vila-Real, Portugal, 4CIMAR-U. Porto, Porto, Portugal
S02O06 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, 1Mediterranean University, Reggio Calabria, Italy
S02O07 Birds species richness in a calabrian pine stand on Etna volcano
Angelo Scuderi1, Pasquale A. Marziliano1, Giuliano Menguzzato1, Valeria Altieri1, Vittoria Coletta1, Fabio Lombardi1, 1Mediterranean University of Reggio Calabria, Reggio Calabria, Italy
Symposium 9: The systemic eco-social model applied to social work in rural areas
Conveners: Jorge Manuel Ferreira and Helena Belchior Rocha, University Institute of Lisbon, Portugal
Anfiteatro (EsTiG)

11:45-13:15

Sy09O01 The missing link: the role of social workers in the enhancement of agro- environmental payments in protected mountain settings
Pedro Gabriel Silva, Lívia Madureira, University of Tras-os-Montes e Alto Douro, Vila Real, Portugal, Centro de Estudos Transdisciplinares para o Desenvolvimento, Vila Real, Portugal

Sy09O02 The eco-social model and a multifocal vision applied to sustainable social intervention with vulnerable populations
Helena Belchior Rocha, ISCTE-IUL, Lisboa, Portugal

Sy09O03 Eco-systemic social work and sustainable social development
Jorge Ferreira, ISCTE-IUL, Lisboa, Portugal

Sy09O04 Sustainable development, centered on people and territories: Reconfiguration of social work practices
Hermínia Gonçalves, Department of Economics, Sociology and Management (DESG), UTAD, Vila Real, Portugal, Transdisciplinary Studies Center for the Development of the same University (CETRAD-UTAD), Vila Real, Portugal, Centre for Research and Studies in Sociology (CIES-IUL), Lisboa, Portugal

Sy09O05 Poverty neighborhoods: territorial intervention and strategies for human and social development
Isabel Santana, ISCTE-IUL, Lisboa, Portugal

Symposium 6: Mountain agriculture and agroecology (session 2)
Conveners: Adriana Maria de Aquino and Renato Linhares de Assis, Embrapa Agrobiologia, Brazil; Margarida Arrobas, CIMO/IPB, Portugal
Aud. D. Gonçalves (ESA)

14:15-15:45

Sy06O06 Building and institutionalizing Participatory Guarantee Systems (PGS) in Rio de Janeiro State, Brazil: beyond the organic guarantee
Ana Paula Siqueira, Maria Fernanda Fonseca, Eiser Felippe, UFRRJ/PPGCTIA, Seropédica/RJ, Brazil, PESAGRO, Nova Friburgo/RJ, Brazil, UFRRJ/PPGAO, Seropédica/RJ, Brazil

Sy06O07 Assessing the soil fertility and the tree nutritional status of chestnut groves grown in the region of Bragança, Northeastern of Portugal
Margarida Arrobas, Sandra Afonso, Isabel Q. Ferreira, Eje Röndahl, Manuel Ângelo Rodrigues, Polytechnic Institute of Bragança, Bragança, Portugal, Lillebaelt Academy of Professional Higher Education, Lillebaelt, Denmark

Sy06O08 Alternative models of territorial occupation and its contribution to endogenous development in Mountain systems
Nádia Aun, Renato Assis, UFRRJ, Seropédica, Rio de Janeiro, Brazil

Sy06O09 Cover crops for the Mediterranean rainfed fruticulture
Manuel Ângelo Rodrigues, Sandra Afonso, Isabel Q. Ferreira, Eje Röndahl, Margarida Arrobas, Polytechnic Institute of Bragança, B, Portugal, Lillebaelt Academy of Professional Higher Education, Lillebaelt, Denmark

Symposium 8: New alternative sources of natural additives for food and cosmetic applications
Conveners: Isabel C.F.R. Ferreira, CIMO/IPB, Portugal; Maria Filomena Barreiro, LSRE/LCM-IPB, Portugal
Aud. Pequeno (ESA)

14:15-15:45

Sy08O01 Polyphenols: old products for new ingredients
Celestino Santos-Buelga, University of Salamanca, Salamanca, Spain

Sy08O02 Valornatural®: a Project and a Platform
Isabel C.F.R. Ferreira, Maria Filomena Barreiro, Luis S. Pais, Mountain Research Centre (CIMO), Polytechnic Institute of Bragança, Bragança, Portugal, Laboratory of Separation and Reaction Engineering (LSRE), Associate Laboratory LSRE/LCM, Polytechnic Institute of Bragança, Bragança, Portugal

Sy08O03 Microencapsulation of bioactives: from nature to products
Maria-Filomena Barreiro, Isabel C.F.R. Ferreira, Laboratory of Separation and Reaction Engineering - Laboratory of Catalysis and Materials (LSRE-LCM), Bragança, Portugal, Mountain Research Centre (CIMO), Bragança, Portugal
Sy08O04 Development of a natural colouring agent based on betacyanins from plant origin
Custódio Lobo Roriz1,2, Lillian Barros1,3, Miguel A. Prieto Lage1,4, Ana Maria Carvalho5, Patricia Morales1, Maria Filomena Barreiro1, Isabel C.F.R. Ferreira1, 1Mountain Research Centre (CIMO), ESA, Polytechnic Institute of Bragança, Bragança, Portugal, 2Dpto. Nutrición y Bromatología II. Facultad de Farmacia, Universidad Complutense de Madrid (UCM), Madrid, Spain, 3Laboratory of Separation and Reaction Engineering - Laboratory of Catalysis and Materials (LSRE-LCM), Polytechnic Institute of Bragança, Bragança, Portugal, 4Nutrition and Bromatology Group, Faculty of Food Science and Technology, University of Vigo, Ourense, Spain

Sy08O05 Development of a natural preservative based on catechin and derivatives from plant origin.
Bianca Albuquerque1,2, Miguel Angel Prieto3, Celeide Pereira2, Lillian Barros1,4, Isabel C.F.R. Ferreira5, 1Centro de Investigação de Montanha (CIMO), ESA, Instituto Politécnico de Bragança, Bragança, Portugal, 2Universidade Tecnológica Federal do Paraná, Campus de Medianeira, Medianeira, Brazil, 3Nutrition and Bromatology Group, Faculty of Food Science and Technology, University of Vigo, Ourense, Spain, 4Laboratory of Separation and Reaction Engineering (LSRE), Associate Laboratory (LSRE/LCM), Polytechnic Institute of Bragança, Bragança, Portugal, 5Centro de Investigação de Montanha (CIMO), ESA, Instituto Politécnico de Bragança, Bragança, Portugal

Sy08O06 Bioactive properties of dairy beverages functionalized with pure ergosterol and mycosteryl extracts: a comparative study with phytosterol counterparts
Sandrina A. Heleno1,2, Adenilson Rudke1,2, Ricardo C. Calhelha1, Lillian Barros1,2, Odinei H. Gonçalves1, Alírio Rodrigues1, Maria Filomena Barreiro1, Isabel C.F.R. Ferreira1, 1Mountain Research Centre (CIMO), ESA, Polytechnic Institute of Bragança, Bragança, Portugal, 2Laboratory of Separation and Reaction Engineering - Laboratory of Catalysis and Materials (LSRE-LCM), Polytechnic Institute of Bragança, Bragança, Portugal, 3Universidade Tecnológica Federal do Paraná – UTFPR Campus Campo Mourão, Paraná, Brazil, 4Laboratory of Separation and Reaction Engineering (LSRE) – Associate Laboratory LSRE/LCM, Faculty of Engineering, University of Porto, Porto, Portugal

Session 4: Governance, heritage and identity
Chair: Tor Arnesen, Eastern Norway Research Institute, Norway
Aud. Alcício Miguel (EsTIG)
14:15-15:45

S04O01 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 W Bussmann1, Robbie Hart1, 1University of Swat, Mingora, Pakistan, 2Missouri Botanical Garden, St. Louis, USA

S04O02 Inner Areas in Italy - an innovative approach for detecting mountain areas?
Thomas Streifeneder1, Andrea Omizzolo1, Elisa Ravazzoli1, 1European Academy (EURAC), Bolzano, Italy

S04O03 «There is something rotten in the state of Norway». A critique of post WWII exclusion of locals in mountain protection policy.
Tor Arnesen1, 1Eastern Norway Research Institute, Lillehammer, Norway

S04O04 Terras de Coura Landscape Plan
Isabel Matias1,2, de Leiras do Carvalhal, Ldª, Paredes de Coura, Portugal, 2Centro de Estudos Arnaldo Araújo/ESAP, Porto, Portugal, 3Valminho Florestal, Valença, Portugal

S04O05 Mountain Environment: policies for the protection on Brazil and Peru
Luis Felipe Cesar1, 1Universidade Federal Rural do Rio de Janeiro, Rio de Janeiro, Brazil

S04O06 Culture heritage management and local development in a South Sámi and Norse mountain borderland
Terje Skjeggedal1, Kjell Overvåg2, 1Norwegian University of Science and Technology, Trondheim, Norway, 2Eastern Norway Research Institute, Lillehammer, Norway

S04O07 Mountain cultural heritage in Montenegro: A Case study of katuns at the Kući Mountain and Durmitor area
Tatjana Koprivica1, Aleksandra Kapetanovic2, Ivan Lakovic1, 1University of Montenegro, Historical Institute, Podgorica, Montenegro, 2NGO Expeditio, Kotor, Montenegro
Symposium 16: Livestock farming systems in European mountains: challenges and opportunities
Convener: Giampiero Lombardi, University of Torino, Italy
Aud. D. Gonçalves (ESA)
15:45-17:15

Sy16O01 Grassland vegetation influenced by farming systems in Romanian Carpathian Mountains (case studies)
Veronica Sarateanu1, 1Banat’s University of Agricultural Sciences and Veterinary Medicine
"King Michael I of Romania" from Timisoara, Timisoara, Romania

Sy16O02 Sustainable grazing in tundra? Assessing the ecological impacts of sheep grazing in Iceland
Bryndís Marteinsdóttir1, Isabel C Barrio1, Ingibjörg Svala Jónsdóttir1,2, 1University of Iceland, Reykjavik, Iceland, 2University Centre in Svalbard, Longyearbyen, Norway

Sy16O03 Agroforestry systems in North-Eastern mountains of Portugal: a portrait in the transition for the XXIst century
Fíliipa Torres-Manso1, Ana Marta-Costa1, Marina Castro2, Manuel Tibério1, 1UTAD, Vila Real, Portugal, 2IPB, Bragança, Portugal

Sy16O04 Management of range resources in mountain areas of Middle Atlas - Morocco and in North Portugal
Ahmed El Aich1, Marina Castro2, 1Institut Agronomique et Vétérinaire Hassan II, Rabat, Morocco, 2IPB-CIMO, Bragança, Portugal

Sy16O05 Innovation and tradition in livestock farming in the south-western Alps
Massimiliano Probo1, Giampiero Lombardi1, 1University of Torino, Torino, Italy

Sy16O06 Recovery of mountain rangelands
Esther Fernández-Núñez1, Ricardo Faria1, Margarida Arrobas1, Thiago Rizzi1, Carlos Aguiar1, Manuel Rodrigues1, Nuno Moreira1, Jaime Pires1, 1Mountain Research Centre, Instituto Politécnico de Bragança, Bragança, Portugal

Session 3: Mountain farming systems and mountain forestry
Chair: Ana Geraldes, CIMO, IPB, Portugal
Aud. Pequeno (ESA)
15:45-17:15

S03O01 Changes in Moroccan Mountains Livestock farming systems
Ahmed El Aich1, 1Department of Animal Productions, Agronomic and Veterinary Medicine Hassan II, Rabat, Morocco

S03O02 Application of near-infrared transmission (NIT) spectroscopy for estimation of quinoa (Chenopodium quinoa Willd) proximate composition
Christian Encina-Zelada1,3, Jorge Pereda2, Luz Gómez-Pando4, Vasco Cadavez3, Ursula Gonzales-Barron6, Martha Ibañez1, 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, ESA, IPB, Bragança, Portugal, 4Faculty of Agronomy, National Agricultural University, Lima, Peru

S03O03 "Dark Needle Conifer" Mortality in Southern Siberia Mountains
Viachaslav Kharkut1, Sergei 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

S03O04 Who gains from so-called Scientific Management of Community Forests in Nepal? A Case study from the Western Hills
Bijendra Basnayat1,2, Thorsten Treue1, Ridish K Pokharel1, 1Institute of Forestry, Pokhara, Nepal, 2Copenhagen University, Copenhagen, Denmark, 3Tribhuvan University, Kathmandu, Nepal

S03O05 From Vesuvius to Portugal, soil bioengineering techniques and species to mitigate erosion processes on bare slopes in mediterranean mountains
Carlo Bifulco1, Francisco Castro Rego1, 1CEABN InBio Instituto Superior de Agronomia Universidade de Lisboa, Lisboa, Portugal

S03O06 The JRC Soil Erosion Map of the European Union: a critical insight on the Portuguese mountain areas
Lúcio Rosário1,2, Tomás Figueiredo3, 1Comissão Nacional de Coordenação do Combate à Desertificação, Lisboa, Portugal, 2Instituto da Conservação da Natureza e das Florestas/SBOA, Lisboa, Portugal, 3CIMO/ESA/IPB, Bragança, Portugal

S03O07 Biofilm as nutrient removal from eutrophic waters: potential applications in a mountain urban river (Fervença River, NE Portugal)
Ana Maria Geraldes1, Cynthia Eustáquio de Sousa2, Maria Cristina Crispim2, 1CIMO, ESA, IPB, Campus de Santa Apolónia, 5300-253 Bragança, Portugal, 2Universidade Federal da Paraíba, Paraíba, Brazil
Symposium 15: Land abandonment and ecosystem services: threats and opportunities for mountain sustainability
Conveners: João P. Honrado, InBIO/CIBIO, Univ. Porto, Portugal; João C. Azevedo, CIMO/IPB, Portugal
Aud. Alcínio Miguel (EsTIG)
15:45-17:15

Sy15O01 Eco-Eco: Ecological Assessment of Grazing Services Using a Target Based Model
Tzach Aharon Glasser1, Alberd Kaminer1, Ella Segal2, 1Ramat-Hanadiv Nature Park, Zichron Ya'akov, Israel, 2Technion-Israel Institute of Technology, Haifa, Israel

Sy15O02 Distinct types of LU-trajectories reveal cascading effects on the multi-functionality of mountain landscapes
Lukas Egarter Vigl1, Erich Tasser1, Uta Schirpke1,2, Ulrike Tappeiner1,2, 1EURAC research, Bolzano, Italy, 2University of Innsbruck, Innsbruck, Austria

Sy15O03 Current and future role of forest composition as a fire-mitigation ecosystem service
Paulo M. Fernandes1, Rui Lourenço1, Helder Fraga1, João A. Santos1, 1Centro de Investigação e de Tecnologias Agro-Ambientais e Biológicas, UTAD, Vila Real, Portugal

Sy15O04 Declining of natural and social capital in the Portuguese mountain protected areas, how to invert the trends?
Lívia Madureira1,2, Pedro Gabriel Silva1, 1Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal, 2CETRAD - Centre for Transdisciplinary Dev. Studies, Vila Real, Portugal

Sy15O05 Assessment of fire hazard regulation ecosystem service in a mountain area in northeastern Portugal
Aglé Sil1, Paulo M Fernandes2, Cristina Marta-Pedroso1, Joaquim Alonso3, João C. Honrado4, Ajith Perera5, João Azevedo1, 1CIMO - Polytechnic of Bragança, Bragança, Portugal, 2CITAB - University of Trás-os-Montes and Alto Douro, Vila Real, Portugal, 3Polytechnic Institute of Viana do Castelo, Viana do Castelo, Portugal, 4InBIO – University of Porto, Porto, Portugal, 5Ontario Forest Research Institute, Ontario, Canada

Sy15O06 No man's land. A tail on mountain areas socio-economic and environmental degradation at the Portuguese Centro Region
António Dinis Ferreira1, 1CERNAS - ESAC - IPC, Coimbra, Portugal
Poster Presentations (sessions and symposia)

October 6 (Thursday)

Teatro Municipal de Bragança, Foyer

18:15-19:45

S01P01 Regulated deficit irrigation on cv. Touriga Nacional in the Douro Demarcated Region, Portugal - Physiological responses, productivity and quality effects on grapes
Igor Gonçalves1, Ana Morais1, Bruno Teixeira1, Paulo Santos1, Rui Soares2, Cristina Carlos2, 1ADVID, Vila Real, Portugal, 2Companhia Geral da Agricultura das Vinhas do Alto Douro SA, Pinhão, Portugal

S01P02 Geo-information for strengthening mountain community in climate change adaptation
Adish Khezri1, Arbind Man Tuladhar1, Jaap Zevenbergen1, 1Twente university, Enschede, The Netherlands

S01P03 Climatic Change. Human Influence?
Dionisio Gonçalves1, Solange Leite6, António Ribeiro1, Tomás Figueiredo1, 1Mountain Research Centre- IPB/ESA, Bragança, Portugal, 2Centre for the Research and Agro-Environmental and Biological Sciences-UTAD, Vila Real, Portugal

S01P04 Climate change impacts on water supply: implications for reservoir management in Alto Sabor, northeast Portugal
Claudia Carvalho-Santos1, António T. Monteiro2, João Azevedo3, João Pedro Nunes1, 1CESAM & Dept. Environment and Planning & CESAM, University of Aveiro, Aveiro, Portugal, 2CIBIO/InBio – Research Center in Biodiversity and GeneHc Resources, University of Porto, 3Rio de Janeiro, RJ, Brazil, 4Rio de Janeiro State University-UPERJ, Rio de Janeiro, RJ, Brazil

S01P05 Planning the urban green infrastructure in a complex mountain terrain - the case of Bragança (Portugal)
Artur Gonçalves1, 1CIMO - Mountain Research Centre, Instituto Politécnico de Bragança, Bragança, Portugal

S01P06 LIFE CLIMATREE - A novel approach for accounting & monitoring carbon sequestration of tree crops and their potential as carbon sink areas
KOSTAS BITHAS1, ANTONIOS KOLIMENAKIS1, 1INSTITUTE OF URBAN ENVIRONMENT AND HUMAN RESOURCES, PANTEION UNIVERSITY, ATHENS, Greece

S01P07 Ecosystem integrity state assessment in mountainous regions in the Amazon, Brazil.
Margareth Simoes1,2, Rodrigo Ferraz2, Andrei Alves2, Rachel Prado1, 1Brazilian Agricultural Research Corporation - Embrapa, Rio de Janeiro, RJ, Brazil, 2Rio de Janeiro State University-UPERJ, Rio de Janeiro, RJ, Brazil

S01P08 Ecosystem integrity state and above-ground carbon stocks in rugged landscape in the Amazon, Brazil.
Rodrigo Ferraz2, Margareth Simoes1,2, Andrei Alves2, Rachel Prado1, 1Brazilian Agricultural Research Corporation - Embrapa, Rio de Janeiro, RJ, Brazil, 2Rio de Janeiro State University-UPERJ, Rio de Janeiro, RJ, Brazil

S02P01 The vegetation of a mountain area of the Scalve Valley (Southern Alps) twenty years after environmental restoration work
Luca Giupponi1, Gian Battista Bischetti2, Annamaria Giorgi1,2, 1Università degli Studi di Milano, Ge.S.Di.Mont., Edolo, Italy, 2Università degli Studi di Milano, DISMA, Milano, Italy

S02P02 Human-Canids Conflict in Dhorpatan Hunting Reserve, Nepal
Prakash Thapa1, 1Institute of Forestry, Pokhara, Nepal

S02P03 Knockdown of Phytophtora cinnamomi GIP gene by RNA interference
Altino Choupina1,2, Maria joao De sousa1, Rodrigo Costa2, Abdessalem Chahej2, 1Polytechnic institute of Braganca, Braganca, Portugal, 2CIMO Campus de Santa. Apolónia, Braganca, Portugal

S02P04 Determination of the subcellular localisation of GIP and NPP1 proteins in Phytophthora cinnamomi tagged with green fluorescent protein
Altino Choupina1,2, Maria joao De sousa1, Rodrigo Costa2, Abdessalem Chahej2, 1Polytechnic institute of Braganca, Braganca, Portugal, 2CIMO Campus de Santa. Apolónia, Braganca, Portugal

S02P05 Land cover in karst terrains - review of impacts on karst aquifer ecosystems from temperate and Mediterranean ecoregions
Sanda Iepure1,2, Tiziana Di Lorenzo2, Andrea Castaño1, Francisco Carreño4, Javier Lillo1, 1IMDEA Water Institute, Alcalá de Henares, Spain, 2Institute of Speleology 'Emil Racoviţă, Cluj Napoca, Romania, 3Instituto per lo Studio degli Ecosistemi ISE-CNR, Florence, Italy, 4Rey Juan Carlos University, Madrid, Spain
S03P01 Mountain's farmers and their perception of wildlife, values and relationships.
Rosario Fanlo1, Montserrat Bou1, Daniel Paton2, 1University of Lleida-Agrotechnio., Lleida, Spain, 2University of Extremadura, Badajoz, Spain

S03P02 Classifying beef carcasses according to meat quality using animal/carcass characteristics and pH/temperature decline descriptors early post-mortem
Crístina Xavier1,2, Ursula Gonzales-Barron2, Alexandre Müller2, Vasco Cadavez2, 1Instituto de Ciências Biomédicas de Abel Salazar, ICBA, Porto, Portugal, 2Instituto Politécnico de Bragança, IPB, Bragança, Portugal

S03P03 Meta-analysis of the incidence of Salmonella spp., Listeria monocytogenes and Staphylococcus aureus in Portuguese traditional meat products
Vasco Cadavez1, Cristina Xavier1, Ursula Gonzales-Barron1, 1Polytechnic Institute of Bragança, Bragança, Portugal

S03P04 Development of tools and guidelines to support Water Programs of Payments for Water Environment Services in rural areas in Brazil
Rachel Prado1, Elaine Fidalgo1, Ana Paula Turetta1, Azeneth Schuler1, Carla Macário2, Bernadete Pedroira1, Joyce Monteiro1, Alba Martins1, Eliane Clemente1, Aline Oliveira1, Maria Fernanda Moura1, Ricardo Lima1, Embrapa Solos, Rio de Janeiro, Brazil, 2Embrapa Informática Agropecuária, Campinas, Brazil

S03P05 How precipitation variation influences reservoir limnology? The case of Azibo Reservoir
Ana Maria Geraldes1, CIMO, Escola Superior Agrária do Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal, Bragança, Portugal

S03P06 Mining wastes spill into a mountain stream (Douro basin, NE Portugal): Impact on water quality and macroinvertebrate assemblages
Ana Maria Geraldes1, Maria João Parada1, Elsa Ramalhosa1, Conceição Fernandes1, Miguel Caetano1, Amílcar Teixeira1, Mountain Research Centre (CIMO), ESA-Polytechnic Institute of Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal, Bragança, Portugal, 1IPMA, Instituto Português do Mar e da Atmosfera, Avenida Brasilia, 1449-006 Lisboa, Lisboa, Portugal

S03P07 Can zooplankton biodiversity be used to evaluate trophic state and water quality of a mountain reservoir?
Ana Maria Geraldes1, Rajeev Pasupuleti2, Miguel Alonso3, 1Mountain Research Centre (CIMO), ESA-Polytechnic Institute of Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal, Bragança, Portugal, 2ESA-Polytechnic Institute of Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Bragança, Portugal, 3Departament d'Ecològia Facultat de Biologia Universitat de Barcelona Avda. Diagonal 643. 08028 Barcelona, Barcelona, Spain

S03P08 Environmental drivers of productivity and isotopic ratios (δ13C and δ15N) in high-mountain wetlands in the Eastern Pamir
Malgorzata Suska-Malawska1, Marcin Sulwinski1, Piotr Chibowski1, Pawel Pawlikowski1, Monika Metrak1, 1University of Warsaw, Warsaw, Warsaw, Poland

S03P09 Sentinel Alpine Observatory: monitoring key hydrological parameters and processes in mountain regions by exploiting ESA's new Sentinel satellite images
Marc Zebisch1, Sarah Assam1, Felix Greifeneder1, Alexander Jacob1, Carlo Marin1, Roberto Monsorno1, Claudia Notarnicola1, Ruth Sonnenschein1, 1EURAC Institute for Applied Remote Sensing, Bolzano, Italy

S04P01 Planning agritourism like a factor of the environmental conservation in a city located in a river basin bordered by a mountainous region in RJ, Brazil.
Bernadete Pedreira1, Elaine Fidalgo1, Rachel Prado1, 1EMBRAPA, Rio de Janeiro, RJ, Brazil

S04P02 Arenas of power in mountain environments in Brazil and Argentina
Amaizile López Netto1, Renato Assis2, Adriana Aquino2, 1Universidade do Estado de Bahia, Juazeiro, Bahia, Brazil, 2Embrapa Agrobiologia - NPTA, Nova Friburgo, Rio de Janeiro, Brazil, Embrapa Agrobiologia - NPTA, Nova Friburgo, Rio de Janeiro, Brazil

S04P03 Public policies to stimulate the labor inducers of innovation - INDILABs
LEONARDO FAVER1, 1UNIVERSIDADE CATÓLICA DE PETRÔPOLIS, PETRÔPOLIS, RIO DE JANEIRO, Brazil

Sy02P01 Endogenous territorial development in mountain environments: the case of the territory of the Alto Camaquã – Brazil
Viviane Cristina Silva Lima1, Renato Linhares de Assis2, Adriana Maria de Aquino2, Marcos Flávio Silva Borba3, 1University Federal Rural do Rio de Janeiro, Rio de Janeiro, Brazil, 2Embrapa Agrobiologia, Rio de Janeiro, Brazil, 3Embrapa Pecuária Sul., Bagé, Brazil

Sy02P02 Historical evolution of forest landscape in areas populated by autochthonous broadleaf forests of northwestern peninsular: how historical data can be used in conservation strategies?
Ignacio J. Diaz-Maroto1, Olga Vizoso-Arribé2, Maria C. Diaz-Maroto3, 1University of Santiago de Compostela, Lugo, Spain, 2University of Santiago de Compostela, Lugo, Spain, 3University of Castilla-La Mancha, Lugo, Spain
Sy02P03 Recent land use changes in Inner Areas of Italy
Marco Marchetti1, Lorenzo Sallustio1, Andrea De Toni1, Caterina Palombo1, Giovanni Santopoli1, Carmen Giancola1, Marco Ottaviano1, Daniela Tonti1, Bruno Lasserre1, Paolo Di Martino1, Vittorio Garfi1, Rossano Pazzaglì1, Matteo Vizzari1, Roberto Tognetti1,2, Centro di Ricerca per le Aree Interne e gli Appennini (ArIA), Università degli Studi del Molise, Molise, Italy
1The EFI Project Centre on Mountain Forests (MOUNTFOR), San Michele all’Adige (TN), Italy
2University of Santiago de Compostela, Lugo, Spain

Sy02P04 Forest certification: is it recognized by social, research and enterprise elements?
Pablo Vila-Lameiro1, Adriana Condé-Fernández2, University of Santiago de Compostela, Lugo, Spain

Sy02P05 Statistical model to predict land-use change in mountains
Xabier Bachas1, Ricardo Blanco1, Rosario Fanlo1, University of Lleida, Lleida, Spain

Sy04P01 Agrifood product family in mountain environment in Rio de Janeiro State, Brazil - case of local sociocultural practice strengthening
Alessandro Melo Rifa1, Adriana Maria de Aquino1, Renato Linhares de Assis1, Maria Clara Estudoto Pinto1, Embrapa Agrobiologia - Núcleo de Pesquisa e Treinamento para Agricultores (NPTA), Nova Friburgo, Brazil

Sy06P01 Nutritional value and chemical composition of Cichorium spinosum L. under saline conditions.
Spyridon Petropoulos1, Antoniadis Vasilios1, Levizou Ef1, Angelia Fernandes2, Lillian Barros2, Isabel Ferreira2, University of Thessaly, Magnissia, Greece, Polytechnic Institute of Bragança, Portugal

Sy06P02 Saffron quality (Crocus sativus L.) of the Alpine areas
Annamaria Giorgi1, Daniela Pentimalli1, Luca Giupponi1, Sara Panseri1, Centre for Applied Studies in the Sustainable Management and Protection of the Mountain Environment-Ge.S.Di.Mont., University of Milan, Edolo (BS), Italy, Department of Veterinary Science and Public Health, University of Milan, Milan (MI), Italy

Sy06P03 Saffron (Crocus sativus L.) production as strategies in a mountain contest
Annamaria Giorgi1, Daniela Pentimalli1, Luca Giupponi1, Sara Panseri1, Gigliola Borgonovo3, Angela Bassoli3, Centre for Applied Studies in the Sustainable Management and Protection of the Mountain Environment-Ge.S.Di.Mont., University of Milan, Edolo (BS), Italy, Department of Veterinary Science and Public Health, University of Milan, Milan (MI), Italy, DeFENS – Department of Food, Environmental and Nutritional Sciences, University of Milan, Milan (MI), Italy

Sy06P04 An ancient pointed maize rich in phlobaphenes: the "Nero Spinoso" from Valcamonica(Brescia, Italy)
Pugliisi D.1, Cantaluppi E.1, Landoni L.2, Giupponi L.3, Giorgi A.3,1, Pili R.1, University degli Studi di Milano, DiSAA, Milano, Italy, Università degli Studi di Milano, DBS, Milano, Italy, Università degli Studi di Milano, Ge.S.Di.Mont., Edolo, Italy

Sy06P05 Experience of agroecologic transition using cover crop in family production systems at the hills enviroment of Rio de Janeiro State - Brazil
Gerson Antonio1, Renato Assis1, Adriana Aquino1, EMASTER-RIO, Nova Friburgo, Rio de Janeiro, Brazil, Embrapa, Nova Friburgo, Rio de Janeiro, Brazil, Embrapa, Nova Friburgo, Rio de Janeiro, Brazil

Sy06P06 Soil carbon stocks in no-tillage vegetables areas in the mountain region of the Rio de Janeiro state, Brazil
Aline Oliveira1, Joyce Monteiro1, Ademir Fontana1, Nuno Madeira2, Carlos Eduardo Lima2, Rachel Prado1, Embrapa Solos, Rio de Janeiro, Brazil, Embrapa Hortalícias, Brasilia, Brazil

Sy06P07 Production and use of inputs allowed in organic agriculture supporting agroecological transition in mountain region of the State of Rio de Janeiro - Brazil
Luiz Antonio Oliveira1, Osmir Saletter1, Maria do Carmo Fernandes1, Maria Fernanda Fonseca1, Ana Paula Peregii1, PESAGRO, Niteroi, Rio de Janeiro, Brazil, UFRRJ/PPGAO, Seropédica, Rio de Janeiro, Brazil, UFRRJ/PPGCTIA, Seropédica, Rio de Janeiro, Brazil

Sy06P08 Evaluation of sustainability at agroecological production systems in mountain environments at Nova Friburgo - Brazil
Marcelo da Silva Pereira1, Isis Rodrigues2, Geraldo Stachetti Rodrigues2, Renato Linhares de Assis1, José Antonio Azevedo Espindola1, Secretaria Municipal de Agricultura e Desenvolvimento Rural de Nova Friburgo, Nova Friburgo - RJ, Brazil, Embrapa Agrobiologia - Núcleo de Pesquisa e Treinamento para Agricultores (NPTA), Nova Friburgo - RJ, Brazil, Embrapa Agrobiologia - RJ, Brazil, Embrapa Meio Ambiente, Jaguariúna - SP, Brazil
Sy06P09 Agroecological strategies and production diversification for food security and sovereignty in family based production systems in a mountain environment in Teresópolis - Brazil
Hugo de Souza Cerqueira¹, Adriana Maria de Aquino², Lucia Helena Almeida², José Guilherme Marinho Guerra¹, Renato Linhares de Assis², ¹Associação Agroecológica de Teresópolis, Teresópolis, RJ, Brazil, ²Embrapa Agrobiologia – Núcleo de Pesquisa e Treinamento para Agricultores (NPTA), Nova Friburgo, RJ, Brazil, ³Embrapa Agrobiologia, Seropédica, RJ, Brazil

Sy06P10 Participatory evaluation of soil quality and brassicas crops in the mountain region of Rio de Janeiro, Brazil.
Eduardo Spitz de Carvalho¹,², Adriana Maria de Aquino³, Renato Linhares de Assis¹, ¹Colégio Rei Alberto I, Nova Friburgo, Brazil, ²Embrapa Agrobiologia, Nova Friburgo, Brazil

Sy06P11 Growing hops in Bragança (NE Portugal): past, present and future
Manuel Ângelo Rodrigues¹, Jorge Sá Morais¹, João Paulo Castro¹, ¹Polytechnic Institute of Bragança, Bragança, Portugal

Sy06P12 Effect of liming and N, P, K or B application as fertilizer on chestnut tree crop nutritional status and growth
Margarida Arrobas¹, Isabel Q. Ferreira¹, Sandra Afonso¹, Manuel Ângelo Rodrigues¹, ¹Polytechnic Institute of Bragança, Bragança, Portugal

Sy06P13 Fertilizing value of a five years pasture ley in comparison with maize monoculture
Margarida Arrobas¹, Peltier Aguiar², Manuel Ângelo Rodrigues¹, ¹Polytechnic Institute of Bragança, Bragança, Portugal, ²Instituto Superior Politécnico do Kuanza Sul, Sumbe, Angola

Sy06P14 Results from a long-term study on groundcover management in rainfed olive orchards
Manuel Ângelo Rodrigues¹, Sandra Afonso¹, Isabel Q. Ferreira¹, Margarida Arrobas¹, ¹Polytechnic Institute of Bragança, Bragança, Portugal

Sy06P15 An insight into the Portuguese sector of aromatic and medicinal plants
Manuel Ângelo Rodrigues¹, Sandra Afonso¹, Isabel Q. Ferreira¹, Margarida Arrobas¹, ¹Polytechnic Institute of Bragança, Bragança, Portugal

Sy06P16 Protagonism and Rural Rio Programme: an analysis of the participation of farmers in mountains of Atlantic Forest in Nova Friburgo - Brazil
Ian Luiz Galiez², Cezar Guedes³, Renato Linhares², ¹Universidade Fed. Rural do Rio de Janeiro, Seropédica, Rio de Janeiro-RJ, Brazil, ²EMBRAPA AGROBIOLOGIA, Seropédica, Rio de Janeiro-RJ, Brazil, ³EMBRAPA SOLOS, Rio de Janeiro, Brazil

Sy10P01 Erosional response of steep slope vineyards to wind driven rainfalls: a case study in the Douro Region, Portugal
Tomás Figueiredo¹, Jean Poessen², Felícia Fonseca¹, Zulimar Hernandez³, ¹Instituto Politécnico de Bragança, Bragança, Portugal, ²Catholic University of Leuven, Leuven, Belgium, ³University Autónoma de Madrid, Madrid, Spain

Sy10P02 New terraces, geometry optimization for sustainable viticulture: an assay using GIS tools.
Carlos Batheira¹, António Costa¹, Joana Fernandes², Bruno Fonseca², Fernando Alves³, Laura Soares³, ¹Riskam/CEG/UL, Lisboa, Portugal, ²FLUP/UP, Porto, Portugal, ³Symington Family Estates, Vila Nova de Gaia, Portugal

Sy10P03 Erosion control in sloping vineyards and grape production effects
Maria Jose Marques¹, Marta Ruiz-Colmenero², Ramón Bienes², Zulimar Hernandez³, ¹Autonomous University of Madrid, Madrid, Spain, ²Madrid Institute for Research and Rural Development in Food and Agriculture (IMIDRA), Madrid, Spain

Sy11P01 Human ecology in mountain environments: analysis of the perception of residents and leaders of the Serra dos Morgados, Jaguarari - Bahia, Brazil.
Amaízle López Netto¹, Juracy Marques¹, Adriana Aquino², Renato Assis³, ¹Universidade do Estado da Bahia, Juazeiro, Bahia, Brazil, ²University of the State of Bahia, Juazeiro, Bahia, Brazil, ³Embrapa Agrobiologia - NPTA, Nova Friburgo, Rio de Janeiro, Brazil, ⁴Embrapa Agrobiologia - NPTA, Nova Friburgo, Rio de Janeiro, Brazil

Sy11P02 Contamination potential by water erosion under different managements in bullside areas in Southern Brazil
Douglas Henrique Bandeira¹,², Júlio Cesar Ramos²,³, Idelgardis Bertol², Antonio Paz González¹, Hugo Castelani², ¹Universidade de Coruña, La Coruña, Spain, ²Universidade do Estado de Santa Catarina, Lages, Brazil, ³Empresa de Pesquisa Agropecuária e Extensão Rural de Santa Catarina, Chapecó, Brazil

Sy11P03 Effect of grazing on plant species diversity of wetlands from High Tropical Mountain (Venezuela Andean)
Zulimar Hernandez², Maximina Monsaterio², ¹Autonomous University of Madrid, Madrid, Spain, ²University of Los Andes, Mérida, Venezuela

Sy11P04 Spatial variability of soil attributes and the occurrence of landslides in the mountain region of the state of Rio de Janeiro, Brazil
Fabio Rizzo¹,², Adriana Maria de Aquino¹, Ednaldo da Silva Araújo¹, Marcos Baccis², ¹Embrapa Agrobiologia, Nova Friburgo, RJ, Brazil, ²Rural Federal University of Rio de Janeiro, Seropédica, Brazil
Sy11P05 Environmental perception of farmer’s families after tragedy in Nova Friburgo - Rio de Janeiro, Brazil
Maria Clara Estoducto1, Renato Linhares de Assis1, Adriana Maria de Aquino1, Alessandro Rifan1, 1Embrapa Agrobiology, Nova Friburgo, Brazil

Sy11P06 Hill-slope water erosion rates assessed from sediment trapped in check-dams: a case study in Fogo Island, Cape Verde
Tomás Figueiredo1, Zulimar Hernandez2, Juan Perez-Trujillo3, Ângela Moreno4, 1CIOM/ESA/IPB, Bragança, Portugal, 2Universidad Autonoma de Madrid, Madrid, Spain, 3Universidad de La Laguna, La Laguna, Spain, 4Instituto Nacional de Investigação e Desenvolvimento Agrário, Cidade da Praia, Cape Verde

Sy13P01 Geomorphic consequences of catastrophic flash flood in low mountains of the Western Caucasus (Gelenndzhik District of the Krasnodarskiy Region, European Russia)
Ekaterina V. Garankina1, Vladimir R. Belyaev1, Elena D. Sheremetskaya1, 1Lomonosov Moscow State University, Moscow, Russia

Sy13P02 Evaluating sediment and metals transport during storm events in a small headwater catchment (Galicia, NW Spain)
F. Soto-Varela1, ML. Rodríguez-Blanco1, MM. Taboada-Castro1, A. Diéguez1, L. Santos1, M. Insua1, MT. Taboada-Castro1, 1University of A Coruña, A Coruña, Spain

Sy17P01 Late Pleistocene glacial phases in the upper Garonne valley
Marcelo Fernandes1, Luis Lopes1, Marc Oliva1, Jesus Fernández2, 1IGOT, Lisbon, Portugal, 2Departamento de Geografia, Oviedo, Spain

Sy17P02 Morphometry of glacial cirques in the Central Pyrenees (Boí and Aran valleys)
Luis Lopes1, Marcelo Fernandes1, Marc Oliva1, Jesus Fernández2, 1Instituto de Geografia e Ordenamento do Território, Lisbon, Portugal, 2Departamento de Geografia, Oviedo, Spain

Sy19P01 Land use and cover impacts on the water sediments in a mountainous basin of the atlantic forest biome, Rio de Janeiro, Brazil
Rachel Prado1, Azeneth Schuler1, Thales Penha2, Elaine Fidalgo1, Bernadete Pedreira1, Embrapa Soils, Rio de Janeiro, Rio de Janeiro, Brazil, 2Federal University Fluminense, Niterói, Rio de Janeiro, Brazil

Sy19P02 Characterization and cartographic representation of the geometric parameters of the agriculture terraces in the Douro Wine Region.
Carlos Bateira1,2, António Costa1, Joana Fernandes1, Bruno Fonseca1, Fernando Alves3, Laura Soares1, 1FLUP/UP, Porto, Portugal, 2Riskam/CEG/UL, Lisboa, Portugal, 3SYMINGTON FAMILY ESTATES, Vila Nova de Gaia, Portugal

Sy19P03 Spatial resolutions of digital elevation models for hydrological processes modeling: a case study in Quinta de São Luíz, Alto Douro wine region
Carlos Bateira1,2, Bruno Fonseca1, Antonio Costa1, Joana Fernandes2, José Gonçalves3, Laura Soares3, 1Riskam/CEG/UL, Lisboa, Portugal, 2FLUP/UP, Porto, Portugal, 3FCUP/UP, Porto, Portugal

Sy19P04 Assessment the vulnerability of water resources in the Upper Mero Basin (NW Spain) to climate change
ML. Rodríguez-Blanco1, MM. Taboada-Castro1, R. Arias1, L. Santos1, M. Insua1, MT. Taboada1, 1University of A Coruña, A Coruña, Spain

Sy19P05 Displacement of Nim and Moringa seeds as a function of slope and mulching: laboratory experiments
Cleene A. de Lima1,2, João L.M.P. de Lima1,4, Abelardo A.A. Montenegro2, Babar Mujtaba1,4, João R.C.B. Abrantes1,4, Alexandre Silveira3,1, 1Universidade de Coimbra, coimbra, Portugal, 2Universidade Federal Rural de Pernambuco, Recife, Pernambuco, Brazil, 3Instituto de Ciência e Tecnologia, Universidade Federal de Alfenas, Poços de Caldas, Minas Gerais, Brazil, 4MARE - Centro de Ciências do Mar e do Ambiente, coimbra, Portugal