

# PROCEEDINGS

## 13<sup>th</sup> WORLD CONGRESS OF THE RSAI



**SMART REGIONS  
- Opportunities for  
sustainable development  
in the digital era**

**ISBN 978-989-54216-1-9**



**RSAI**  
REGIONAL SCIENCE ASSOCIATION INTERNATIONAL



# *Welcome to the 13<sup>th</sup> RSAI Congress 25-28 May 2021*

**RS AI wish you a pleasant and inspiring participation!**

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## Welcome to the 13th World Congress of the RSAI

Dear Friends and Colleagues,

It is our pleasure to welcome you to the 2021 RSAI World Conference! On behalf of the Regional Science Association International, the Local Organizing Committee, and the Scientific Committee, we would like to thank you for joining us at this historical meeting, and for sharing your experience, research and views with all the participants.

Organized by the Moroccan Section of the RSAI, the 2021 RSAI World Conference is intended to be a major international forum for researchers and policy-makers in the field of Regional Science across the world, focusing on today's most challenging issues. The World Conference brings together more than 500 participants from 53 different countries. The papers cover all major areas of the field, with applications for a wide range of regions in the globe.

Since we have decided that the congress would run 100% online, many colleagues from the Association have joined us in an extraordinary effort to organize a high standard, inclusive, online event. Recognizing the key role played by former RSAI President, Mark Partridge, we would like to extend our sincere gratitude and appreciation for the hard work and dedication provided by all of them.

Going online has shown to bring us some opportunities. We have contacted every single national section and invited them to propose special sessions dedicated to their countries/regions. We have received positive responses from almost all sections. This is really invigorating and motivating, further developing the sense of community belongingness that may motivate a larger number of young regional scientists to engage more broadly in the Association. We now have the opportunity to have a truly global conference, with the participation of many of RSAI sections!

This World Conference is a unique opportunity to showcase some of the exceptional work regional scientists are doing all over the world. There are 35 slots dedicated to 25 national sections, in addition to an even larger number of parallel sessions, and five outstanding keynote speakers.

Going online also made possible a wider participation across the world, allowing us to minimize the number of competing sessions, to allocate time slots with time zones in mind, and to reduce drastically registration fees.

We are pleased you were able to join us, and we wish you an excellent and memorable conference! Your participation and commitment to RSAI are very important and truly appreciated. In the next days, you will all have the opportunity to grab a big picture of our Association, being exposed to different topics and approaches people are using across the world.

Please receive our warmest welcome!



**Eduardo Haddad**  
*President,  
Regional Science Association  
International*



**Abdellatif Khattabi**  
*Chair, Local Organising Committee  
President, Moroccan Regional  
Science Association*



**Andrea Caragliu**  
*Executive Director,  
Regional Science Association  
International*

## Themes

### Umbrella Theme

#### *Smart Regions – Opportunities for sustainable development in the digital era*

The themes which will zoom in particular on the pressing challenges of meeting the 2030 Agenda of Sustainable Development Goals, in both developed and developing economies. As a new challenge to regional science research is caused by the emerging digital technologies and their implications for analysis, monitoring, evaluation and forecasting of spatial dynamics at all levels, the theme chosen for the congress is ‘Smart Regions- Opportunities for Sustainable Development in the Digital Era’. Therefore, the potential of spatial and temporal big data, machine learning, artificial intelligence, social media information, and of the new spatial maps emerging from digitization and robotization will be addressed by the congress as well, as these forces will have far-reaching impacts on human behaviour and interaction in space.

### General Themes

RS01 - Entrepreneurship  
 RS02 - Infrastructure, transportation and accessibility  
 RS03 - Knowledge and innovation  
 RS04 - Local finance  
 RS05 - Location theory and applications  
 RS06 - Methods in Regional Science and Urban Economics  
 RS07 - Migration and regional labor markets  
 RS08 - Real estate and housing  
 RS09 - Regional and urban policy  
 RS10 - Regional development  
 RS11 - Rural development  
 RS12 - Spatial implications of climate and environmental change

RS13 - Spatial planning  
 RS14 - The spatial dimension of sustainable development  
 RS15 - Theoretical and empirical urban economics  
 RS16 - Tourism  
 RS17 - Globalization and territorial intelligence  
 RS18 - Resilience and Risk Management  
 RS19 - Green economy and complexity of socio-ecosystems  
 RS20 - Biodiversity, ecosystems and ecosystem services  
 RS21 - Agriculture, fisheries and food security  
 RS22 - Nexus: water, agriculture and energy

### Special Sessions’ Themes

SS01 - Alternatives for integrating development with infrastructure provision in the global South  
 Manisha Jain and Jörg Knieling  
 SS08 - Subjective well-being and spatial inequalities  
 Camilla Lenzi and Giovanni Perucca  
 SS09 - Regional, national and supranational identities: determinants and policy implications  
 Enrique López Bazo and Giovanni Perucca  
 SS10 - Regions and cities at the edge of the new technological era  
 Roberta Capello and Camilla Lenzi  
 SS12 - SMEs/Family Businesses and Regional Development  
 Lech Suwala, Rodrigo Basco and Stefano Amato  
 SS16 - Smart, sustainable, resilient regions: Responses to pandemic challenges - Contributions of the Romanian Scholars  
 Daniela L. Constantin and Cristina Serbanica  
 SS17 - Data science, machine learning and big data for regional Sciences  
 Jean-Claude Thill, Hicham Mharzi Alaoui, Said Lahssini and Hicham Hajji  
 SS18 - Urban Future in the Global South  
 Abdul Shaban and Tomaz Ponce Dentinho

SS19 - The spatial dimension of energy transition policies, practices and technologies  
 Andrea Caragliu and Marcello Graziano  
 SS22 - Regional Disparities in the EU and Hungary in the Age of Digitalization and the Pandemic  
 Zoltán Gál  
 SS23 - Understanding the role of Renewable Energy in the Water, Agriculture, Energy Nexus in West and North Africa  
 Mariama Camara and Mary Thompson-Hall  
 SS24 - Education inequality and Economic development: a regional perspective  
 Amaghous Jabrane and Ibourk Aomar  
 SS27 - Discontent, Hate & Intolerant Attitudes  
 Alessandra Michelangeli, Alessandra Faggian and Daria Denti  
 SS28 - Smart Actors for Smart Regions  
 Chiara Tagliaro and Gianandrea Ciaramella.  
 SS29 - Strengthening the resilience of socio-ecological systems  
 Sumana Bandyopadhyay, Lakshmi Sivamakrishnan, Tomas Ponce Dentinho and Said Lahssini  
 SS31 - Regional Economic Development in Asia  
 Yuri Mansury and Budy Resosudarmo

SS33 - Plastic pollution and its environmental impact

Abdellatif Khattabi and Diane Pruneau

SS36 - Glocalization and Regional Development

Hideki Fukui and Shinya Ishizaka

SS38 - Resilience and peripheral areas: development patterns and policies in the borderlines

Karima Kourtit, Gabriela Carmen Pascariu, Ramona Tiganasu and Loredana Maria Simionov

SS40 - The productivity gap and the re-launch of productivity in Europe

Roberta Capello and Silvia Cerisola

SS41 - Regional perspective of the different global crisis for small countries in 21 century – case study of Croatia

Vinko Mustra

SS42 - Regional and urban resilience in a turbulent world: perspectives from Aotearoa New Zealand

Philip Morrison and Jacques Poot

SS43 - Advances in Regional Science: Contributions of Italian Scholars

Roberta Capello

SS44 - Mapping Co-Working Spaces: Spatial Patterns and Location Factors

Tüzin Baycan, Grzegorz Micek and Anastasia Sinitsyna

SS45 - Selected regional science topics in Mexico

Serena Eréndira Serrano Oswald

SS46 - Poverty and Local Economy Development in Ecuador

Fabian Vilema

SS47 - Regional Development in Sub-Saharan Africa

Tomaz Ponce Dentinho

SS48A - Arctic regions: economic, climate and epidemiologic challenges

Alexander Pilyasov

SS48B - Regional Science in Russia

Alexander Pilyasov

SS49 - Sharing Economy and Urban Sustainability in Thailand

Sutee Anantsuksomsri and Nij Tontisirin

SS51 - Sustainable Regional Development in China

Ling Xue and Jian Wang

SS52 - Regional Science in Lebanon

Nadim Farajalla and Lina Maddah Souheil

SS53 - Regional Science in Egypt

Michael L. Lahr

SS54 - Regional Science in Paraguay

Eduardo A. Haddad

SS55 - Regional Science in Angola

Tomaz Ponce Dentinho

SS56 - The Colombian Economy and its Regional Structural Challenges

Jaime Bonet

SS57 - Regional Science in Bangladesh

Md. Musleh Uddin Hasan

SS58 - Argentinean social and economic challenges

Pedro Luis Elosegui

SS59 - Labour mobility and regional development

Annekatriin Niebuhr

SS60 - Greek Regional Science

Yannis Psycharis

SS61 - Brazil Regional Science

Terciane Sabadini

SS62 - Moroccan Regional Science

Abdellatif Khattabi

SS63 - Chilean Regional Science

Yasna Cortés Garriga

SS64 - Portuguese Regional Science

Francisco Carballo-Cruz

SS65 - Urban Neighborhoods: Accessibility, Segregation, and Neighborhood Change

Neil Reid

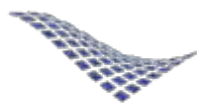
## Conference Collaborators



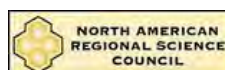
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Papers in Regional Science



MOHAMMED VI  
POLYTECHNIC  
UNIVERSITY



## Organizing Committee

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