



GEOINNO2022

6th Geography of Innovation Conference

4th – 6th July 2022 Bocconi University Milan



Università
Bocconi
MILANO

POLISS
POLICIES FOR SMART SPECIALISATION



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BOCCONI UNIVERSITY

Bocconi University was established as a private, independent, non-profit university in Milan in 1902 thanks to the generous endowment from Ferdinando Bocconi, a wealthy merchant. Named after his lost son, Università Commerciale Luigi Bocconi thus became the first Italian institution to grant higher degrees in economics and management, . and has played an important role in Italy's social and economic modernization.

Academic independence, merit, openness, pluralism and social responsibility are the core values that continue to guide and inspire the activities of the Bocconi community of students, faculty, staff and alumni to this day.

Today Bocconi is considered one of the leading European universities in economics, management, business administration, finance, social and political sciences data science and law, offering undergraduate and graduate programs and Ph Ds, as well as MBAs through its business school, SDA Bocconi School of Management.

Bocconi University appears in the most prominent rankings which cover its areas of expertise, steadily positioned among top European institutions.

The University has a growing reputation as a global research institution in the social sciences, with a worldclass faculty and a diverse student population.

Besides its 15,000 students, Bocconi has a global network of 120,000+ alumni, 287 partner schools, and 600+ employers.

In accordance with our current motto, Knowledge That Matters, our ambition is to provide valuable answers to the needs of students, researchers, private and public organization, in a global context dominated by accelerating technological and environmental trends.

POLISS

POLISS is an Innovative Training Network funded by the EU Framework Programme for Research and Innovation (H2020-MSCA-ITN grant agreement No 860887) bringing together 7 European Universities and 13 Partners with the aim of contributing to the improvement of the EU's Smart Specialisation Policy.

The POLISS project will be training a new generation of experts in regional development and innovation policy, contributing to a more effective design, implementation and evaluation of RIS3 actions in EU regions. Within POLISS, 14 PhD research fellows will be trained and work together to achieve the objectives of the POLISS Innovative Training Network. The network will run for a 4-year period, ending in December 2023.

Poliss is funded by the European Union. Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.

GEOINNO2022 VENUE

**BOCCONI
URBAN
CAMPUS**

MILANO • ITALY

BOCCONI UNIVERSITY • UNIVERSITÀ BOCCONI

- 1** BOCCONI SARFATTI via Sarfatti, 25
MAIN BUILDING • SPDF
- 2** BOCCONI GOBBI via Gobbi, 5
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- 3** BOCCONI AULA MAGNA via Röntgen, 1
- 4** BOCCONI RÖNTGEN via Röntgen, 1
FACULTY, DEPARTMENTS, RESEARCH CENTERS
DOCENTI, DIPARTIMENTI, CENTRI DI RICERCA
- 5** BOCCONI SRAFFA 13 piazza Sraffa, 13
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BOCCONI OFFICES • UFFICI

- 6** BOCCONI SRAFFA 11 piazza Sraffa, 11
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- 13** BOCCONI SPORT CENTER viale Toscana, 30

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- 14** CASTIGLIONI via Castiglioni, 22
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- 16** BLIGNY viale Bligny, 22

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9.00-16.15	Aula Magna (Röntgen building)
9.00	Registration
13.30 - 13.45	WELCOME SPEECHES
13.45- 15.45	PLENARY SESSION – CHAIR: Francesco Lissoni
	KEYNOTE – Professor Raquel Ortega Argiles “Levelling up through R&D? - UK evidence”
	KEYNOTE – Professor Matt Marx “How does the local supply of scientists and inventors impact entrepreneurship and innovation?”
15.45 – 16.15	Coffee Break
16.15 – 18.20	PARALLEL SESSION 1 (Sraffa 13 Building)
18.45 – 20.30	WELCOME COCKTAIL (Röntgen building)
TUESDAY 5 TH JULY 2022	
8.00-11.30	Aula Magna (Röntgen building)
8.00	Registration
9.00 – 11.00	PLENARY SESSION – CHAIR: Ron Boschma
	KEYNOTE – Professor Megan MacGarvie “International Mobility of Researchers: Policy Impacts and Implications for Knowledge Creation and Diffusion”
	KEYNOTE – Professor Thomas Kemeny “Innovation and spatial income disparities”
11.00 – 11.30	Coffee Break
11.30 – 18.25	PARALLEL SESSIONS (Sraffa 13 building)
11.30 – 13.10	PARALLEL SESSION 2
13.10 – 14.10	Lunch (Röntgen building)
14.10 – 15.50	PARALLEL SESSION 3
15.50 – 16.20	Coffee Break
16.20 – 18.25	PARALLEL SESSION 4
20.00 – 23.00	GALA DINNER (Röntgen building)
WEDNESDAY 6 TH JULY 2022	
8.30 – 15.50	PARALLEL SESSIONS (Sraffa 13 building)
8.30	Registration
9.00 – 10.30	PARALLEL POLICY SESSION 1 ROOM N01
	Green transition in Europe and recovery innovation policy
	<i>Speakers:</i> Prof. Bernhard Truffer; Dr. Lucia Cusmano; Dr Clara Poletti
	<i>Moderator:</i> Prof. Valentina Bosetti
	PARALLEL POLICY SESSION 2 ROOM N02
	Innovation diffusion session
	<i>Speakers:</i> Dr. Morena Diazzi, Dr. Ramunas Linartas, Prof. Maria Savona; Prof. Marco Taisch; Prof. Rolf Sternberg
	<i>Moderator:</i> Dr. Rudiger Ahrend
10.30 – 11.00	Coffee Break
11.00 – 12.40	PARALLEL SESSION 5
12.40 – 13.40	Lunch (Röntgen building)
13.40 – 15.20	PARALLEL SESSION 6
15.20 – 15.50	Coffee Break
15.50	Aula Magna (Röntgen building)
	FAREWELL SPEECHES AND END OF GEOINNO2022

PARALLEL SESSIONS PROGRAM (Sraffa 13 building)

MONDAY, JULY 4TH – PARALLEL SESSION 1

DATA AND NETWORK SCIENCE METHODS IN ECONOMIC GEOGRAPHY

(Monday, 16.15-18.20) – Room: N10

CHAIR: Samuel Heroy

AUTHORS	TITLE OF THE PAPER
Milad Abbasiharofteh (P) Jan Kinne Carolina Castaldi	Machine Learning Meets Economic Geography: Mapping the Geography of Economic Activities
Sándor Juhász (P)	Complex amenity mixes attract diverse visitors in cities
Youngsam Chun (P) Hwang Junseok	Economic Resilience of EU Regions to Localized Attacks
James McNerney (P) Yang Li Andres Gomez-Lievano Frank Neffke	The Principle of Relatedness and long-term structural change

DIGITAL TECHNOLOGIES, ECO-INNOVATION AND LABOUR MARKET OUTCOMES

(Monday, 16.15-18.20) – Room: N12

CHAIR: Silvia Massini

AUTHORS	TITLE OF THE PAPER
Giulio Pedrini (P) Roberto Antonietti Luca Cattani Francesca Gambarotto	Education, routine, and complexity-biased Key Enabling Technologies: evidence from Emilia-Romagna, Italy
Hoda Mohamed (P) Graf Holger	Robotization and Employment Dynamics in Global Value Chains
Silvia Massini (P) Mabel Sanchez Barrioluengo Dev Vencappa	Changes in the skillset under the digital transformation in the UK
Roberta Capello (P) Camilla Lenzi	Uneven growth opportunities from industry 4.0 and servitisation across European regions

ECONOMIC COMPLEXITY TO INFORM POLICY**(Monday, 16.15-18.20) – Room: N13****CHAIR: Andrea Tacchella**

AUTHORS	TITLE OF THE PAPER
Andrea Tacchella (P) Robert Marschinski	Mapping Capabilities for Pollution Prevention and Control
Deyu Li (P) Kavita Surana Shengjun Zhu Laura Diaz Anadon	Climbing the global value chain ladder: the relationship between manufacturing capabilities, demand, and the complexity of wind industry across Chinese regions
Francesco de Cunzo (P) Angelica Sbardella Alberto Petri Andrea Zaccaria	The trickle down from environmental innovation to productive complexity
Muhammed Yildirim (P)	Sorting, Matching and Economic Complexity

ENTREPRENEURIAL ECOSYSTEMS AND THE ROLE OF PLACE: FOUNDATIONS, POLICIES, AND DYNAMICS**(Monday, 16.15-18.20) – Room: N15****CHAIR: Frank J.van Rijnsoever**

AUTHORS	TITLE OF THE PAPER
Balázs Páger (P) Éva Komlósi Marcus Dejardin László Szerb	Is there only one way to reach the podium? A configuration approach of entrepreneurship and regional development
Elisa Operti (P) Amit Kumar Juha Uotila	Microfoundations of entrepreneurial ecosystems: The case of the Helsinki region
Jip Leendertse (P) Frank J.van Rijnsoever	Finding Neverland, Entrepreneurial Ecosystems for Sustainable Entrepreneurship
Susann Schaefer (P)	Do entrepreneurial ecosystems undergo sectoral changes during their evolution? A study of industrial composition and firm locations in Tel Aviv-Jaffa, Israel

GEOGRAPHY, ENVIRONMENT AND JUSTICE**(Monday, 16.15-18.20) – Room: N16****CHAIR: Davide Consoli**

AUTHORS	TITLE OF THE PAPER
Elena Paglialunga (P) Andrea Coveri Antonello Zanfei	Climate change and inequality: new evidence from a global perspective
Gianluca Biggi (P) Elisa Giuliani Arianna Martinelli	Living in a poisonous world. The geography of inventions in the pesticide industry
Nils Grashof (P)	The dark side of green innovation? - Green transition and regional inequality in Europe
Yunxiong Li (P) Simona Iammarino	Spatial Dynamics of Technological Innovation and Global Trade of Rare Metals

GLOBALISATION OF INNOVATION AND KNOWLEDGE**(Monday, 16.15-18.20) – Room: N11****CHAIR: Moritz Mueller**

AUTHORS	TITLE OF THE PAPER
Cristina Rujan (P) Anna Gumpert Kalina Manova Monika Schnitzer	Multinational Firms and Global Innovation
Federico Colozza (P) Carlo Pietrobelli	Relatedness and Global Value Chains as drivers of new specializations in the EU regions.
Moritz Mueller (P) Kevin Wirtz Pierre Pelletier Stefano Bianchini	On the global health science response to COVID-19
Renato Garcia (P)	An analysis of the effects of Foreign Direct Investment Spillovers on Regional Innovation: the role of the regional industrial structure

GREEN AND SUSTAINABLE INNOVATION**(Monday, 16.15-18.20) – Room: N17****CHAIR: François Perruchas**

AUTHORS	TITLE OF THE PAPER
François Perruchas (P) Susanne Bühner-Topçu Davide Consoli Nicolò Barbieri Richard Woolley	Green women are not only from Mars: gender and eco-innovation
Labrousse Geoffroy (P) Simon Nadel Luis Orozco Eva Coll-Martínez	Location Determinants of Inventions in Biogas Technologies: Evidence from France
Tommaso Rughi (P) Julia Mazzei Maria Enrica Virgilito	Knowing brown and inventing green? Incremental and radical innovative activities in the automotive sector
Sebastian Losacker (P) Jens Horbach Ingo Liefner	Which green technologies diffuse across regions? Insights from patent licensing data

INNOVATION POLICY FOR REGIONS AND COUNTRIES**(Monday, 16.15-18.20) – Room: N14****CHAIR: Antonio Vezzani**

AUTHORS	TITLE OF THE PAPER
Alessio Giustolisi (P) Maximilian Benner Michaela Trippel	Smart Specialisation: towards an outward looking approach
Ana Pego (P)	Innovation and ecosystems, a new methodology for sustainable business in cities
Antonio Vezzani (P) Luca Cattani Sandro Montresor	Eco-innovation and digitalisation in Small Medium Enterprises: Does geographical location make the difference?
Andrés Rodríguez-Pose (P)	Innovation in regions: the policy perspective

MIGRATION, GLOBALIZATION AND THE KNOWLEDGE ECONOMY**(Monday, 16.15-18.20) – Room: N19****CHAIR: Andrea Morrison**

AUTHORS	TITLE OF THE PAPER
Daniela Bolzani (P) Giulia Martinelli	Incubation for migrant entrepreneurship: An exploration of Italian incubators' approaches
Rainer Widmann (P) Gabriele Cristelli	Open-Border Policy and Knowledge Diffusion

PATHWAYS TO INCLUSIVE LABOUR MARKETS (PILLARS)**(Monday, 16.15-18.20) – Room: N18****CHAIR: Emilio Colombo**

AUTHORS	TITLE OF THE PAPER
Dongmiao Zhang (P) Ron Boschma Pierre-Alexandre Balland	The Creative Destruction of Artificial Intelligence: Evidence from US Metropolitan Statistical Areas
Emilio Colombo (P) Mario Mezzanzanica Fabio Mercurio	Changes of skill requirements across jobs and labour markets: evidence from web vacancies
Stefano Dughera (P) Francesco Quatraro Andrea Ricci Claudia Vittori	Technological externalities and wage premium: new evidence from Italian labor markets

THE MULTI-SCALAR GEOGRAPHY OF SUSTAINABILITY TRANSITIONS: EXPLORING INTERFACES BETWEEN SECTORAL AND REGIONAL INNOVATION DYNAMICS
(Monday, 16.15-18.20) – Room: N01

CHAIR: Johan Miörner

AUTHORS	TITLE OF THE PAPER
Juliana Barbosa (P) Nuno Bento Margarida Fontes	Multi-dimensional effects of an energy technology policy: Sectorial and territorial consequences of onshore wind in Portugal
Sebastian Rohe (P) Ricarda Schmidt-Scheele Jannika Mattes	Embedded or detached? The integration of companies in regional energy transitions
Hendrik Hansmeier (P)	Regional perspectives on eco-innovation actors: Insights from the transport sector in Germany

MEET THE AUTHORS
(Monday, 16.15-18.20) – ROOM: N02

AUTHORS	TITLE OF THE BOOK
Anna Dabrowska (P) Tatiana Iakovleva Elisa Thomas Laila Nordstrand Berg Rómulo Pinheiro Paul Benneworth	Universities and Regional Engagement: From the Exceptional to the Everyday

TUESDAY, JULY 5TH – PARALLEL SESSION 2**DATA AND NETWORK SCIENCE METHODS IN ECONOMIC GEOGRAPHY****(Tuesday, 11.30-13.10) – Room: N10****CHAIR: Celine Rozenblat**

AUTHORS	TITLE OF THE PAPER
Burcu Ozgun (P) Tom Brökel	COVID-19 in the German News Media
Celine Rozenblat (P) Mikhail Rogov Mehdi Bida Shade Shutters	Evaluating multilevel resilience of Russian urban economies 2010-2019
Frank van der Wouden (P) Hyejin Youn	Impact of geographical distance on acquiring know-how through scientific collaboration
Balazs Lengyel (P) Milad Abbasiharofteh Dieter Franz Kogler	Atypical combination of technologies in regional co-inventor networks

ECONOMIC COMPLEXITY TO INFORM POLICY**(Tuesday, 11.30-13.10) – Room: N11****CHAIR: Dario Diodato**

AUTHORS	TITLE OF THE PAPER
Ghinwa Moujaes (P)	How does economic complexity impact local inequality across EU regions?
Robert Hill (P) Caitlin Allen Haroon Borat Christopher Rooney Francois Steenkamp	Building Economic Complexity in the South African Fibrous Plant Economy
Ulrich Schetter (P)	A Structural Ranking of Economic Complexity
Angelica Sbardella (P) Maria Enrica Virgillito Giovanni Dosi Stefano Costa Stefano Desantis Roberto Monducci	From organizational capabilities to corporate performances: at the roots of productivity slowdown

GEO-REFERENCED BIG DATA TO UNPACK THE GEOGRAPHY OF INNOVATION**(Tuesday, 11.30-13.10) – Room: N13****CHAIR: Enrico Vanino**

AUTHORS	TITLE OF THE PAPER
Ilaria Mariotti (P) Dante Di Matteo Federica Maria Rossi	Geo-referenced Big Data as a tool to explore the attractiveness of the Milan suburban and peripheral areas towards remote workers
Lukas Kriesch (P)	Comprehensive Web Mining of Geo-referenced corporate data from freely accessible sources
Samuel Heroy (P) Isabella Loaiza Sandy Pentland Neave O'Clery	Inequality in the distribution of amenities and its effect on urban mobility

GLOBALISATION OF INNOVATION AND KNOWLEDGE**(Tuesday, 11.30-13.10) – Room: N12****CHAIR: Roberta Rabellotti**

AUTHORS	TITLE OF THE PAPER
Patrizia Casadei (P) Simona Iammarino	Trade shocks and global value chains: a post-Brexit investigation in the UK textile and apparel industry'
Hans-Christian Busch (P)	Strategies to innovation and value creation in circular value chains: a contextual analysis of Brazilian e-waste recycling
Roberta Rabellotti (P) Dalila Ribaudó Vito Amendolagine Ulrich Elmer Hansen Rasmus Lema	Green foreign direct investments: do they boost clean energy innovation in multinationals' subsidiaries?

PATHWAYS TO INCLUSIVE LABOUR MARKETS (PILLARS)**(Tuesday, 11.30-13.10) – Room: N03****CHAIR: Maria Savona**

AUTHORS	TITLE OF THE PAPER
Jacopo Staccioli (P) Fabio Montobbio Maria Enrica Virgillito Marco Vivarelli	Labour-saving technologies and occupational exposure
Maria Savona (P) Tommaso Ciarli Ed Steinmueller Simone Vannuccini	Mapping human-machine interactions: combining in-depth technical and long term historical views
Florencia Jacoud (P)	The reallocation of employment over automation cycles: An analysis of European regions

GREEN AND SUSTAINABLE INNOVATION**(Tuesday, 11.30-13.10) – Room: N14****CHAIR: Massimiliano Mazzanti**

AUTHORS	TITLE OF THE PAPER
Liza Jabbour (P) Robert Elliott Yiran Su	Green Co-Innovation along Global Value Chains: Evidence from OECD countries
Massimiliano Mazzanti (P) Antonio Musolesi	Modeling Green Knowledge Production and Environmental Policies with Semiparametric Panel Data Regression models
Robert Elliott (P)	Eco-innovation and employment: A task-based analysis

HISTORICAL ROOTS OF REGIONAL INNOVATION**(Tuesday, 11.30-13.10) – Room: N15****CHAIR: Michael Fritsch**

AUTHORS	TITLE OF THE PAPER
Enno Kohlisch (P) Ann Hipp Jutta Günther	Policy Mix, Innovation und Digitalization of German Regions: A long-term perspective
Korneliusz Pylak (P)	A tree torn from its roots dies: With (un)related diversity, does knowledge begin to live?
Maria Greve (P) Michael Fritsch Michael Wyrwich	Shades of a Socialist Legacy? Regional Innovation Activity in Germany 1925-2014
Sergio Barbosa Martinez (P) Patricio Sáiz José L. Zofío	The Emergence and Historical Evolution of Innovation Networks: Patents, Collaboration, and Innovation Systems in the European Periphery

INNOVATION POLICY FOR REGIONS AND COUNTRIES**(Tuesday, 11.30-13.10) – Room: N19****CHAIR: Pierre-Alexandre Balland**

AUTHORS	TITLE OF THE PAPER
Diletta Pegoraro (P) Alessandro Rossi	Dynamics and determinants for innovation processes in a Digital Innovation Hub: a Triple Helix Approach
Pierre-Alexandre Balland (P) Ron Boschma	Do scientific capabilities in specific domains matter for technological diversification in European regions?
Ron Boschma (P) David Rigby Christoph Roesler Dieter Kogler Pierre-Alex Balland	Do EU regions benefit from Smart Specialization principles?
Tobias Hertrich (P) Thomas Brenner	Classification of regions according to the dominant innovation barriers – The characteristics and stability of regional archetypes in Germany

MIGRATION, GLOBALIZATION AND THE KNOWLEDGE ECONOMY**(Tuesday, 11.30-13.10) – Room: N16****CHAIR: Stefano Breschi**

AUTHORS	TITLE OF THE PAPER
Benjamin Cornejo-Costas (P)	Immigration restrictions and their impact on novel and impactful innovation in the United States
Christian Chacua (P) Frank Neffke	The Changing Geography of American Academic Careers Throughout the 20th Century
Claudio Fassio (P) Ioana Igna	International students in Sweden: what drives their careers after graduation?

MOBILITY OF WORKERS, RELATEDNESS AND THE GEOGRAPHY OF INNOVATION
 (Tuesday, 11.30-13.10) – Room: N01
CHAIR: Tijl Hendrich

AUTHORS	TITLE OF THE PAPER
Tijl Hendrich (P) Jennifer Olsen Judith Bayer	Entries and Regional Growth: The Role of Relatedness
Orsa Kekezi (P) Mikaela Backman	Plant relocations and returns to commuting

REGIONAL INNOVATION POLICY AND PRACTICE: THE ROLE OF DEMAND-SIDE INTERVENTIONS
 (Tuesday, 11.30-13.10) – Room: N17
CHAIR: Elvira Uyarra

AUTHORS	TITLE OF THE PAPER
Dylan Henderson (P) Kevin Morgan Rick Delbridge	Putting missions in place: challenge-led innovation in Wales
Elvira Uyarra (P)	Shaping markets for innovation through local public procurement: A framework.
Maria Merisalo (P) Kirsi Hyytinen Juha Oksanen Elvira Uyarra	How to assess the societal impacts of public procurement? A spatial view to National Public Procurement Strategy of Finland.
Raquel Ortega-Argiles (P) Pei-Yu Yuan	Does UK research collaboration in R&I promote levelling-up? An analysis of UKRI funding between 2014-2021

RENEWABLE ENERGY CLUSTERS AND DISTRICTS: PATTERNS, STRENGTHS, DIFFERENCES IN A WORLD IN TRANSITION
 (Tuesday, 11.30-13.10) – Room: N18
CHAIR: Marcello Graziano

AUTHORS	TITLE OF THE PAPER
Laura Victoria Brock (P) Yuri Campbell	Regional Factors Contributing to the Emergence of the Green Hydrogen Economy
Marcello Graziano (P) Christina Hoicka Yuxu Zhao	Comparing and combining regional and sustainability transitions approaches to analyse the emergence of clusters of renewable and low-carbon innovations
Max-Peter Menzel (P) Jack Harris	The role of markets in transformations of regional industries – the example of wind energy in Germany

SMART SPECIALISATION AND INTERREGIONAL COLLABORATION**(Tuesday, 11.30-13.10) – Room: N02****CHAIR: Donato Iacobucci**

AUTHORS	TITLE OF THE PAPER
Fabrizio Fusillo (P) Chiara Burlina Sandro Montresor Alessandro Palma	Regional technological diversification and global R&D networks: be related, but also connected
Jason Deegan (P) Adrian Prigel Jordahl Richard Reistad Marte C W Solheim	Lost in translation – Entrepreneurial discovery processes in a non-EU state, A case study of three Norwegian regions
Roberta Ruggeri (P)	European Strategy for the Adriatic-Ionian macro region and Smart Specialisation Strategy: overlapping and synergies

TUESDAY, JULY 5TH – PARALLEL SESSION 3**CLUSTERS, INDUSTRIAL DISTRICTS AND REGIONAL INNOVATION SYSTEMS****(Tuesday, 14.10-15.50) – Room: N14****CHAIR: Stefano Basilico**

AUTHORS	TITLE OF THE PAPER
Masoumeh Ghorbani (P) Thomas Brenner	The Location of Start-ups in Germany: The relevance of clusters, industrial variety and innovation
Stefano Basilico (P) Xavier Unda Galarza	The role of gatekeepers in knowledge networks: a regional comparison
Fatih Celebioglu (P) Thomas Brenner	The Causal Interaction Between Innovations, Specialisation, Start-Ups, Qualifications, and Subsidies: A Spatial VAR Analysis for Various Industries in Germany

DATA AND NETWORK SCIENCE METHODS IN ECONOMIC GEOGRAPHY**(Tuesday, 14.10-15.50) – Room: N03****CHAIR: Neave O'Clery**

AUTHORS	TITLE OF THE PAPER
Zoltán Elekes (P)	Robust skill-relatedness networks of industries make resilient regions
Frank Neffke (P) Yang Li	Assessing the importance of relatedness in regional development: in search of the right specification.
Neave O'Clery (P)	Connecting up embedded knowledge across Northern Powerhouse cities

ECONOMIC COMPLEXITY TO INFORM POLICY**(Tuesday, 14.10-15.50) – Room: N10****CHAIR: Lorenzo Napolitano**

AUTHORS	TITLE OF THE PAPER
Dario Diodato (P) Ulrich Schetter	A Simple Theory of Economic Growth at the Extensive Industry Margin
Lorenzo Napolitano (P) Nicolò Barbieri Davide Consoli François Perruchas Emanuele Pugliese Angelica Sbardella	Regional Technological Capabilities and Green Opportunities in Europe
Santiago Perez-Balsalobre (P) Rocio Marco Carlos Llano	Economic complexity, Environmental Quality and Income Equality: A New Trilemma for Regions?
Giambattista Albora (P) Pasquale Scaramozzino Luciano Pietronero Andrea Zaccaria	Behind the Italian Regional Divide: An Economic Fitness and Complexity Perspective

ENTREPRENEURIAL ECOSYSTEMS AND THE ROLE OF PLACE: FOUNDATIONS, POLICIES, AND DYNAMICS**(Tuesday, 14.10-15.50) – Room: N17****CHAIR: Frank van Rijnsoever**

AUTHORS	TITLE OF THE PAPER
Arnauld Bessagnet (P) Jerome Vicente Joan Crespo	Unraveling the multi-scalar and evolutionary forces of entrepreneurial ecosystems: A historical event analysis applied to IoT Valley
Frank van Rijnsoever (P)	Avenues for Incubators to Direct Entrepreneurial Ecosystems toward Sustainability
Lennard Stolz (P) Martin Queißner	Synthesizing the evidence on entrepreneurial contexts: A meta-analysis of Entrepreneurial Ecosystems

GLOBALISATION OF INNOVATION AND KNOWLEDGE**(Tuesday, 14.10-15.50) – Room: N15****CHAIR: Randolph Luca Bruno**

AUTHORS	TITLE OF THE PAPER
Ekkehard Ernst (P) Saurabh Mishra	AI Efficiency Index: Identifying Regulatory and Policy Constraints for Resilient National AI Ecosystems
Enrico Vanino (P) Carolina Pan Sergio Petralia Fernando Yu	From Ideas to Trade: Uneven technological capabilities and comparative advantage
Randolph Luca Bruno (P) Sara Amoroso Laura Magazzini	The identification of time-invariant variables in panel data model: exploring the nexus between appropriability and productivity in highly innovative and globalised companies

INNOVATION IN DEVELOPING AND EMERGING ECONOMIES**(Tuesday, 14.10-15.50) – Room: N16****CHAIR: Davide Vurchio**

AUTHORS	TITLE OF THE PAPER
Davide Vurchio (P) Nicola Daniele Coniglio	New export specializations, structural transformation and path-dependence: A Product-Level Analysis
Jefferson Galetti (P) Fiona Tregenna	Cognitive proximity, knowledge network structure and MSEs' innovation: evidence from Johannesburg
Nanditha Mathew (P) Alex Coad Emanuele Pugliese	Positioning firms along the capabilities ladder
Augusto dos Santos Pereira (P)	Are Brazilian metropolitan Areas prepared to navigate the ongoing techno-economic wave? Evidence from Curitiba

INNOVATION POLICY FOR REGIONS AND COUNTRIES**(Tuesday, 14.10-15.50) – Room: N02****CHAIR: Colin Wessendorf**

AUTHORS	TITLE OF THE PAPER
Colin Wessendorf (P)	The drivers of the regional integration of Key Enabling Technologies (KETs)
Delio Lucena-Piquero (P)	Do R&D diversification policies change the cognitive structure of knowledge networks? Evidence from France using a meso-structural approach
Iryna Fil Kristensen (P) Rhiannon Pugh Markus Grillitsch Maria Lindqvist	Leadership and governance challenges in delivering place-based transformation to metropolitan areas
Shannon Tran (P) Caroline Fry John Lynham	Ranking Researchers: Evidence from Indonesia

MIGRATION, GLOBALIZATION AND THE KNOWLEDGE ECONOMY**(Tuesday, 14.10-15.50) – Room: N12****CHAIR: Wolf-Hendrik Uhlbach**

AUTHORS	TITLE OF THE PAPER
Adriana Pinate (P) Alessandra Faggian Claudio Di Berardino Carolina Castaldi	The heterogenous effects of migration on innovation: Evidence from Italy
Elena Heller (P) Paula Prenzel	Regional inclusiveness: institutional factors and the innovative effects of cultural diversity in European regions
Wolf-Hendrik Uhlbach (P) Paul-Emmanuel Anckaert	In search of new knowledge: When does hiring foreign R&D workers foster exploration?

MOBILITY OF WORKERS, RELATEDNESS AND THE GEOGRAPHY OF INNOVATION
 (Tuesday, 14.10-15.50) – Room: N18
CHAIR: Chiara Franco

AUTHORS	TITLE OF THE PAPER
László Lorincz (P) Balázs Lengyel Guilherme Kenji Chihaya Rikard Eriksson	Co-worker networks and firm performance
Louis Knüpling (P)	Complementarity, knowledge similarity, and locational requirements in regional technological diversification
Chiara Franco (P) Anna D'Ambrosio Sandro Montresor Francesco Quatraro	Do migrants move along the routes of technological proximity? Evidence from Spanish NUTS3 regions

SMART SPECIALISATION AND INTERREGIONAL COLLABORATION
 (Tuesday, 14.10-15.50) – Room: N01
CHAIR: Ron Boschma

AUTHORS	TITLE OF THE PAPER
David Fernández Guerrero (P) Lourdes Reig Puig Martin Federico Alba Xavier Díaz Ruiz	Promoting inter-regional cooperation across S3 strategies: The case of Blue Bioeconomy Sustainable Development Challenges in the Mediterranean
Massimo Riccaboni (P) Samuel Edet Rene Belderbos	Exploratory Innovation in Cities: Inter-city ties and Technological relatedness
Stefan Apostol (P)	More Than Machinery, We Need Humanity-The Importance of a Humanised Governance Quality Measurement For Regional Innovation And Smart Specialisation Policies

THE GEOGRAPHY OF ENVIRONMENTAL SUSTAINABILITY AND TECHNOLOGICAL TRANSFORMATIONS: OPPORTUNITIES AND CHALLENGES FOR REGIONS AND TERRITORIES
 (Tuesday, 14.10-15.50) – Room: N11
CHAIR: Sandro Montresor

AUTHORS	TITLE OF THE PAPER
Elisa Panzera (P) Roberta Capello Camilla Lenzi	Regional servitisation patterns in Europe
Matthijs Janssen (P) Milad Abbasiharofteh	Boundary spanning R&D collaboration: Key Enabling Technologies and Missions as alleviators of proximity effects?
Shuaijun Xue (P)	From a green era to a green digital era? Technological transformation in the Shanghai electric vehicle industry
Stefano Bianchini (P) Giacomo Damioli Claudia Ghisetti	The two make a pair? Digital and green transition in European regions and their impact on greenhouse gas emissions

THE MULTI-SCALAR GEOGRAPHY OF SUSTAINABILITY TRANSITIONS: EXPLORING INTERFACES BETWEEN SECTORAL AND REGIONAL INNOVATION DYNAMICS
(Tuesday, 14.10-15.50) – Room: N13

CHAIR: Christian Binz

AUTHORS

TITLE OF THE PAPER

Simone Strambach (P) Tatjana Mauthofer	Shaping institutions transnationally- multi-scalar dynamics in the emergence of social business
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Camilla Chlebna (P) Hanna Martin Jannika Mattes	Grasping transformative regional development from a co-evolutionary perspective – a research agenda
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Lena Stock (P) Daniel Schiller	Development of new bioeconomy paths in a structurally weak region – an exploration into global-local dynamics of a socio-technical transformation
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UNIVERSITIES AND THE GEOGRAPHY OF SCIENCE AND INNOVATION
(Tuesday, 14.10-15.50) – Room: N19

CHAIR: Shiri Breznitz

AUTHORS

TITLE OF THE PAPER

Kevin Chandra (P) Xun Wu	Choosing the right one: university-industry collaboration and impacts on scientific and technological advances
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Mabel Sanchez-Barrioluengo (P) Chiara Marzocchi Fumi Kitagawa	Student start-ups as knowledge spillover: contextual influences from the university and regional ecosystems
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Shiri Breznitz (P) Qiantao Zhang	The Economic Contribution of Students to the Regional Economy
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Shauna Brail (P) Shiri Breznitz	Unintentional Innovation: The Role of University Research in Urban Innovation
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TUESDAY, JULY 5TH – PARALLEL SESSION 4

CLUSTERS, INDUSTRIAL DISTRICTS AND REGIONAL INNOVATION SYSTEMS
(Tuesday, 16.20-18.25) – Room: N16

CHAIR: Stefania Oliva

AUTHORS

TITLE OF THE PAPER

Nimita Pandey (P)	Regional innovation, Global Linkages and Sustainable Development: A Case of Biotechnology Cluster in Hyderabad
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Sonja zu Jeddelloh (P) von Sidonia Proff Thomas Brenner	Determinants of the location of bioeconomic patents – A municipal-level analysis for ten subcategories in Germany
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Giedre Dzemydaite (P)	Production efficiency of advanced technology-generating sectors in the EU: stochastic frontier analysis of industry-level panel data
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Luciana Lazzeretti (P) Stefania Oliva Niccolò Innocenti Martina Nannelli	The impact of Artificial Intelligence on the social science: the evolution of the studies in Regional Science according to a bibliometric approach
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ECONOMIC COMPLEXITY TO INFORM POLICY**(Tuesday, 16.20-18.25) – Room: N10****CHAIR: Andrea Zaccaria****AUTHORS****TITLE OF THE PAPER**

Andrea Zaccaria (P) Andrea Tacchella Luciano Pietronero Marco Miccheli Giambattista Albora	Relatedness in the Era of Machine Learning
Aurelio Patelli (P) Lorenzo Napolitano Giulio Cimini Andrea Gabrielli	Geography of Science: Competitiveness and Inequality
Bernardo Caldarola (P)	Informal to Formal Industrial Agglomeration in Ghana: the Role of Geography, Relatedness and Complexity
Emanuele Pugliese (P) Dario Diodato Lorenzo Napolitano Andrea Tacchella	Quantitative Instruments for Regional Industrial Strategies

EVOLUTION OF COMPLEXITY IN TIME AND SPACE**(Tuesday, 16.20-18.25) – Room: N13****CHAIR: Matte Hartog****AUTHORS****TITLE OF THE PAPER**

Carolin Nast (P) Tom Brökel Lars Mewes	Does Government Support Drive Complexity or does Complexity Drive Government Support?
Matte Hartog (P)	The changing geography of teamwork in innovation, 1850 - 1940
Silje Haus-Reve (P) Tom Brökel Rune Dahl Fitjar	Diversity, complexity or relatedness of occupations and its effects on regional productivity

GLOBALISATION OF INNOVATION AND KNOWLEDGE**(Tuesday, 16.20-18.25) – Room: N17****CHAIR: Carlo Pietrobelli****AUTHORS****TITLE OF THE PAPER**

Carlo Pietrobelli (P) Ron Boschma Federico Colozza Andrea Morrison	Regional capabilities in a globalized world
Eduardo Hernández Rodríguez (P) Ron Boschma Andrea Morrison	Regional Task Spaces: Functional Diversification Processes throughout GVCs
Gabriele Pellegrino (P)	International Patent Protection and Trade: Transaction-Level Evidence
Martina Pardy (P)	Multinationals & intra-regional innovation concentration

INNOVATION IN DEVELOPING AND EMERGING ECONOMIES**(Tuesday, 16.20-18.25) – Room: N18****CHAIR: Julio Raffo**

AUTHORS	TITLE OF THE PAPER
Julio Raffo (P) Deyun Yin Jie Tang	Innovation ecosystem and catch-up in developing countries: evidences from Shenzhen
Lorenzo Palladini (P) Katrín Hussinger	Innovation, institutions, and insiders
Suelene Mascarini (P) Renato Garcia Diz Mabel Marques	Regional linkages and branching: an empirical study on Brazilian regions

INNOVATION POLICY FOR REGIONS AND COUNTRIES**(Tuesday, 16.20-18.25) – Room: N19****CHAIR: Anna Dabrowska**

AUTHORS	TITLE OF THE PAPER
Isabel Cavalli (P) Charlie Joyez	The Dynamics of French Universities in Patent Collaboration Networks
Anna Dabrowska (P) Jason Deegan	Plus ça change, plus c'est la même chose. A text mining analysis of Polish regional development strategies
Cecilia Maronero (P) Andrea Vezzulli Valerio Sterzi	NPEs, Patent Quality and Litigation Strategies across European Jurisdictions
Pedro Llanos (P)	Fraunhofer centres across Europe: Effects of Technology Transfer on Regional Innovation

MIGRATION, GLOBALIZATION AND THE KNOWLEDGE ECONOMY**(Tuesday, 16.20-18.25) – Room: N01****CHAIR: Francesco Lissoni**

AUTHORS	TITLE OF THE PAPER
Andrea Morrison (P) Yibo Qiao Andrea Ascani Stefano Breschi	Returnees and innovation: Evidence from Chinese public listed firms
Philip Verfürth (P)	The facilitating role of highly skilled (re-)migrants in cross-border knowledge transfers in multinational enterprises
Valeria Costantini Elena Paglialonga (P) Saverio Barabuffi Leone Valerio Sciabolazza	Mission-oriented innovation policies and knowledge spillovers: exploiting opportunities from skilled-workers migration network

RESPONSIBLE INNOVATION, SOCIAL INNOVATION AND INCLUSIVE GROWTH
(Tuesday, 16.20-18.25) – Room: N12
CHAIR: Alina Kadyrova

AUTHORS	TITLE OF THE PAPER
Alina Kadyrova (P)	Does proximity matter for socially oriented innovation? Evidence from five European urban areas
Carolin Ioramashvili (P)	Technological invention and local labour markets: Evidence from France, Germany and the UK
Vincenzo Mini (P)	Cities and coexistence with the pandemic phenomenon

THE GEOGRAPHY OF ENVIRONMENTAL SUSTAINABILITY AND TECHNOLOGICAL TRANSFORMATIONS: OPPORTUNITIES AND CHALLENGES FOR REGIONS AND TERRITORIES
(Tuesday, 16.20-18.25) – Room: N11
CHAIR: Carolina Castaldi

AUTHORS	TITLE OF THE PAPER
Artur Santoalha (P) Fulvio Castellacci	How can digitalization impact environmental sustainability in European regions?
Carolina Castaldi (P) Milad Abbasiharofteh Sergio Petralia	Greening EU regions: patterns of development between technological opportunities and product applications
Cristina Santhià (P) Fabrizio Fusillo Francesco Quatraro	The geography of circular economy technologies in Europe: Evolutionary patterns and technological convergence
Simone Maria Grabner (P) Nicoletta Corrocher Andrea Morrison	Green Technological Diversification and International Co-Inventor Linkages

THE MULTI-SCALAR GEOGRAPHY OF SUSTAINABILITY TRANSITIONS: EXPLORING INTERFACES BETWEEN SECTORAL AND REGIONAL INNOVATION DYNAMICS
(Tuesday, 16.20-18.25) – Room: N14
CHAIR: Markus Steen

AUTHORS	TITLE OF THE PAPER
Gesa Pflitsch (P)	Exploring multi-scalar effects on the micro-patterns of regional industrial transformations to sustainability
Abdullah Fahimi (P) Paul Upham Gesa Pflitsch	Foreign actors, local institutions: the role of transnational actors in Afghanistan's energy landscape
Johan Miörner (P) Christian Binz Jonas Heiberg	The diffusion of global regime rationalities in space – Insights from a failed transition in San Diego's water sector
Andrea Ferloni (P) Céline Rozenblat Mehdi Bida	Urban trajectories in the transition to Electric Vehicles: a patent-based coevolutionary approach

TRANSFORMATIVE REGIONAL RESILIENCE AND INNOVATION**(Tuesday, 16.20-18.25) – Room: N15****CHAIR: Wessel Vermuelen**

AUTHORS	TITLE OF THE PAPER
Wessel Vermuelen (P) Alexandra Tsvetkova	Balanced policy approach to regional growth: Innovation, productivity and resilience
Bogang Jun (P) Jara- Cris Figueroa Donghyeon Yu	The economic resilience of amenity cluster in the post-Covid city: the effect of relatedness on the survival of amenity shops
Sania Dzalbe (P) Hane- Weijman Emelie Rikard Eriksson	Temporality of Agency in Relation to Regional Resilience
Xiangyu Quan (P) Marte Cecilie Wilhelmsen Solheim Rune Dahl Fitjar	What used to help you might harm you—The role of local embeddedness and collaboration to uneven resilience in times of crisis

UNIVERSITIES AND THE GEOGRAPHY OF SCIENCE AND INNOVATION**(Tuesday, 16.20-18.25) – Room: N02****CHAIR: Chiara Marzocchi**

AUTHORS	TITLE OF THE PAPER
Adhen Benlahlou (P)	Scientific peer-effects in Cancer Research
Chiara Marzocchi (P) Gabriele Angori Ugo Rizzo Laura Ramaciotti	The content evolution of codified public research in European universities
Kwadwo Atta-Owusu (P) Rune Dahl Fitjar	Engaging for love of place? The role of place attachment in academics' regional engagement efforts
Ludovic Dibiaggio (P) Thai Tan Tran Maryann Feldman	The Temporal Value of Local Scientific Expertise

WEDNESDAY, JULY 6TH – PARALLEL SESSION 5**BARRIERS TO DIGITAL INNOVATION****(Wednesday, 11.00-12.40) – Room: N17****CHAIR: Simona Ciappei**

AUTHORS	TITLE OF THE PAPER
Arnauld Abreu (P) Arnauld Bessagnet	The scaleup trajectory : who they hire and when
Nhat Strøm-Andersen (P)	The challenges in adopting digital technologies and the case of food waste
Simona Ciappei (P) Annalisa Caloffi Marco Bellandi	Physician, heal thyself: the role of t-KIBS in 4.0 technology adoption

CLUSTERS, INDUSTRIAL DISTRICTS AND REGIONAL INNOVATION SYSTEMS**(Wednesday, 11.00-12.40) – Room: N12****CHAIR: Bjorn Asheim**

AUTHORS	TITLE OF THE PAPER
Bjorn Asheim (P) Helen Lawton Smith Jonathan Potter	The potential for a biotechnology and SME based unrelated diversification in clusters of advanced agricultural production in Northern Thailand
Denisa Naidin (P) Sabine Dörry	The Luxembourgish Space Industry – Evolving Between Local and Global Forces
Olivier Coussi (P) Bastien Bernela	Territorial bricolage and political entrepreneur: the case of the Futuroscope leisure park ecosystem in France
Juliette Keohane (P)	Jeans are coming home: case study of a French re-industrialisation business model

DIGITAL PLATFORMS FOR INNOVATIVE CREATIVE AND ENTREPRENEURIAL PRACTICES**(Wednesday, 11.00-12.40) – Room: N14****CHAIR: Shauna Brail**

AUTHORS	TITLE OF THE PAPER
Alica Repenning (P) Anna Oechslen	Creative digipreneurs and socio-technical niches: work practices of entrepreneuring in a platform mediated environment
Giulia Occhini (P) Emmanouil Tranos Levi John Wolf	A website-driven approach for assessing occupational segregation in the digital economy
Han Chu (P)	Placing the Platform Economy: The Emerging, Developing and Upgrading of Taobao Villages as a Platform-Based Place Making Phenomenon in China
Suntie Schmidt (P) Oliver Ibert Alica Repenning Anna Oechslen	Platform Ecology: A user-centric and relational conceptualization of online platforms

EVOLUTION OF COMPLEXITY IN TIME AND SPACE**(Wednesday, 11.00-12.40) – Room: N10****CHAIR: Nico Pintar**

AUTHORS	TITLE OF THE PAPER
Margarida Bandeira Morais (P)	Economic complexity and employment: The case of Portuguese regions
Nico Pintar (P)	Complexity and smart specialization: Evaluating knowledge complexity measures for EU metropolitan areas
Juergen Essletzbichler	
Philipp Koch (P)	Yet another space: Why the Industry Space adds value to the understanding of structural change and economic development
Wolfgang Schwarzbauer	

GLOBALISATION OF INNOVATION AND KNOWLEDGE**(Wednesday, 11.00-12.40) – Room: N13****CHAIR: Andrea Coveri**

AUTHORS	TITLE OF THE PAPER
Andrea Coveri (P)	Functional specialization in FDI and value capture in GVCs: An empirical assessment of the smile curve on a global scale
Antonello Zanfei	
Anran Mao (P)	Geographically dispersed Chinese MNEs: the role of intra-firm networks and gatekeepers for technological catch-up
Anne Plunket	
Eri Yamada (P)	The knowledge complexity of the automotive industry: An inter-regional comparative perspective
Tetsu Kawakami	

MOBILITY OF WORKERS, RELATEDNESS AND THE GEOGRAPHY OF INNOVATION**(Wednesday, 11.00-12.40) – Room: N15****CHAIR: Rosina Moreno**

AUTHORS	TITLE OF THE PAPER
Rosina Moreno (P)	Rails and innovation: Evidence from China
Georgios Tsiachtsiras	
Deyun Yin	
Ernest Miguelez	
Julien Giorgi (P)	Novelty, Migration and Relatedness
Felipe Starosta de Waldemar	
Anne Plunket	
Sandro Montresor (P)	“With no siblings, but with home”: single patent-class inventions (SPIs) and regional technological diversification in Europe
Rolf Sternberg (P)	High-speed internet vs. locational preferences of the highly-skilled: Will improved digital infrastructure lead to a decrease of economic disparities between urban and rural areas?
Louis Knüpling	

RESPONSIBLE INNOVATION, SOCIAL INNOVATION AND INCLUSIVE GROWTH**(Wednesday, 11.00-12.40) – Room: N01****CHAIR: Fulvio Castellacci**

AUTHORS	TITLE OF THE PAPER
Fulvio Castellacci (P)	Innovation and social welfare: A new research agenda
Liliana Cuccu (P)	Just relocated? Robots, displacement and job quality
Christian Binz (P)	Towards a normative turn in the geography of innovation? Evolving perspectives on innovation, institutions and well-being
Carolina Castaldi	

SPATIAL DYNAMICS OF INNOVATION NETWORKS**(Wednesday, 11.00-12.40) – Room: N16****CHAIR: Corinne Autant-Bernard**

AUTHORS	TITLE OF THE PAPER
Corinne Autant-Bernard (P)	Structural holes in networks of cross-organizational R&D teams
Federico Fantechi (P) Ugo Fratesi	Firm competitiveness, specialization and employment growth: territorial level relationships
Sergio Petralia (P) Tom Kemeny Michael Storper	Disruptive innovation and uneven regional economic development
Yiran Su (P) Robert Elliott Liza Jabbour	Global technological innovation: a systematic analysis of green innovation, international collaboration and patent quality

THE GEOGRAPHY OF CREATIVE ACTIVITIES AND INDUSTRIES**(Wednesday, 11.00-12.40) – Room: N11****CHAIR: Amir Maghssudipour**

AUTHORS	TITLE OF THE PAPER
Amir Maghssudipour (P) Filippo Berti Mecocci Marco Bellandi	The role of cultural entrepreneurship in shaping human capital evidence from European regions
Eva Coll-Martínez (P)	Creative industries and gentrification

TRANSFORMATIVE REGIONAL RESILIENCE AND INNOVATION**(Wednesday, 11.00-12.40) – Room: N02****CHAIR: Lorenzo Zirulia**

AUTHORS	TITLE OF THE PAPER
Charles Abbott (P)	Towards a new framework for bridging the emerging dichotomy between Smart Specialisation and the Missions-Based policy approaches?
Constanze Zöllter (P)	Shrinking cities in peripheral regions as attractive residential and living locations – an experimental approach from the German city of Görlitz
Lorenzo Zirulia (P) Alessia Mariotti	Getting out of the quagmire: public and private strategies in Rimini after the 1989 mucilage crisis
Nora Baekkelund (P) Stig-Erik Jakobsen Rune Njøs	The relatedness of knowledge combinations —a micro perspective on innovation in the tourism industry

UNIVERSITIES AND THE GEOGRAPHY OF SCIENCE AND INNOVATION**(Wednesday, 11.00-12.40) – Room: N19****CHAIR: Jarno Hoekman**

AUTHORS	TITLE OF THE PAPER
Jarno Hoekman (P) Bastian Rake	Geography of authorship: how geography shapes authorship attribution in global team science
Stefan Rehak (P) Balazs Lengyel Miroslav Spurek	Urban scaling of university science in Europe 1970 – 2010
Hyunha Shin (P) Keungoui Kim Dieter Kogler	Science collaboration, research funding, and novelty in scientific knowledge

WEDNESDAY, JULY 6TH – PARALLEL SESSIONS 6**EVOLUTION OF COMPLEXITY IN TIME AND SPACE****(Wednesday, 13.40-15.20) – Room: N10****CHAIR: Tom Brökel**

AUTHORS	TITLE OF THE PAPER
Annie Tubadji (P) Roberto Antonietti (P) Chiara Burlina	Culture, Variety and Innovation: A CBD Approach to Cultural Entropy Exploring the entropy-complexity nexus. Evidence from Italy
Tom Brökel (P) Lars Mewes Louis Knuepling	Boosting, sorting, and complexity – Urban scaling of innovation across cities around the world

EXPLORING TECHNOLOGICAL TRANSFORMATION IN EUROPE**(Wednesday, 13.40-15.20) – Room: N15****CHAIR: Zoran Aralica**

AUTHORS	TITLE OF THE PAPER
Michael Grote (P) Matthew Zook	Blockchain financial geographies: Disrupting space, agency and scale
Tzameret Rubin (P) Francisco Trincado-Munoz Michiel van Meeteren Tim Vorley	The economic geography of the digital transition in the APS-Complex: A technology space analysis
Zoran Aralica (P) Anita Harmina	The technological transformation of economies: measurement framework overview and a new agenda
Camilla Lenzi (P) Roberta Capello	Industry 4.0 and Servitisation: regional patterns of 4.0 technological transformations in Europe

MAPPING THE TRANSITION OF REGIONS TOWARDS ENVIRONMENTAL AND SOCIO-ECONOMIC SUSTAINABILITY
(Wednesday, 13.40-15.20) – Room: N18
CHAIR: Luciana Lazzeretti

AUTHORS	TITLE OF THE PAPER
Britney Bulah (P) Marko Hekkert Simona Negro Koen Beumer	An institutional perspective on innovation system dynamics: system-building in the United States' plant-based protein industry 1978-2019
Francesco Capone (P) Niccolò Innocenti Luciana Lazzeretti	The Geography of Green Inventions in Italy
Julian Barnikol (P) Ingo Liefner	Advanced Frugal Innovations in different regions: insights from a combination of Innovation Systems Concepts, the Multi-Level Perspective, and Case-based Evidence
Maria Tsouri (P) Ron Boschma	The importance of science for the development of new PV technologies in European regions
Silvia Rita Sedita (P) Stefania Oliva Ivan De Noni Luigi Orsi	Opening the black box of well-being in Europe: the relative importance of GDP, green innovations and social capital

SPATIAL DYNAMICS OF INNOVATION NETWORKS
(Wednesday, 13.40-15.20) – Room: N13
CHAIR: Jose-Luis Hervas-Oliver

AUTHORS	TITLE OF THE PAPER
Eszter Bokanyi (P) Martin Novak Akos Jakobi Balazs Lengyel	Urban hierarchy and spatial diffusion over the innovation life cycle
Iris Wanzenböck (P) Silvia Rocchetta Dieter Kogler Keungoui Kim	Explaining the emergence of new regional technological specialisations: the role of actors and technological network portfolios
Jose-Luis Hervas-Oliver (P) Francisca Sempere-Ripoll	The anatomy of SME collaboration- a configurational analysis
Mehmet Metehan Ciftci (P) Nino David Jordan	How territorial is the soil decontamination innovation system?

THE GEOGRAPHY OF CREATIVE ACTIVITIES AND INDUSTRIES**(Wednesday, 13.40-15.20) – Room: N11****CHAIR: Allan Watson****AUTHORS****TITLE OF THE PAPER**

Allan Watson (P)	Not all roads lead to London: insularity, disconnection and the challenge to 'regional' creative industries policy
Etienne Capron (P) Raphaël Suire	Revealing preferential circulations - how the uses of places serve collective innovation
Roberto Dellisanti (P)	Innovativeness and creative process in CCIs: a theoretical taxonomy to study their spatial concentration

UNIVERSITIES AND THE GEOGRAPHY OF SCIENCE AND INNOVATION**(Wednesday, 13.40-15.20) – Room: N16****CHAIR: Alessandra Scandura****AUTHORS****TITLE OF THE PAPER**

Alessandra Scandura (P) Francesco Quatraro	Regional unrelated technological diversification: the role of academic inventors
Massimiliano Guerini (P) Benedetto Lepori Thomas Scherngell Michael Barber Lionel Villard	Regional knowledge production across Europe: Insights from combined indicators and an innovative regional delineation
Sebastian Heinrich (P)	The Spatial Diffusion of Artificial Intelligence – Geographical diffusion patterns of AI related technologies in science and industry

URBAN AGGLOMERATIONS, EXTERNALITIES AND INNOVATION**(Wednesday, 13.40-15.20) – Room: N17****CHAIR: Veneziano De Castro Araujo****AUTHORS****TITLE OF THE PAPER**

Adelheid Holl (P) Catalina Martinez Clara Casado	Characterizing innovation-promoting local environments in Spain and their evolution over time
Lucas Magalhães (P) Monica Haddad Monika Kuffer Nina Schwarz	Bringing economic complexity to the intra-urban scale: how services shape the urban economy in Belo Horizonte, Brazil
Veneziano De Castro Araujo (P) Sarah Ferreira Renato Garcia	Determinants of Regional Innovation in Brazil between 1998 and 2018: A Spatial Panel Approach