



UNIVERSITY OF NOVI SAD | FACULTY OF SCIENCE  
DEPARTMENT OF GEOGRAPHY, TOURISM & HOTEL MANAGEMENT

INTERNATIONAL SCIENTIFIC JOURNAL

# GEOGRAPHICA PANNONICA

Volume 18, Issue 2, June 2014

INTERNATIONAL SCIENTIFIC JOURNAL  
**GEOGRAPHICA PANNONICA**

UNIVERSITY OF NOVI SAD | FACULTY OF SCIENCE | DEPARTMENT OF GEOGRAPHY, TOURISM & HOTEL MANAGEMENT

**EDITOR IN CHIEF**

Ivana Blešić, ivana.blesic@dgt.uns.ac.rs

**TECHNICAL EDITORS**

Tin Lukić, tin.lukic@dgt.uns.ac.rs

Biljana Basarin, biljana.basarin@dgt.uns.ac.rs

Daniela Arsenović, daniela.arsenovic@dgt.uns.ac.rs

Dragan Milošević, dragan.milosevic@dgt.uns.ac.rs

**EDITORIAL BOARD**

**Armelle Decaulne**

CNRS UMR6042 - GEOLAB  
Clermont-Ferrand cedex, Paris, France &  
Natural Research Centre of North-western Iceland  
Saudarkrokur, Iceland

**Slobodan B. Marković**

University of Novi Sad  
Faculty of Science  
Novi Sad, Serbia

**Tobias Heckmann**

Department of Geography, Physical Geography  
Catholic University Eichstaett-Ingolstadt  
Eichstätt, Germany

**János Kovács**

University of Pécs  
Faculty of Science  
Department of Geology  
Pécs, Hungary

**Petru Urdea**

West University of Timișoara  
Department of Geography  
Timișoara, Romania

**Péter Domonkos**

University Rovira i Virgili de Tarragona  
Geography Department  
Center on Climate Change (C3)  
Tarragona, Spain

**Tamás Weidinger**

Eötvös Loránd University  
Institute of Geography and Earth Science  
Department of Meteorology  
Budapest, Hungary

**Thomas Borén**

Department of Human Geography  
Stockholm University  
Stockholm, Sweden

**Tadeusz Stryjakiewicz**

Adam Mickiewicz University  
Institute of Socio-Economic Geography and Spatial  
Management  
Poznań, Poland

**Marko Krevs**

University of Ljubljana  
Faculty of Art, Department of Geography  
Ljubljana, Slovenia

**Horst Förster**

Universität Tübingen  
Geographisches Institut  
Tübingen, Germany

**Károly Kocsis**

Geographical Research Institute  
of the Hungarian Academy of Sciences  
Budapest, Hungary

**Konstantinos Andriotis**

Cyprus University of Technology  
Department of Hotel & Tourism Management  
Cyprus

**Jung Sung-Chae**

Honam University  
Department of Tourism Management  
Gwangju, South Korea

**ADVISORY BOARD**

**Ulrich Hambach**

Geowissenschaften Universität Bayreuth  
LS Geomorphologie  
Bayreuth, Germany

**Milivoj Gavrilov**

University of Novi Sad  
Faculty of Science  
Novi Sad, Serbia

**Darko Ogrin**

University of Ljubljana  
Faculty of Art, Department of Geography  
Ljubljana, Slovenia

**Nina Nikolova**  
"St. Kliment Ohridski" University of Sofia  
Faculty of Geology and Geography  
Department of Climatology, Hydrology and  
Geomorphology  
Sofia, Bulgaria

**Anna Leonowicz**  
University of Zurich  
Department of Geography  
Geographic Information Science (GIS)  
Zurich, Switzerland

**Zorana Lužanin**  
University of Novi Sad  
Faculty of Science  
Novi Sad, Serbia

**Gregory J. Ashworth**  
University of Groningen  
Faculty of Spatial Science  
Groningen, The Netherlands

**Carlos Ferrás Sexto**  
University of Santiago de Compostela  
Geography Department  
Santiago de Compostela, Spain

**Lajos Boros**  
University of Szeged  
Department of Economic and Social Geography  
Szeged, Hungary

**Branislav S. Đurđev**  
University of Novi Sad  
Faculty of Science  
Novi Sad, Serbia

**Milka Bubalo-Živković**  
University of Novi Sad  
Faculty of Science  
Novi Sad, Serbia

**Elena Matei**  
Bucharest University  
Faculty of Geography  
Bucharest, Romania

**Yoel Mansfeld**  
University of Haifa  
Department of Geography and Environmental Studies  
Center for Tourism, Pilgrimage & Recreation Research  
Haifa, Israel

**Klodiana Gorica**  
University of Tirana  
Faculty of Economics, Department of Marketing  
Tirana, Albania

**Damir Demorja**  
Institute for Development  
and International Relations, IRMO,  
Zagreb, Croatia

#### **EDITORIAL OFFICE**

Faculty of Science  
Department of Geography, Tourism and Hotel Management  
Trg Dositeja Obradovića 3, 21000 Novi Sad, Serbia  
tel. +381 21 450-105  
fax +381 21 459-696  
Official site: [www.dgt.uns.ac.rs](http://www.dgt.uns.ac.rs)

#### **CONTACTS**

**Ivana Blešić, PhD, assistant professor**  
Department of Geography, Tourism and Hotel Management, Serbia, [ivana.blesic@dgt.uns.ac.rs](mailto:ivana.blesic@dgt.uns.ac.rs)

**Tin Lukić, MSc, assistant**  
Department of Geography, Tourism and Hotel Management, Serbia, [tin.lukic@dgt.uns.ac.rs](mailto:tin.lukic@dgt.uns.ac.rs)

**Official mail of the Journal**  
[gpscijournal@gmail.com](mailto:gpscijournal@gmail.com)

**Internet portal**  
[www.dgt.uns.ac.rs/pannonica.html](http://www.dgt.uns.ac.rs/pannonica.html)

**Instructions to authors**  
[www.dgt.uns.ac.rs/pannonica/instructions.htm](http://www.dgt.uns.ac.rs/pannonica/instructions.htm)

#### **PRINTED BY**

[www.stojkov.rs](http://www.stojkov.rs)

#### **CIRCULATION**

300



# Contents

---

## Slavomír Bucher

- Selected Indicators of Population ageing in the World: Trends, Impacts and Consequences ..... 26

Tanja Armenski, Uglješa Stankov, Dragan Dolinaj, Minučer Mesaroš, Mlađen Jovanović,  
Milana Pantelić, Dragoslav Pavić, Srđan Popov, Ljiljana Popović, Ana Frank, Đorđe Čosić

- Social and Economic Impact of Drought on Stakeholders in Agriculture ..... 34

Sonja Ćopić, Jasmina Đorđević, Tin Lukić, Vladimir Stojanović, Smiljana Đukićin,  
Snežana Besermenji, Igor Stamenković, Aleksandar Tumarić

- REVIEW ARTICLE: Transformation of Industrial Heritage -  
an Example of Tourism Industry Development in the Ruhr Area (Germany) ..... 43