## 7<sup>th</sup> European Conference On Social Networks

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# Abstracts & Program

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#### 7th European Conference on Social Networks

Abstracts and Program

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### Some information

#### **Faculty of Social Sciences University of Ljubljana** Kardeljeva ploščad 5 1000 Ljubljana

Website: www.eusn2023.org Twitter: @EUSNconference

#### WIFI

Network: fdvconf Password: unifdv2008 ... or use Eduroam.

#### **City transport**

Ljubljana's public transportation system, managed by Ljubljanski potniški promet (LPP), is efficient and user-friendly. City buses will be free for all conference participants (**having a conference tag**), providing easy access to various parts of the city.

For more information see: https://eusn2023.org/practical-information/

#### **Hospitality suite**

Tuesday, Wednesday and Thursday at Aula Caffee, starting at 20:00.

#### Keynotes

Opening keynote: 5 Sep, 12:30 Prof. Dr. Károly Takács

Keynote: 7 Sep, 15:20 Prof. Dr. Betina Hollstein

#### **Special events**

## Early and Middle Career Researchers Social Gathering

Early and Middle Career Researchers (EMCRs) on Social Networks group aims at bringing together researchers and postgraduate students to boost connectivity and share what it means to be in this stage of their careers while working with networks. This group provides the space to discuss themes and share ideas for taking individual actions and identifying potential collective problem-solving solutions for the whole community.

EUSN 2023 is proud to host the Early and Middle Career Researchers Social Gathering on Tuesday, September 5th at 18:00 in a place to confirm. The EMCRs event at EUSN 2023 aims to create the space to get to know other early and middle-career researchers working with networks and discuss current/future research collaborations. Everyone is more than welcome to join. If you have any questions, please email the organisers Francisca Ortiz Ruiz (Millennium Institute for Care Research MICARE, Santiago, Chile) and Zoran Kovacevic (Social Networks Lab, ETH Zürich).

#### **Round table: The Future of Teaching SNA**

A panel discussion on "The Future of Teaching SNA". Each panellist will talk for around 5 minutes on emerging issues in the field (such as the rise of AI technologies and the challenges it poses to teaching SNA). This will be followed by a Q&A discussion of the issues and challenges associated with teaching SNA, and the implications for the future. We will then conclude the panel by a 'call-to-action', where we will discuss, with any interested parties, whether they would like to co-author a collective article on teaching SNA or be part of a special issue. Panel discussants: Christina Prell, Isabella Gollini, Juergen Lerner and Riccardo De Vita.

## **Restaurant recommendations**

Ljubljana boasts an array of excellent restaurants. Given the close proximity of the conference venue to the city center, you are encouraged to explore and dine at these establishments. You can find a comprehensive list of recommended restaurants on this website: https://gourmet-lj.si/en/gourmet-experiences/restaurants-and-bars.

#### Bellow is the list of restaurants that are located very close to the conference venue.

#### Vivo

#### Website | Map | **Distance:** 6 min walk

As one of our catering partners Vivo Catering will host the EUSN 2023 gala dinner on Wednesday, 6 September but you are welcome to visit them for lunch every day from 10 am to 2 pm.

#### Aula Cafe

#### Map | **Distance:** in-house

Our catering partner will make coffee for you during conference breaks but you can also visit their modern café on the ground floor of the conference venue. They also offer tasty sandwiches and a variety of snacks.

#### Slovely

#### Website | Map | Distance: in-house

The cantine conveniently located on the ground floor of the conference venue will provide you with affordable meals.

#### Barbado

#### Website | Map | Distance: 3 min

Barbado restaurant is open from 7 am for morning coffee and 9 pm. During lunch hours they offer a daily variety of food, including pizza, wiener schnitzel, fried cheese, and pancakes.

#### Kapital

#### Map | Distance: 2 min

Convenient for coffee or a fast-food meal.

#### Enka

#### Website | Map | Distance: 3 min

Enka is convenient for a quick cup of coffee or hotdog.

#### Hotspot

#### Map | Distance: 5 min

Convenient for coffee or a fast-food meal.

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The 7th European Conference on Social Networks (EUSN 2023) was hosted by the Centre for Methodology and Statistics of Faculty of Social Sciences at the University of Ljubljana, 4 – 8 September 2023.

Continuing the traditions of previous conferences in Barcelona (2014), Paris (2016), Mainz (2017), Zurich (2019), Naples (2021) and Greenwich (2022), as well as the legacies of predecessors Applications of Social Network Analysis (ASNA) and UK Social Network Analysis (UKSNA), the conference brings together researchers and practitioners from the social sciences in the broad sense as well as statistics, computer science, data science, physics, economics, humanities, and other areas dealing with social networks.

#### **Organizing committee**

- Luka Kronegger, Conference Coordinator
- Marjan Cugmas, Program Coordinator
- Marina Trkman, Coordinator of Special Events
- Katja Koren Ošljak, Organizer of Social Activities
- Špela Orehek, Poster Session Organizer

## **Program committee**

The Program Committee for the European Network Conference consists of renowned experts and scholars in the field who play a pivotal role in the selection and evaluation process of submissions. With their wealth of knowledge and experience, the committee conducts a rigorous review process to ensure that the conference program reflects the latest advancements and cutting-edge research in the field of network science.

- Alexandra Gerbasi, Exeter Business School
- Anna Piazza, University of Greenwich
- Bernie Hogan, University of Oxford
- Bruce Cronin, University of Greenwich
- Christoph Stadtfeld, ETH Zürich
- Dimitris Christopoulos, Heriot Watt University
- Elisa Bellotti, University of Manchester
- Francesca Pallotti, University of Greenwich
- Giancarlo Ragozini, University of Naples Federico II
- Giuseppe Giordano, University of Salerno
- Guido Conaldi, University of Greenwich
- Juergen Pfeffer, Technical University of Munich
- Marten Düring, Luxembourg Centre for Contemporary and Digital History
- Maria Prosperina Vitale, University of Salerno
- Mario Diani, University of Trento
- Marina Hennig, Johannes Gutenberg University of Mainz
- Matteo Magnani, Uppsala University
- Matthew Smith, Edinburgh Napier University
- Miranda Lubbers, Autonomous University of Barcelona
- Paola Tubaro, CNRS
- Per Block, University of Zurich
- Robert W Krause, University of Kentucky
- Sophie Mützel, University of Lucerne
- Spyros Angelopoulos, Durham University
- Stefano Ghinoi, University of Greenwich
- Srinidhi Vasudevan, University of Greenwich
- Susanna Zaccarin, University of Trieste
- Termeh Shafie, University of Manchester
- Tom Snijders, University of Groningen and University of Oxford
- Ulrik Brandes, ETH Zürich
- Viviana Amati, University of Milano-Bicocca
- Yasaman Sarabi, Edinburgh Business School Heriot-Watt University
- Zsófia Boda, University of Essex

## **<sup>o</sup>** Program overview

	The reception desk will open on Monday at 11:00 and will remain open throughout the conference from 9:00 to 18:00.								
				Monday, September 4					
Room	FDV-6	FDV-7	FDV-12	FDV-13	FDV-14	FDV-20	FDV-21		
	REM beyond dyads:		Cancelled: manynet: an R		Social Network Analysis		The Analysis of		
13:00-16:00	relational hyperevent	Introduction	package	Egocentric network	Workshop: How do	Advanced RSiena	Longitudinal Social		
(Workshops)	modeling with eventnet	to UCINET	for multimodal network	analysis with R	I develop and answer	workshop	Network Data		
	(beginners)		analysis and more		my research question?		using RSIENA		

Tuesday, September 5									
Room	FDV-6	FDV-7	FDV-12	FDV-13	FDV-14	FDV-20	FDV-21		
8:30-11:30 (Workshops)	REM beyond dyads: relational hyperevent modeling with eventnet (advanced)		Cancelled: Social network analysis in STATA	Egocentric network analysis with R	Social Network Analysis Workshop: How do I develop and answer my research question?	Advanced RSiena workshop	The Analysis of Longitudinal Social Network Data using RSIENA		
12:10-12:30	Welcome & Conference opening (auditorium)								
12:30-13:50	Keynote: Prof. Dr. Károly Takács (auditorium)								
Room	FDV-6	FDV-7	FDV-12	FDV-13	FDV-14	FDV-20	FDV-21	FDV-23	
14:00-15:30	Negative Ties and Signed Graphs (1/2)	Modeling Social Influence (1/2)	Interpersonal networks and the COVID-19 pandemic (1/2)	Networks, Culture, Interaction (1/2)	Egocentric networks (1/2)	Gender and social networks	Agent-based models of social networks	Networks and knowledge production (1/6)	
15:30-15:50	Coffee								
15:50-17:20	Negative Ties and Signed Graphs (2/2)	Modeling Social Influence (2/2)	Interpersonal networks and the COVID-19 pandemic (2/2)	Networks, Culture, Interaction (2/2)	Egocentric networks (2/2)	The Future of Teaching SNA		Networks and knowledge production (2/6)	
20:00 -	Hospitality Suite (Aula Caffee)								

	Wednesday, September 6								
Room	FDV-6	FDV-7	FDV-12	FDV-13	FDV-14	FDV-20	FDV-21	FDV-23	
9:00-10:30	Networks and crime (1/2)	Modeling Network Dynamics (1/4)	Political networks (1/2)	Family networks and personal networks through the life-course (1/3)	Hypergraphs for complex systems: methods and applications	Spatial networks	Social media, online networks (1/2)	Networks and knowledge production (3/6)	
10:30-10:50	Coffee								
10:50-12:20	Networks and crime (2/2)	Modeling Network Dynamics (2/4)	Political networks (2/2)	Family networks and personal networks through the life-course (2/3)	Multilayer and feature-rich networks	Organizational networks (1/4)	Social media, online networks (2/2)	Networks and knowledge production (4/6)	
12:20-13:30	Lounch time Business Meeting (FDV-6)								
13:30-15:00			Social networks and health (1/3)	Family networks and personal networks through the life-course (3/3)	Networks in history and archaeology (1/3)	Organizational networks (2/4)	Networks, practices, and beliefs: relational and neo- structural approaches to institutional processes	Networks and knowledge production (5/6)	
15:00-17:00	Poster & coffee session								
19:00-21:00	Conference dinner (Vivo)								
20:00 -	Hospitality Suite (Aula Caffee)								

				Thursday, September 7					
Room	FDV-6	FDV-7	FDV-12	FDV-13	FDV-14	FDV-20	FDV-21	FDV-23	
9:00-10:30		Modeling Network Dynamics (3/4)	Social networks and health (2/3)	REDES panel: promoting collaboration and new studies in the community (1/2)		Organizational networks (3/4)	Blockmodeling, community detection and network partitioning (1/2)	Networks and knowledge production (6/6)	
10:30-10:50	Coffee	•	•				•		
10:50-12:20		Modeling Network Dynamics (4/4)	Social networks and health (3/3)	REDES panel: promoting collaboration and new studies in the community (2/2)	Networks in history and archaeology (2/3)	Organizational networks (4/4)	Blockmodeling, community detection and network partitioning (2/2)	Multilevel networks	
12:20-13:30	Lunch time	•	•			•		•	
13:30-15:00	Networks of inter-ethnic relations and integration	Networks, employment and the labour market	Sustainability and Social Network Analysis	Multimethod approach / mixed method approach	Networks in history and archaeology (3/3)				
15:00-15:20	Coffee								
15:20-16:45	Keynote: Prof. Dr. Betina Hollstein (auditorium)								
16:45-17:00	Closing (auditorium)								
20:00 -	Hospitality Suite (Aula Caffee)								

	Friday, September 8								
Room	FDV-6	FDV-7	FDV-12	FDV-13	FDV-14				
9:00-12:00 (Workshops)	Tidy Networks: the tidyverse and tidygraph for social network analysis in R	Analyzing negative and signed networks	Mixed Methods Research into Social Networks	The goldfish package in R	Empirically calibrated network simulations				

## Modelling regional dynamics and Roman pottery supply using network analysis and GIS: the sanctuary of Kalapodi in central Greece as a case study

#### Vassilis Evangelidis<sup>1</sup>, Dimitris Grigoropoulos<sup>2</sup>

<sup>1</sup>Athena RC, Greece <sup>2</sup>German Archaeological Institute, Greece

Dimitris Grigoropoulos and Vassilis Evangelidis.

Kalapodi in central Greece is home to one of the most spectacular Greek sanctuaries, mentioned in numerous ancient textual sources, which is now identified as the oracle of Apollo of Abai. The sanctuary has yielded rich diachronic evidence and has been the focus of long-standing excavations by the German Archaeological Institute, Athens department. This paper offers an integrated approach to modelling commodity flows and transport routes to the sanctuary in the Roman period by analyzing pottery distribution data from the entire region and exploring Kalapodi within regional and global distribution and infrastructural networks of the Roman period. Based upon the preliminary results of the ongoing finds analysis and by integrating published and reported evidence from other sites in the wider region as well as unpublished data available to us, we investigate first the role of the sanctuary as a central place in the distribution network of pottery imports from close-regional and more distant sources. Pottery distributions are analyzed as a weighted (nondirected) unimodal network, in which the sites appear as nodes and the pottery wares attested as edges, in three different datasets for the Early Roman (1st c. BC - 2nd c. AD) Middle Roman (2nd - 4th c. AD) and Late Roman period (5th - 7th c. AD). The analysis reveals several key issues of historical interpretation, highlighting amongst others the shifting significance of the sanctuary as a destination/ place of consumption of imported pottery wares and bringing forward questions regarding the site's access efficiency, directionality of imports and transport routes. The above questions derived from network analysis provide the backbone of a GIS-based simulation of the sanctuary's pottery supply. This involved the creation of a huge dataset which allowed for a detailed GIS-based simulation of the sanctuary's pottery supply, utilizing and experimenting with the results of the network analysis. By analyzing the network of potential trade routes and shipping lanes, the study was able to simulate the transportation of pottery imports to Kalapodi. The incorporation of shipwreck evidence and experimentation with alternative scenarios added depth and complexity to the research. The findings shed light on the patterns of trade and exchange in the region, providing valuable insights into the economic and cultural dynamics of maritime trade networks in Kalapodi. This multidisciplinary approach contributes to the understanding of ancient trade patterns and offers a robust framework for future studies in the archaeology of the area and network analysis suggesting alternative routes in ancient trade, considering factors such as navigational features, wind patterns, and other variables.