



AvH Kolleg 2018

“Sustainable Development and Climate Change: Connecting Research, Education, Policy and Practice”

DATE: 19th – 22nd September, 2018

VENUE: University of Belgrade, Rectorate,
Studentski trg 1, 11000 Belgrade, Serbia

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1. Plenary session

Chairpersons:

Jose Pinto-Bazurco (USA), Vladimir Srdić (SRB), Davide Pettenella (ITA), Slobodan Savić (SRB)

- Walter Leal: *The sustainable development goals: an opportunity to foster a better understanding of sustainability challenges*
- Pim Martens: *Our sustainability challenges: animal well-being, health and climate change*
- Jose Pinto-Bazurco: *Legal challenges for implementing the Paris agreement in developing countries*
- Martin Kaltschmitt: *Renewables within the energy supply system – trends and developments –*
- Michael Pregernig: *Sustainability, science and society: the need for a multi-perspectivist research approach*
- Daniela Kleinschmit: *Achieving Sustainable Development: Bioeconomy as the way forward*
- Mile Ivanda: *Sustainable economical advancing in developing countries by science development*
- Mihai Dima: *The climate challenge: lessons from the past and implications for the future*

2. Session: Life and natural sciences perspective on sustainable development and climate change

2.1. Sub-session: The Milanković theory and climate

Chairpersons: Luka Popović (SRB), Slobodan Marković (SRB)

- Slobodan Marković: *Milanković's theory and future climate*
- Luka Popović: *Milankovitch theory of climate changes: astronomical aspects*
- Natalija Janc: *The correspondence between Milanković and Mišković on the topic of scientists and their work*

2.2. Sub-session: Climate change modelling and natural disasters

Chairpersons: Tarmo Soomere (EST), Aleksandar Lipkovski (SRB)

- Aleksandar Lipkovski: *Mathematical modelling in sustainable development and climate change*
- Ana Vuković: *Climate change modelling as a support tool for sustainable development planning*
- Tarmo Soomere: *Concealed changes in waves and winds that may lead to an ecological dead-zone of shelf seas*
- Piero Bellanova: *Tracing toxic flood events in sedimentary archives - the potential of organic indicators*

3. Session: Smart cities, infrastructure and energy: technical sciences outlook on sustainability issues

3.1. Sub-session: Advanced materials

Chairpersons: Srećko Stopić (DEU), Snežana Bošković (SRB)

- Goran Vladislavljević: *Carbon capture by solid adsorbents*
- Svetlana Dmitrović: *Spider silk as a sustainable material for development novel functional biocomposites*
- Srećko Stopić: *Carbonisation of olivine under high pressure in an autoclave*
- Dejan Zagorac: *Energy landscapes and structure prediction of green materials: influence on sustainable development and climate change*
- Vladimir Srdić: *Advanced materials in reduction of climate change*
- Branko Matović: *Sustainable development and climate change: synthesis nanometric materials using the Ouzo effect for immobilization radionuclides*

3.2. Sub-session: Energy efficiency and sustainability

Chairpersons: Attila Imre (HUN), Dragi Antonijević (SRB)

- Jean-Pierre Djukic: *The Chemical Network Approach of Multistep Synthesis, an „Holly Grail“ of Sustainable Development: Challenges and Examples*
- Branimir Jovančićević: *Oil - useful fossil fuel, but also the cause of climate change*
- Franz Winter: *New simulation tool for the optimization and projection of a city's waste incineration*
- Attila Imre: *Improving the efficiency for low-temperature thermodynamic cycles used for the utilization of geothermal and waste-heat*
- Ivana Ivančev Tumbas: *Fate of pharmaceuticals and personal care products in water treatment – case study on caffeine and benzophenones*
- Silviya Boycheva: *Adaptation of fossil-fuel thermal power plants to meet the challenges of the climate change: a review of the technological platforms for low-carbon emission*
- Dragi Antonijević: *Energy efficiency and sustainability of biofibres-based thermal insulation*
- Milica Perić: *Implementation of the life cycle assessment (LCA) methodology for the promotion of renewable energy sources, climate change mitigation and pollution prevention*

3.3. Sub-session: Challenges of sustainable energy and climate change

Chairpersons: Neven Duić (HRV), Ana Kostov (SRB)

- Neven Duić: *Sustainable development and energy transition*
- Uroš Tomić: *Lifestyle-specific differences in energy consumption behaviour of private households*
- Sohail Ahmad: *Spatially contextualized analysis of energy use for commuting in India*
- Nebojša Manić: *The multi-component kinetic modelling of biomass thermochemical conversion process*
- Dragana Đorđević: *Energy production in Serbia: environmental problems and challenges for the future*
- Ilija Batas Bjelić: *The mitigation of the economic impacts from the fuel price shocks: Serbian case*
- Dóra Szalay: *Influence of climate change on lignocellulose biofuel production depending on legislation*

3.4. Sub-session: Robotics and electric vehicles and sustainability issues

Chairpersons: Zlatan Stojković (SRB), Gojko Joksimović (MNE)

- Paul Nicolae Borza: *Hybrid electric energy storage systems and their application toward energetic global optimized solutions*
- Aleksandar Rodić: *Advanced robotic technologies in risk prevention and environmental protection for the sustainable regional development of the region*
- Atanas Kočov: *MCDM for defining indicators for implementing electric vehicles in Western Balkan countries (WBC's) for environmental sustainability*
- Zlatan Stojković: *Sustainable development of the power system - the impact of artificial intelligence*
- Tünde Varga: *Use of digitally designed books in the training of automotive specialists*

3.5. Sub-session: Sustainable and climate smart urban planning

Chairpersons: Christoph Schneider (DEU), Nataša Tomić Petrović (SRB)

- Christoph Schneider: *Urban climate under change: challenges for public health, infrastructure and eco-system services in the city*
- Jörg Musiolik: *Speeding up the sustainable transition of cities? Exploring systemic changes in the smart cities of Vienna, Amsterdam and Santander*
- Nataša Tomić Petrović: *Sustainable transport and the right to healthy environment as the challenge in the time of climate changes*
- Nevena Vasiljević: *From the landscape point of view: policy, planning research and education about urban landscape sustainability and resilience*
- Tijana Crnčević: *Sustainable planning in the context of climate change: examples in Serbia*
- Ioannis Katsoyiannis: *Water reuse as a secure pathway to tackle water scarcity*

4. Session: Sustainable development and climate change: global issues (Social sciences, Humanities, Law and Economy)

4.1. Sub-session: Sustainable Development and Global Citizenship

Chairperson: Gordana Jovanović (SRB)

- Endre Kiss: *The actual dialogue between nature and society or on the mutual protection of nature and society*
- Michael Böcher: *Scientific knowledge transfer for sustainability in a new age of politics*
- Gordana Jovanović: *Conditions of socio-cultural sustainability*
- Radmilo Pešić: *Climate Change Adaptation -Missing Links with the Finance*
- Anđelka Mihajlov: *Sustainable Development Goals implementation- EU accession interface in the context of the Western Balkan more efficient and coherent sustainable development pathways*
- Dragoljub Todić: *Regional aspects of climate change law*
- Miloš Došen: *Entrepreneurship in the age of climate change*

4.2. Sub-session: Role of Higher Education in Sustainable Development

Chairpersons: Violeta Orlović Lovren (SRB), Marija Maruna (SRB)

- Zoran Hadzi-Velkov: *Role of university for the Western Balkans smart growth*
- Marian Jaskula: *Science and education in the face of challenges of sustainable development*
- Violeta Orlović Lovren: *Assessing sustainability in higher education: one methodological approach and many challenges*
- Marija Maruna: *The role of the academy in strengthening local institutional capacities to address the SDGs*
- Nataša Petrović: *Higher education responses to climate change and climate change risk assessment*

5. Session: The role of forests and agriculture in sustainable development and climate change mitigation and adaptation

5.1. Sub-session: Climate change and biotechnology in agriculture and forestry

Chairpersons: Aleksa Obradović (SRB), Milan Mataruga (BIH)

- Aleksa Obradović: *Biological control of plant pathogenic bacteria – a way toward sustainability and safer food*
- Ágnes Cséplő: *Functional characterization of CDPK Related Kinase (CRK) family in Arabidopsis thaliana*
- Jelena Milovanović: *Meeting the SDGs with climate smart agriculture: the adaptation and mitigation potentials in a changing climate*
- Milan Mataruga: *The impact of climate change on transfer of forest genetic resources in Bosnia and Herzegovina*
- Marina Nonić: *Climate change and conservation of forest genetic resources*
- Vladan Ivetić: *Maintaining the environmental sustainability in changing climate by functional forest restoration*

5.2. Sub-session: Effect of climate change on forest ecosystems

Chairpersons: Axel Albrecht (DEU), Ratko Ristić (SRB)

- Axel Albrecht: *Tree species suitability under climate change – an example from Southwest Germany*
- Dominik Sperlich: *Ecological and Economic Implications of Admixing Silver fir in Beech stands – a case study from the Black Forest*
- Marko Smiljanić: *Comparison of the intra-annual growth in the beech mixed stands from North East of Germany: implication for climate change adaptability*
- Vojislav Janković: *Impact of climate change on forests: A case study of ice-breaks in Eastern Serbia*
- Ratko Ristić: *The role of forest ecosystems in the process of disaster risk reduction, mitigation and adaptation to effects of climate changes*
- Nada Dragović: *The role of education in soil erosion and torrent control in Serbia: Current state and requirements due to climate changes*
- Mirjana Todosijević: *The economic assessment of the impact of climate change on crops in Serbia*

5.3. Sub-session: Toward environmental sustainability - bioeconomy and ecosystem services

Chairpersons: Helga Pülzl (AUT), Dijana Vuletić (HRV)

- Helga Pülzl: *Ready to govern? Ideas, interests and institutions - the bioeconomy frontier*
- Marko Lovrić: *Mapping European research capacities and activity in the field of forest bioeconomy*
- Nataša Lovrić: *South-East European forest based sector bioeconomy outlook*
- Dijana Vuletić: *Sustainability under the question – climate change effects on evaluation and provisioning of ecosystem forest services*
- Davide Pettenella: *Marketing ecosystem services: from business ideas to the real market*
- Aleksandar Vasiljević: *Renewable energy sources in forestry*

5.4. Sub-session: Forests and climate change policy and governance

Chairpersons: Bernhard Wolfslehner (AUT), Mersudin Avdibegović (BIH)

- Bernhard Wolfslehner: *Forests and climate change: the challenges for science-policy transfer*
- Roderich von Detten: *Climate Change as the normal case of emergency - forestry or the management of the unknown*
- Bogdan Popa: *A comparative analysis of climate change adaptation and mitigation initiatives for forest sectors in Romania and Moldova*
- Franc Ferlin: *Experiences in promotion sustainable development in the forestry sectors of Slovenia and the West Balkans*
- Mersudin Avdibegović: *Forestry and climate change in Bosnia and Herzegovina: challenges for environmental, socio-cultural and economic sustainability*
- Jelena Nedeljković: *Climate change governance in selected European countries: forestry and nature conservation perspective*
- Mirjana Stanišić-Quaedvlieg: *Policy measures in forestry and nature protection for climate change mitigation in selected EU and the Western Balkan countries*
- Zoran Poduška: *"Waldsterben" phenomena in forest research and policy in Serbia*

5.5. Sub-session: Sustainable management of protected areas

Chairpersons: Zuzana Sarvašová (SVK), Slobodan Puzović (SRB)

- Zuzana Sarvašová: *Limitations for forestry in protected areas in Slovakia*
- Liviu Nichiforel: *The harmonization of Natura 2000 plans with forest management planning in Romania: what impacts, what solutions?*
- Vukan Lavadinović: *Human dimensions in wildlife management - a tool to ensure sustainability*
- Slobodan Puzović: *Protection of nature as a potential of sustainable development of local communities in Serbia and tool for the reduction of negative impacts of climate changes*
- Ilija Đorđević: *Organization of protected area management in Serbia: diversification from public to private managers*
- Predrag Šumarac: *Sustainable management in national park Kopaonik- case study of division and relevance of tourists charges*
- Ivana Vasić: *Implementation of European charter on sustainable tourism in Special Nature Reserve Gornje Podunavlje*

5.6. Sub-session: Private and urban forests in changing climate

Chairpersons: Laura Bouriaud (ROU), Špela Pezdevšek-Malovrh (SVN)

- Laura Bouriaud: *Governance-related indicators and the regulation of private forestry: a comparative analysis across Europe*
- Špela Pezdevšek-Malovrh: *Adaptation of private forest owners management to climate changes – Is there an opportunity for new forms of cooperation?*
- Anže Japelj: *Expectations of forest owners and the general public towards provision of forest ecosystem services within sustainable forest management: a case study of Slovenia*
- Todor Rogelja: *Policy framework conditions forestry based social innovations: the case of Slovenia*
- Ivana Živojinović: *Using Q method to reveal urban forestry perspectives toward climate change adaptation*
- Vladimir Stojanovski: *Can the urban greenery be an instrument for combating climate changes in municipality Centar – Skopje*

6. Session: Climate change and health

Chairpersons: Ljiljana Gojković-Bukarica (SRB), Jasmina Marković-Lipkovski (SRB)

- Ljiljana Gojković Bukarica, *The influence of Climate Change on human cardiovascular function*
- Martina Bosić, *Influence of climate factors change on the incidence of skin tumours*
- Radmila Novaković, *Mediterranean climate, Mediterranean diet, health*
- Natalia Kulikova, *Climate- and season-dependent therapy in the a.c. celsus's treatise "de medicina"*

7. Poster session

1.	Aleksandar Petrović	▪ <i>Global warming - challenge to the modern enology</i>
2.	Aleksandra Lekić	▪ <i>Optimal control for DC-DC converters</i>
3.	Ana Kostov	▪ <i>Lead-free alloys for ecological solder manufacturing</i>
4.	Boris Radić	▪ <i>Predicting the unpredictable: contemporary methods for mountain landscapes assessment under the ski resort impacts</i>
5.	Boško Milovanović	▪ <i>Spatial and temporal variability of air temperatures and precipitation in Serbia for the period 1961-2010</i>
6.	Denitza Zgureva	▪ <i>Computational modelling of static and dynamic adsorption of Co2 onto fly ash zeolites</i>
7.	Dragan Gačić	▪ <i>The impact of climate change on red deer (Cervus elaphus L.) management in Serbia and Slovenia</i>
8.	Dragica Stanković	▪ <i>Ecoremediation in the function of sustainable development</i>
9.	Dušan Todorović	▪ <i>Modelling of selected waste biomass downdraft gasification</i>
10.	Jasmina Gačić	▪ <i>Climate changes and natural disasters</i>
11.	Marija Lalošević	▪ <i>Implementation of green roofs in Belgrade as a part of sustainable development and climate change mitigation</i>
12.	Miloš Radojević	▪ <i>Comparison of experimental methods for characterization of raw biomass as a key factor for sustainable biomass utilization</i>
13.	Nenad Radaković	▪ <i>Sustainable development and climate change in the forests of national park Djerdap</i>
14.	Nevena Marković	▪ <i>'Emotional cartography' – a critical perspective on mapping spatial narratives</i>
15.	Vesela Radović	▪ <i>How to avoid the tyranny of the multiple environmental risk caused by climate change in the Republic of Serbia</i>

16.	Slavica Petrović	▪ <i>European ecolabels for wood furniture</i>
17.	Snežana Zarić	▪ <i>Water oxidation pathways modelled on a cobalt oxide phosphine dimer catalyst</i>
18.	Stefana Babović	▪ <i>Socio-cultural Sustainability of Villages in South-eastern Serbia</i>
19.	Violeta Babić	▪ <i>Forestry under climate change: vulnerability overview on regional and national level</i>