



Science for the Carpathians

CONFERENCE ABSTRACTS

# FORUM CARPATICUM 2016

**Future of the Carpathians:  
Smart, Sustainable, Inclusive**

**September 28 – 30, 2016  
Bucharest, Romania**



[www.forumcarpaticum.org](http://www.forumcarpaticum.org)

**Bucharest, 2016**



Continuing previous meetings: Forum Carpathicum 2010 (Krakow, Poland), Forum Carpathicum 2012 (Stará Lesná, Slovakia), Forum Carpathicum 2014 (Lviv, Ukraine), Forum Carpathicum 2016 (Bucharest, Romania) addresses the need to make a bridge of smart sustainable development in the Carpathians with scientists, stakeholders, institutions, NGOs, communities.

The Carpathian Region – the Green Backbone of Europe – faces many opportunities as well as challenges to the future development of the area. The stakeholders, decision makers and research communities can use them wisely for the enhanced protection and sustainable development of the Carpathians. These overall goals meet well with the EU 2020 Cohesion Policy, which proposes “Smart”, “Sustainable” and “Inclusive” to be the keywords when addressing the main priorities for the near future.

**Forum Carpathicum 2016 „Future of the Carpathians: Smart, Sustainable, Inclusive“** proposes to concentrate on these priorities and to debate how they can be implemented in the Carpathian Region, during the following main thematic sessions:

**Smart Carpathians** session aims to present and discuss the leading edge achievements in: recent and future information and communication technologies; emerging paradigms and methodological developments; front-rank research infrastructures, capacities and innovations; open knowledge, information and data systems applications, in particular those of Carpathian interest.

**Sustainable Carpathians** is expected to cover the topics that consider: climate change adaptation, risk prevention and management of the Carpathian ecosystems; measures aimed at the environmental protection, efficient use of natural and cultural resources of the region; transition towards low-carbon economy; sustainable transportation networks in the Carpathian Ecoregion; phenology and citizen science to the Carpathians.

**Inclusive Carpathians** are seeking for contributions dealing with: promotion of employment (green jobs) and support of labour mobility across the Carpathians to attain the targeted EU employment quotes; innovative approaches and solutions for empowering people and for creating sustainable job opportunities for women, young, elder and disabled people; challenges of overcoming poverty in the Carpathians, issues of social and territorial cohesion and social exclusion; sustainability and enhancement of good quality education and equal access to lifelong learning - to prevent brain drain and to attract brain gain; enhancement of institutional capacities and public administration for becoming more service - and goal orientated, implementation of the EU structural and investment funds and avoidance of overlapping responsibilities and splitting of competencies in disciplines with manifold and conflicting interests.

## **The Conference Abstracts of the 4th Forum Carpathicum 2016 Future of the Carpathians: Smart, Sustainable, Inclusive**

Editors: Mihaela Verga, Gabriela Manea

English Proofing: Ana Irina Lequeux Dincă

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large areas of former villages. That is why we also hypothesized that the unprotected cultural heritage recorded in the microtopography might be the subject of destruction by skidders and definitively lost.

The aim of this work was to:

- characterize skid-trails in the Polish Eastern Carpathians (forms, density, arrangement in the topography)
- determine the effects of mechanized skidding (especially deep skidder paths) on the natural environment and on the cultural heritage recorded in microtopography.

The impact of skid-trails on runoff, soil erosion and sedimentation, and habitats of selected rare species of plants and animals were taken into consideration. The official forestry data from 15 forest districts in the area of Polish Eastern Carpathians were used. In depth case studies were carried out on the selected study areas with the use of high resolution digital elevation model derived from Airborne Laser Scanning (ALS), historical spatial data on the pre-war landscape pattern, monitoring of habitats of endangered species and own fieldwork data.

The project was financed by the Poland's National Science Centre [Dec. No. DEC-2012/05/N/ST10/03520]

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### Concept of the Galicia and Austrian Silesia Interactive Database (GASID) as an example of historical and geographical clearinghouse for the Central Europe

Krzysztof OSTAFIN<sup>1</sup>, Konrad WNEK<sup>2</sup>, Dominik KAIM<sup>1</sup>, Wojciech MACIEJOWSKI<sup>1</sup>, Jakub TACZANOWSKI<sup>1</sup>, Lidia ZYBLIKIEWICZ<sup>2</sup>, Monika DOBOSZ<sup>1</sup>

<sup>1</sup> Institute of Geography and Spatial Management, Jagiellonian University, Poland

<sup>2</sup> Institute of History, Jagiellonian University, Poland

krzysztof.ostafin@uj.edu.pl

In recent years, one could observe increasing availability of the historical documents mostly through the Internet. However, many collections are distributed by local services and archives, and very often the electronic form of the documents is not easily editable and useful for further analysis (Kowal & Přidal, 2012). By harmonizing data we collect consistent information, in order to build complex, actual long life database. Building one database enable organizing data and then avoid the redundancy. What's more, information available via spatial data infrastructure reaches a large number of users and the spatial aspect of historical data increase the analytical capabilities. There is a need to include such data for various analyses in geography, history, demography, economy and other disciplines.

In this paper we want to present the framework and objectives of the interactive database for Galicia and Austrian Silesia, which will present the historical socio-economic data from the period of 1857-1910 for nearly 84 000 km<sup>2</sup>. The territory covers partly contemporary Poland, Czech Republic and Ukraine incl. the Carpathians. So far such initiatives are known in e.g. United Kingdom, Switzerland or United States, but not for the territory of historical Galicia. The database will be based on the historical data presented in the yearbooks and other statistical documents for different administrative units available for users by the geoportal. Available data will present e.g. demography, confession data and occupancy. Additionally informations from historical maps (incl. e.g. second military survey and third military survey) will be included in the form of downloadable

and editable vector layers like road network, railway network or post office locations. Statistical data will be presented for the administrative units valid for the period of data creation.

An important part of the planned geoportal is the critical analysis of the sources and potential uncertainties related to use of such data, especially for comparisons over time. Presenting of the paper among Carpathian specialist will be a great opportunity to discuss methodological aspects and constraints among the researchers working on historical data created in the former Austro-Hungarian Empire.

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### **CentralHEMP. Boosting green economy reconsidering a high-valuable resource**

Filippo FAVILLI<sup>1</sup>, Riccardo BROZZI<sup>1</sup>, Isidoro DE BORTOLI<sup>1</sup>

<sup>1</sup>EURAC Research, Italy  
filippo.favilli@eurac.edu

Industrial hemp has been growing for many hundreds of years, but today it is considered a niche crop in Europe, mainly due to the lacking of societal awareness on the wide range of its potential applications. However, hemp represents a valuable crop for the bio-based economy, particularly because of the high yielding natural technical fibres and the beneficial effects for the environment. The fibre is vastly used by the tobacco industry, as well as in building and recycling, for the realization of insulation material and bio composites. The shives, the woody inner core of the stem, are used for animal bedding and construction. Row and processed hemp products are of particular interest for the human food and animal feed industry. Hemp seeds, small nuts, as well as processed products have a high nutritional value, while hemp oil has an excellent and unique acid profile balance.

To enhance hemp cultivation, processing and use, to give new value to marginal and abandoned lands and to boost green economy in Europe, EURAC Research is developing a project proposal for the INTERREG Central Europe.

The project focuses on smallholder farmers providing local people the technical knowledge to give them the opportunity of revaluating fields not used for food, feed productions, and create local business, contrasting the phenomenon of land abandonment and depopulation. Hemp is highly suitable to revitalize disused or disadvantaged fields, and always more studies are proving its multi-purposes and adaptation to different climate regimes.

The Agronomic assessment will test different hemp varieties in order to improve the methodology of cultivation, harvesting and processing, adapting to the different environmental characteristics and identifying the best destination use for each pilot area.

Information will be collected on the historical use of hemp in the different countries, promoting the rediscovery of old processing techniques. Partners will use this knowledge together with the new technologies to develop prototypes machineries for small-scale production, harvesting, processing and oil extraction. Additional activities will be based on testing current hemp-based construction materials to show the potentials of hemp to end-users and make concrete application tests for the renovation of historical buildings.

The capacity building and job creation process will develop a multi-sectorial training in all the pilot areas, promoting the exchange of knowledge, the dislocation of people to learn other expertise in other pilot areas, organizing local laboratories for the development of new capacities based on easy hemp-based materials (i.e., paper, food, building, textile, cosmetics, feeding).