



**European Regional Science Association (ERSA)
4th winter school 13-18 February 2022
Warsaw, Poland**

Organisation book

Warsaw, winter 2021/2022

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Welcome

We are happy that we will meet for an intensive week of the winter school. This event, 4th winter school, is organised by the European Regional Science Association (ERSA) and Local Organising Committee (LOC) from the University of Warsaw, co-financed by Regional Science Association International (RSAI), European Regional Science Association (ERSA) and the University of Warsaw.



We received many applications and selecting candidates was a challenging process. On the other hand, we did our best to find a group of possibly best teachers, who are strongly involved in developing modern research on spatial data in regional science, and are really engaged in high-quality teaching of young researchers.

We believe that this carefully selected group will spend a valuable week fully devoted to spatial quantitative methods. Except for academic knowledge and software skills, we hope to build a network of colleagues, who will cooperate in future.

We look forward to seeing you in Warsaw!

Spatial Warsaw Team

	
Prof. Kathy (Katarzyna) Kopczewska	Dr Mateusz Kopyt

		
Katia (Kateryna) Zabarina , MA	Maria Kubara, MA	Ewa Dobrowolska (student)

Pandemic restrictions

Pandemics does not help us in interactions. There are some restrictions in travelling.

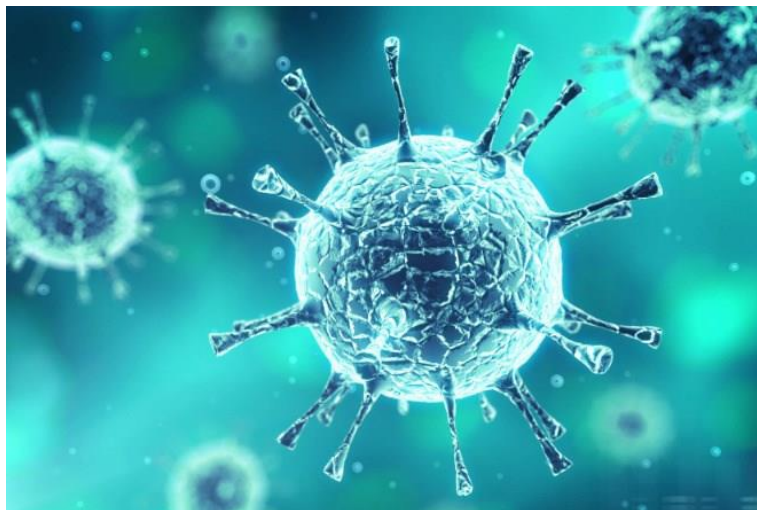
Poland belongs to Schengen Area. **Up-to date information regarding the rules of crossing the border one can find here: <https://www.gov.pl/web/coronavirus/travel> - please study them carefully.**

For a moment, in general, if you are vaccinated with a vaccine accepted in Poland (Astra Zeneca, Pfizer, Johnson & Johnson, Moderna) (or you have valid immune certificate), you can enter Poland without bigger problems and quarantine. We suppose that those rules will be also in February.

However, in other case, be careful – there are some restriction and they change suddenly, depending on pandemic situation (sometimes from day to day)!

Note: if you may have a problem with entering Poland, please let us know.

For a moment, in public areas you must wear face mask (fabric or FFP2 or surgical).



Weather in Warsaw

Poland is cold country in winter. Please make sure you have a warm jacket (as for mountain trip), warm cap (best made of wool or fleece), warm hand gloves, scarf and winter shoes which stay dry inside in rain or snow. You may also take an umbrella – it may rain (cold rain at 1° is the unpleasant shower which happens here often).

See below the average historical weather in February (Luty) in Warsaw. It may happen quite unexpectedly that in the evening will be -10°C or -12°C, but also may be +6°C. It is rather random.

< Luty >						
nie	pon	wto	śro	czw	pią	sob
		1  -3° / -8°	2  1° / -5°	3  2° / -2°	4  4° / -3°	5  -1° / -3°
6  -3° / -9°	7  -9° / -12°	8  -7° / -11°	9  -5° / -9°	10  -6° / -11°	11  -3° / -6°	12  -6° / -10°
13  -1° / -12°	14  -1° / -6°	15  -2° / -6°	16  -2° / -8°	17  1° / -3°	18  -1° / -6°	19  4° / -5°
20  4° / -2°	21  4° / -1°	22  5° / -4°	23  5° / 1°	24  10° / 3°	25  13° / 6°	26  7° / 3°
27  -2° / -5°	28  -9° / -13°					

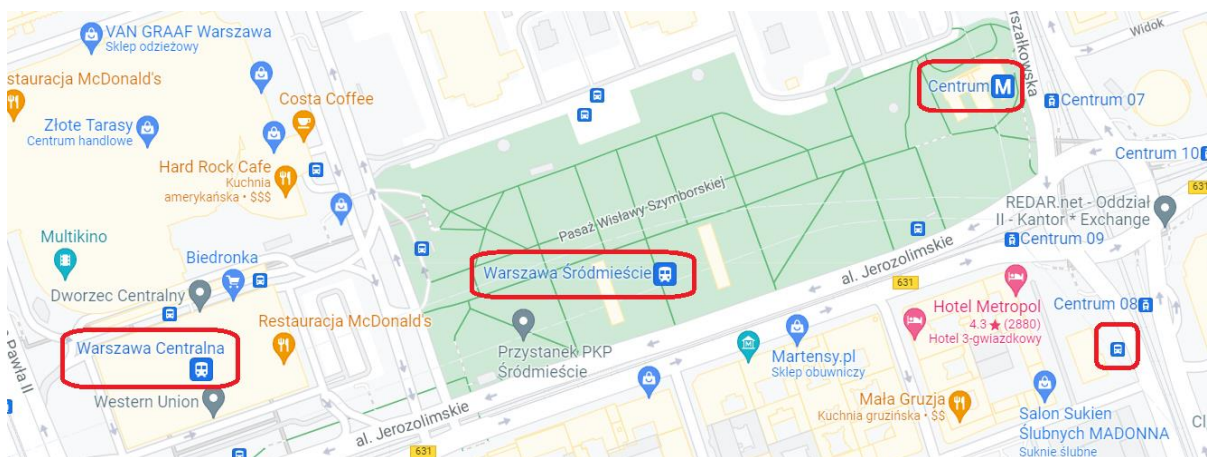
Arrival

Warsaw can be easily reached by plane. There are two airports: Chopin airport and Modlin airport. **CHOPIN** airport is within the city; it takes 22 minutes by train or 34 minutes by bus to get to the city. **MODLIN** airport is located 40 km outside the city and welcomes Ryanair flights. The shuttle buses bring you to the city centre in 45 minutes (see the airport website for details).

When arriving by train, your destination will be WARSZAWA CENTRALNA.

You can easily reach the dormitory (address: **Belwederska 26/30, 00-999 Warszawa, bus stop SPACEROWA**).

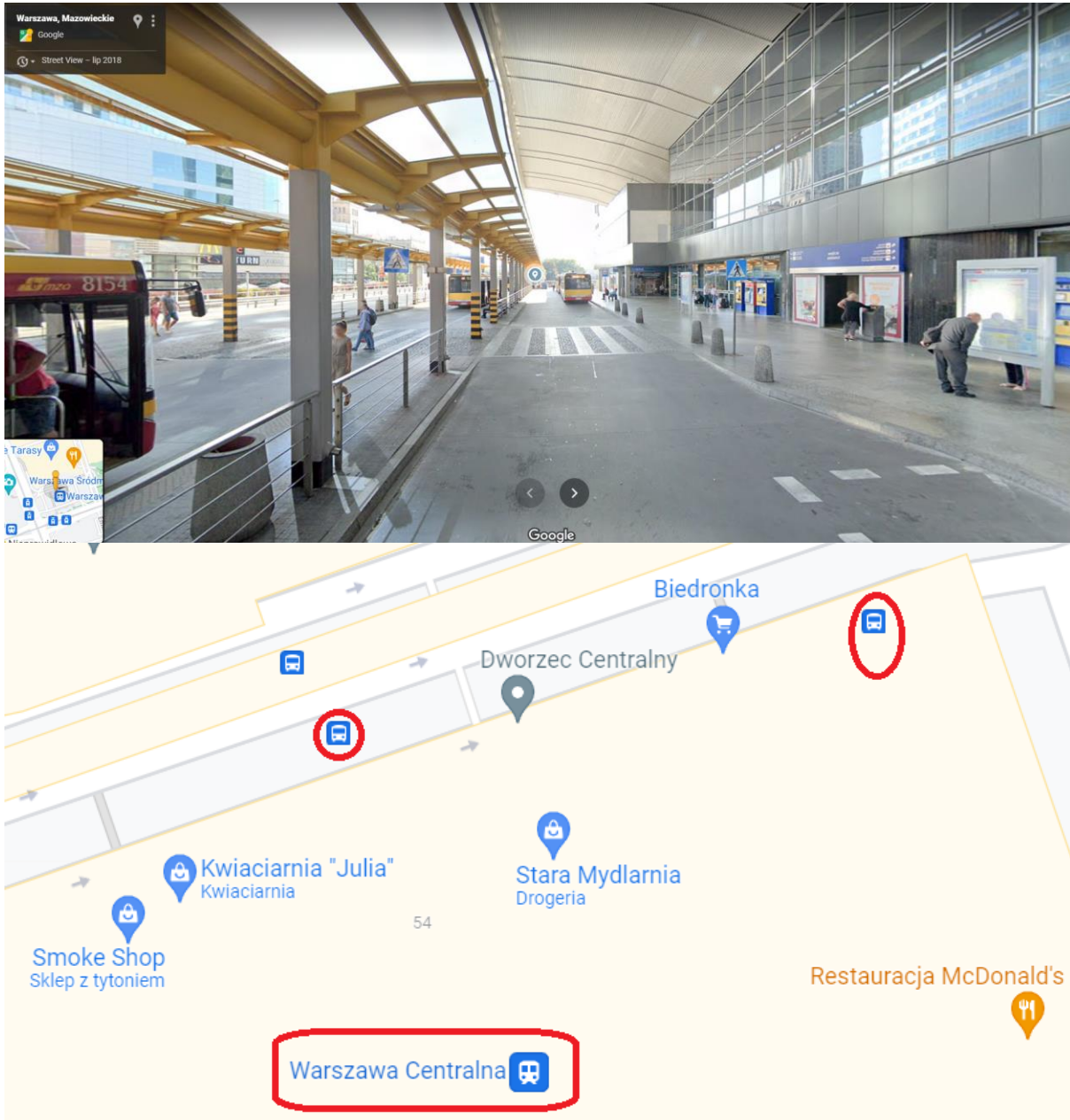
- From CHOPIN airport, get to the city centre with S2 train line (WARSZAWA ŚRÓDMIEŚCIE), RL train line (WARSZAWA CENTRALNA) or 175 bus line (CENTRUM bus stop). All those stops are within 5 minutes walk from each other. Then, take bus 131 or 522 to get to the dormitory (see instructions below)



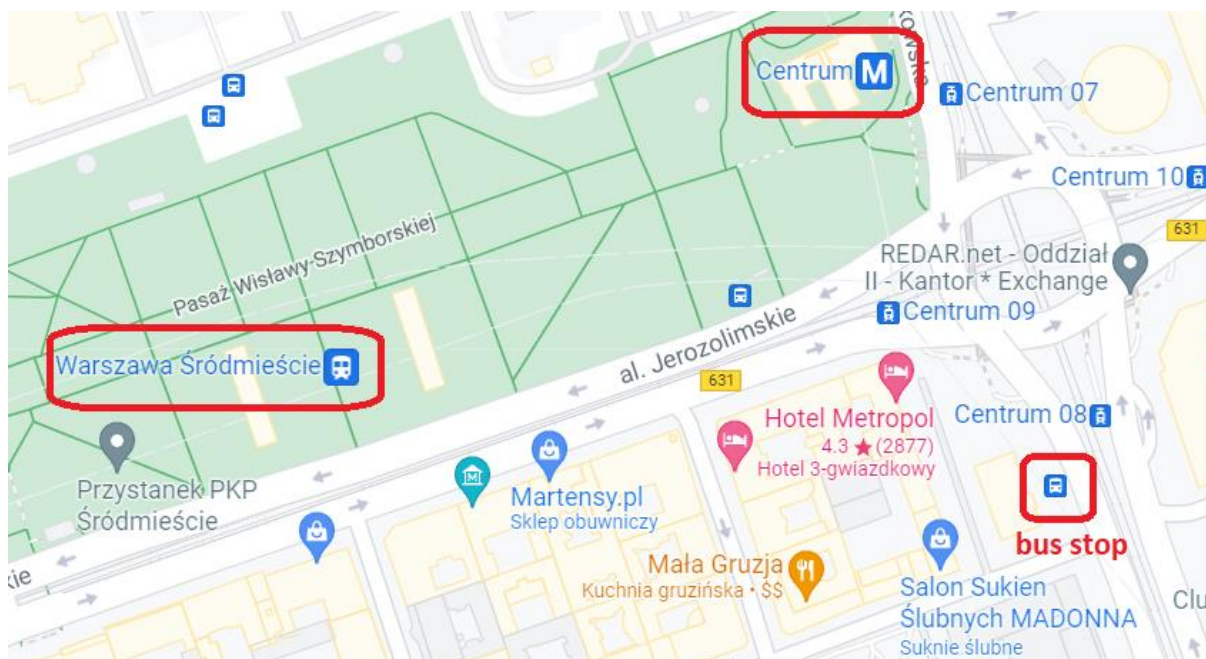
- From MODLIN AIRPORT: first, take a bus to Modlin station; then, using the train as a shuttle, you will get to the city centre WARSZAWA CENTRALNA (more details can be found on <https://en.modlinairport.pl/page/train>). Ticket for the train can be bought either inside the station or in a ticket machine nearby. Then, take bus 131 or 522 to get to the dormitory from the DWORZEC CENTRALNY bus stop (see instructions below).
- When using FLIXBUS as a shuttle which goes to WARSZAWA MŁOCINY, then take metro line 1 to get to CENTRUM, and then take bus 131 or 522 to get to the dormitory from CENTRUM bus stop (see instructions below).
- When using FLIXBUS as a shuttle that goes to WARSZAWA ZACHODNIA, take any train to WARSZAWA CENTRALNA / WARSZAWA ŚRÓDMIEŚCIE (attention - look for SKM or KM trains) or bus 158 or 127 to CENTRUM. Then, take bus 131 or 522 to get to the dormitory from the CENTRUM bus stop (see instructions below).

Please see below how you can reach the dormitory from above mentioned stops:

If you arrive at WARSZAWA CENTRALNA, go outside towards shopping mall Złote Tarasy, and there you will see bus stops for buses 131 and 522 (stop name is DWORZEC CENTRALNY (DW. CENTRALNY)); there is a ticket machine outside, where you can buy tickets.

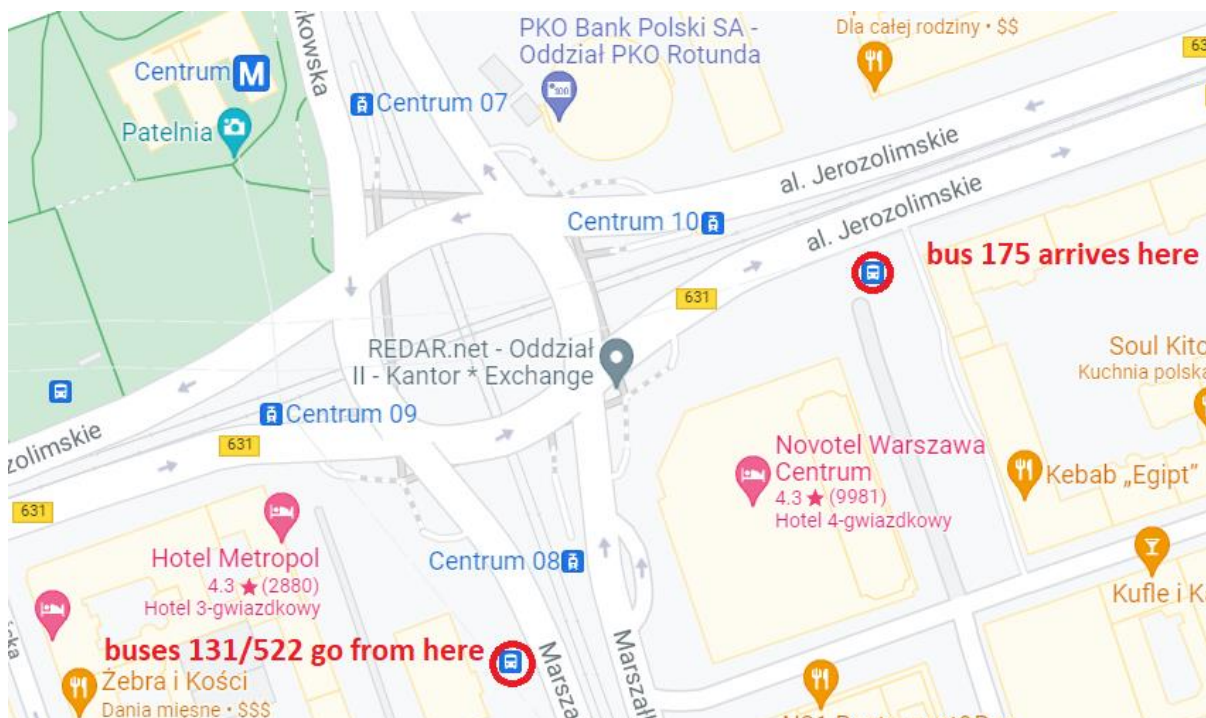


If you arrive at WARSZAWA ŚRÓDMIEŚCIE, it will be easier to reach the CENTRUM bus stop, located ~5 min walk from Warszawa Śródmieście. When you go outside, go towards the metro; then, through underground follow arrows leading to 'BUS, MOKOTÓW' and look for bus 131, direction SADYBA / bus 522, direction BRONICKIEGO. There is a ticket machine near the bus stop



If you arrive at CENTRUM metro station, you simply walk through underground to CENTRUM bus stop as above

If you arrive by bus 175, you will have to use underground to change the side of the street and then take a bus 131 / 522 from CENTRUM bus stop as above:



Notes:

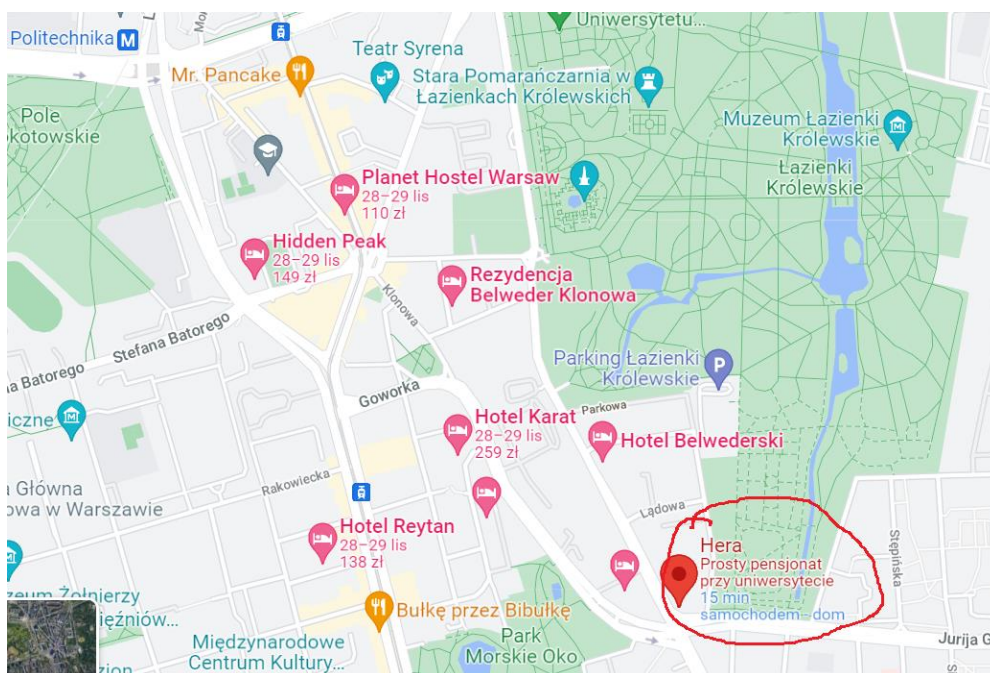
- Warszawa Centralna is a main train station, Warszawa Śródmieście is a station, where only urban and suburban trains stop.

- Warsaw has very efficient and not expensive public transport. The 1st zone covers most of the city and includes Chopin airport. A ticket for 75 minutes costs ca. 1 euro, and for 1 day it costs ca. 3,5 euro. (see at <https://www.wtp.waw.pl/>).
- For your first trip to the dorm, we recommend you to buy a ticket in a ticket machine, since they do not work sometimes inside the bus / tram / train. You can pay by cash or by card. When entering a metro station / train / bus, do not forget to validate your ticket. **IMPORTANT:** train ticket from Modlin station to Warszawa Centralna station should not be validated, but just shown for a control.
- For Android mobile phones - there is an offline application Mobile MPK (uses English language), where you can look for public transport schedules (they can be updated when you are connected to the Internet; in practice, changes are usually rare).
- If you are connected to the Internet, you can also use Jakdojade app (available both on AppStore and Google Play) or webpage (<https://jakdojade.pl/warszawa/trasa/> - page is in Polish, but easy to use) - you just provide point A and point B, select time of departure (ODJAZD) or arrival (PRZYJAZD) and then receive a list of all possible connections

You can also safely use a taxi (we recommend Uber or Bolt for full transparency on your expenses).

Accommodation in dormitory

Participation in winter school includes accommodation in university dormitory HERA. Hera is located in the city center (district ŚRÓDMIEŚCIE) at **Belwederska 26/30, 00-999 Warszawa (bus stop SPACEROWA)**.



We booked double rooms without bathrooms and toilets – bathrooms and toilets are shared (one per few rooms on a given floor).

NOTE: If you have your own budget to book other accommodation and you will not use that one, please let us know in advance.

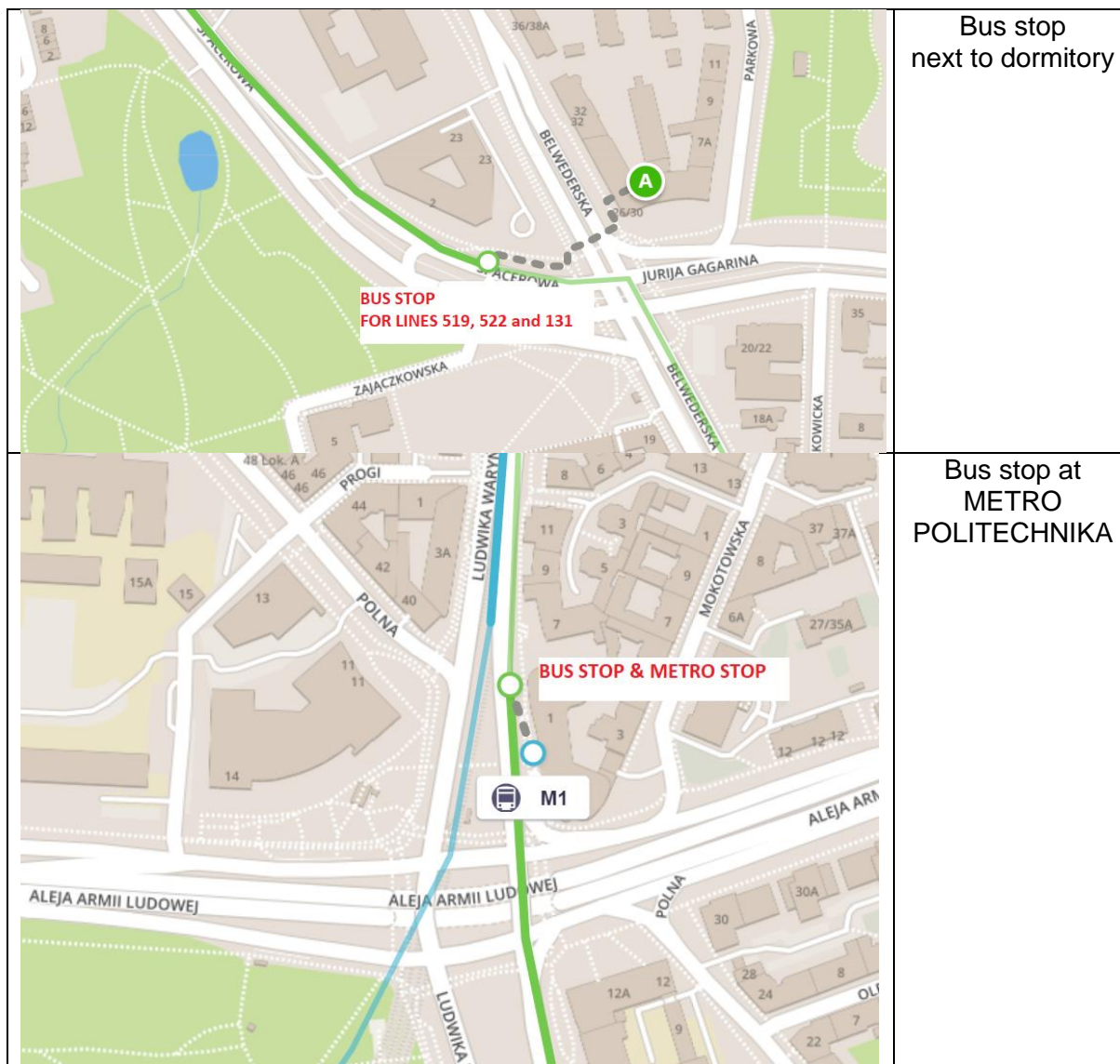
When arriving at the dormitory, please give your name – reception has a list of persons to accommodate. Reception works 24/7 and speaks English. At the midnight main door is being closed – however, reception opens the door when you ring the bell. You may be given the personal card to present when entering the dormitory.

Accommodation will include bedclothes and towel. In social rooms located at each floor you can find fridge, kettle, electric cooker – but there are no dishes. In the room you will find a glass to make a tee. Wi-Fi is in whole dormitory, password at the reception. There is one key (card) to the room which you leave at reception when you leave the dormitory.

Commuting in Warsaw

Warsaw has very efficient and not expensive public transport – you will be using it for transportation during the whole winter school.

To get from the dormitory to the winter school venue, take bus 131, 522 or 519 from bus stop SPACEROWA to get to METRO POLITECHNIKA, and then take the metro line (line 1, on that station there are no other metro lines) and go to RATUSZ ARSENAŁ.



Tickets for public transport

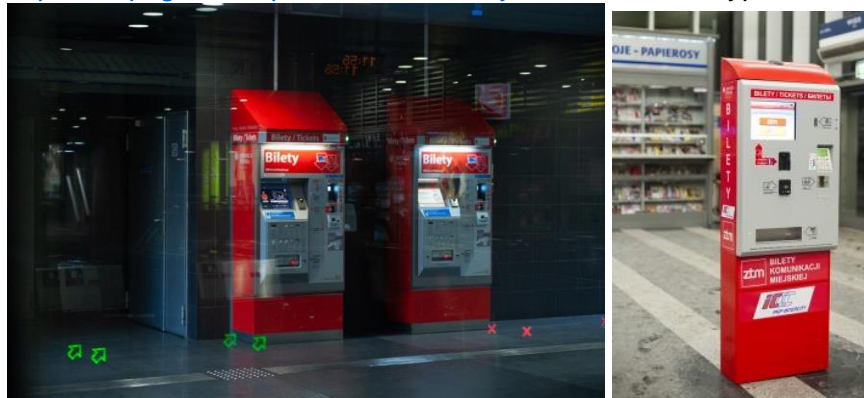
For commuting you will need ticket for public transportation.

NOTE: YOU WILL NEED TO BUY A TICKETS – best option is to purchase three 3-days (72h) tickets – 3-day ticket costs 36 PLN (ca. 8 euro).



You can purchase it in ticket machine, paying by card. This is paper ticket.

See the details at: <https://www.wtp.waw.pl/gdzie-kupic-bilet/biletomaty/> There are few types of those



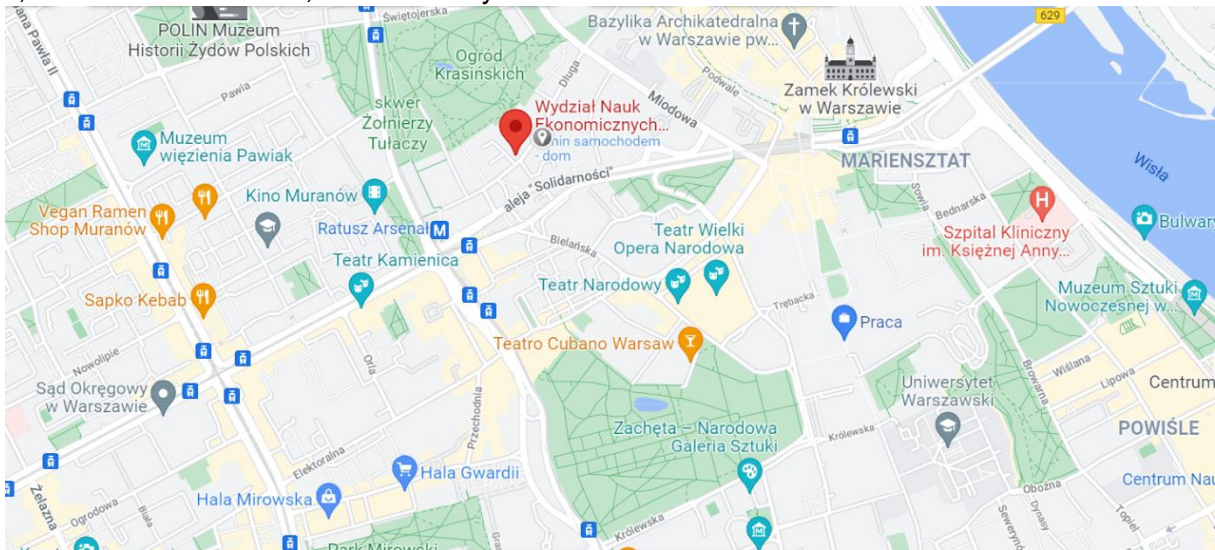
machines – all work the same:



NOTE: When buying ticket in bus or tram it is for single ride and will be validated. When buying ticket in machine as above, it may be for 3 days and needs to be validated at the beginning of the first ride.

Venue of workshop

Winter school will be held at the Faculty of Economic Sciences (Wydział Nauk Ekonomicznych), University of Warsaw (Uniwersytet Warszawski) at Długa 44/50 Street in Warsaw. This location is in the heart of Warsaw, next to the Old Town, and also very close to the metro station RATUSZ ARSENAŁ.



The closest bus stops to get to the venue are METRO RATUSZ ARSENAŁ and PL. KRASIŃSKICH. For details of public transport connections, check <https://jakdojade.pl/warszawa/trasa/>.

The building was recently renovated and equipped in a modern way. It is fully adjusted for the needs of people with disabilities. All plugs in Poland are of E type, so if in your country it's different, you have to use adapter (more: <https://www.power-plugs-sockets.com/poland/>)



We will have lectures in room C, computer sessions in room A008. We will use room A002 as place for clothes & luggage + coffee breaks.

Food & drinks

Breakfasts: we will organise breakfasts. We will offer you standard continental food (sandwich, tea, coffee). Breakfast will be served in dormitory in the morning in the “conference room” **in time slot 7:30-8:15.**

Lunches: we will offer you lunch during a lunch break at the winter school venue. We will go together to our canteen at faculty.

Coffee breaks: we will offer you coffee breaks with coffee, tea and biscuits at the venue.

Evening food: from Monday till Friday we will meet in the evenings for food, drinks and talks in the city. Thursday is free.

NOTE: Please let us know if you have any dietary restrictions. Usually, vegetarian, vegan and non-gluten is not a problem but must be known in advance.

Education – learning resources & wifi

All teaching materials will be provided on the Faculty Moodle platform. The link to our course is as follows: *to be announced soon*

To get access to this platform, please go to the website of the Faculty of Economic Sciences at <https://www.wne.uw.edu.pl/en/> and click on the Moodle icon.



You can easily use EDUROAM at our faculty.

There will be also dedicated network - ERSAWS2022. Password: WNE-UW-12-19.02

Discussion seminars

A part of the winter school is a presentation of your research project. Presentations will be conducted at the winter school venue from Monday to Friday after workshops, 15:30-17:00. The Schedule of presentations is presented below.

Every day there will be five presentations. We can allocate around 10 minutes for your presentation, with a stop option. In your presentation, please concentrate on the quantitative methods you use. Be very synthetic – prepare not more than five slides. When presenting, go to the point – briefly show the research question and gap in the literature, and clearly show your value-added. Presentation is to get feedback from the teaching team, which are great specialists in quantitative methods. Please, be attractive to the audience, avoid presenting incomprehensibly, avoid mass mathematical formulas, long literature reviews etc. Be a star in those 10 minutes and please, do not be boring.

Your presentations will be commented by professors teaching at winter school.

Monday	Elena Semerikova	Convergence in German regional housing markets
	Joep Steegmans	Spatial dependencies in online housing search
	Kristóf Gyódi	Analyzing Airbnb with spatial econometrics methods
	Adelia Fatikhova	Effects of air pollution on urban housing prices
	Alberto Hidalgo	The effect of peer-to-peer (P2P) accommodations on urban areas
Tuesday	Karina Acosta	Re-examining a classical question: does development push migration?
	Tatjana Neuhuber	The effects of local government spending and fiscal strength on inequality: The case of Austria
	Fernanda Gutierrez Amaros	Spatial patterns of inequality and violent crime in Mexico
	Dana Kubenkova	The Spatial Context of Educational Attainment in Voting Behavior
	Olena Holubowska	How urban planning can enhance the assimilation or isolation of migrants in European cities?
Wednesday	Sarah Ferreira	A Spatial Panel Analysis of Regional Innovation in Brazil
	José Castillo Sánchez	Physical and administrative restrictions limiting private sector development across regions and localities in West Bank: A Spatial Econometric Analysis
	Arleta Kędra	Spatial patterns in knowledge creation and technology proximity
	Carles Méndez-ortega	Place the 'Candy' and 'Crush' it: Entry determinants of the Software and Video games firms in Barcelona
	Eduardo Hernández Rodríguez	Regional Task Spaces: Functional Diversification Processes Throughout GVCs
Thursday	Anirudh Govind	Neighbourhood Boundaries
	Wirginia Aksztejn	Spatial patterns and factors influencing availability of institutional childcare for children aged 0-3 years old at municipal level. Case of Pomerania Region
	Nadiia Matsiuk	Historical institutional legacy and socio-economic spatial inequality in Europe
	Gerardo Di Letizia	Essays on the contribution of woody biomass in protected areas: An economic, environmental and social approach.
	Domenico Pisani	Investigating the relationship between the meat production and the pandemic risk
Friday	Zofia Bednarowska-Michael	Mobilities injustice and regional inequalities in cycling to work
	Maike Metz-Peeters	The effect of speed limits on accident frequency on the German Autobahn - A causal machine learning approach
	Rania Dial	How does the port's specialisation matters for its Connectivity? Evidence from spatial analysis on Northern and Southern Europe
	Egor Kotov	Land use and accessibility factors of work and non-work trips: evidence from the Moscow mobile phone data
	Filippo Tassinari	Low emission zones and traffic congestion: evidence from Madrid Central

Daniel Czamanski label for 4th ERSA Winterschool

We are pleased to announce that this year's ERSA Winter School is named after a magnificent scholar Prof. Daniel Czamanski!



Prof. Daniel Czamanski has three degrees in economics. He was a faculty member at the Ohio State University. After more than 30 years, recently, he retired from the Technion – Israel Institute of Technology. Currently he serves as the head of the real estate economics and land assessment program at Ruppin Academic Center in Israel. In recent years his research is focused on complexity, spatial dynamics, big data and artificial intelligence.

Czamanski is chairman of Czamanski Ben Shahr and Co. the leading consulting firm in real-estate economics in Israel. For 10 years, Czamanski served as chairman of the Haifa Center for the Promotion of Entrepreneurship. He was member of the education committee of the Small Business Administration, of the board of Israel Junior Achievement and deputy chair of the Haifa-Boston Partnership.

We will have a chance to listen to addresses by prof. Czamanski on Monday morning!

Sunday, 13th February 2022

Maria Kubara (University of Warsaw, Poland)

She is a specialist in micro-geographic spatial analysis, connecting machine learning techniques with traditional spatial econometrics. Her scientific interests are around innovation, business location and cluster analysis. She is a member of ERSA, awarded with the scholarship for the best young researchers given by the Ministry of Science and Higher Education, Poland in 2019. ORCID: [0000-0002-8768-8391](https://orcid.org/0000-0002-8768-8391)

Kateryna Zabarina (University of Warsaw, Poland)

Her main research interests are spatial modelling, business location, agglomeration, point pattern and time series analysis and R programming. Kateryna is a member of ERSA, awarded the Jean Paelinck Prize for Young researchers in 2018. ORCID: [0000-0003-0241-6977](https://orcid.org/0000-0003-0241-6977)

Topic of the day: Introduction to spatial data analysis in R

We can manage spatial data in R in two different ways - by using classic *sp* and *spdep* packages or by utilizing *sf* package, which connects spatial data to *tidyverse* environment. The goal of this workshop is to provide an overview of those two approaches - including reading the data, manipulating and transforming spatial objects and visualisation. Following those two perspectives, workshop participants will be able to mix and match traditional and modern methods, in a way which will fit their research needs. The final part of the workshop will be dedicated to spatial weight matrices, spatial statistics and econometric methods. After receiving an introduction to those methods, participants will be prepared for the following days of the winter school.

09:00 - 10:00 registration & coffee break

10:00 - 12:00 mgr Kateryna Zabarina - Introduction to *sp* and *spdep*. Reading and manipulating spatial data in R. Basic visualization.

12:00 - 13:00 Lunch break

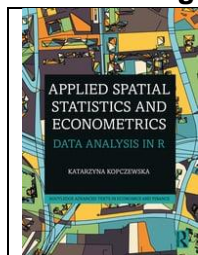
13:00 - 15:00 mgr Maria Kubara - Introduction to *sf*. What are simple features, how to operate with them. Visualisation with *ggplot2* and *ggmap*.

15:00 - 15:30 Coffee break

15:30 - 17:30 mgr Maria Kubara and mgr Kateryna Zabarina - Introduction to spatial weight matrices, spatial statistics and spatial econometrics in R. From *sp/sf* data transformation to building spatial models.

Evening free

Extra reading for the class:



ed. Kopczewska K. (authors: Kopczewska K., Kubara M., Ćwiakowski P., Kopyt M., Wójcik P., Festi A., Zabarina K.), 2020, **Applied Spatial Statistics and Econometrics: Data Analysis in R**, Oxfordshire: Routledge

Monday, February 14th, 2022

Prof. Jean Dubé (Université Laval, Canada)

He is interested in applied spatial econometrics for individual data pooled over time. He writes methodological papers related to how spatial analysis should be adapted when working with spatial relations facing temporal constraints. His work is related to public policy analysis, specifically to urban externalities related to planning and local/regional economic development.

Topic of the day: Introduction to spatial data, construction of local spatial indicators (such as LQ and HHI) and their usage in (spatial) econometrics models

08:30 – 09:00 Registration
 09:00 – 09:15 Welcome
 09:15 – 09:45 Addresses by prof. Daniel Czamanski (online)
 09:30 – 10:30 Lecture on methods (spatial and temporal relations)
 10:30 – 11:00 Coffee break
 11:00 – 12:00 Lecture on methods (introduction to spatial indicators)
 12:00 – 12:15 Coffee break
 12:15 – 13:15 Lab workshop (building local indicators)
 13:15 – 14:00 Lunch break
 14:00 – 15:00 Lab workshop (empirical investigation with models)
 15:00 – 15:30 Coffee break
 15:30 – 17:00 Discussion seminar (presentations)

We all move to dinner place



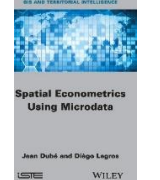
18:00 Evening meeting

Venue: Maryensztadt - craft beer and food, Szeroki Dunaj 11 (at the Old Town)

How to get from winterschool venue: we go Długa street to the Old Town, then turn right to Barbican and right again at Barbican wall

How to get from dormitory: take bus 116 from SPACEROWA01 to PLAC ZAMKOWY (direct connection) or bus 180 from SPACEROWA03 (also direct connection)

Extra reading for the class:

Photo of cover if a book	Title, link, DOI, ...
	Dubé, J., & Brunelle, C. (2014). Dots to dots: a general methodology to build local indicators using spatial micro-data. <i>The Annals of regional science</i> , 53(1), 245-272. https://link.springer.com/article/10.1007%2Fs00168-014-0627-z Cissé, I., Dubé, J. & Brunelle, C. (2020) New Business Location: How Local Characteristics Influence Individual Location Decision? <i>Annals of Regional Science</i> , 64: 185-214. https://link.springer.com/article/10.1007/s00168-019-00968-1
	Dubé, J., Desautniers, S., Bédard, L. P., Binette, A., & Leblanc, E. (2018). Urban residential reconversion through demolition: A land use model based on administrative spatial micro-data. <i>Land Use Policy</i> , 76, 686-696. https://www.sciencedirect.com/science/article/pii/S0264837717310888?casa_token=TUVEDZI20GoAAAAA:DpkFvyF0tAmXRg6bugHs_Y_b6W3NA0TKBrd51-oldSD0T3LHu4mmvLPav2ATCPY1T-62WLW
	Dubé, J. & Legros, D. (2014). <i>Spatial Econometrics using Microdata</i> , Wiley, 228 ISBN-13: 978-1848214682

Tuesday, February 15th, 2022

Prof. Roberto Patuelli (University of Bologna, Italy)

He is an applied spatial economist, specializing on topics such as complex networks, regional forecasting, spatial econometrics and spatial filtering, spatial interaction modelling. He was one of the founding editors of *REGION*, the journal of the European Regional Science Association. ORCID: [0000-0003-1908-4307](https://orcid.org/0000-0003-1908-4307).

Topic of the day: Eigenvector spatial filtering: applications to areal data (forecasting, dynamics panel models) and to destination data

09:00 – 10:30 Lecture on methods (areal data)
10:30 – 11:00 Coffee break
11:00 – 12:00 Lab workshop
12:00 – 12:15 Coffee break
12:15 – 13:15 Lecture on methods (OD data)
13:15 – 14:00 Lunch break
14:00 – 15:00 Lab workshop
15:00 – 15:30 Coffee break
15:30 – 17:00 Discussion seminar (presentations)

Evening Free

Extra reading for the class:

Griffith DA (2008) Spatial-filtering-based contributions to a critique of geographically weighted regression (GWR), <i>Environment and Planning A</i> 40: 2751–69. DOI: doi.org/10.1068/a38218
Patuelli R, N Schanne, DA Griffith, P Nijkamp (2012) Persistence of regional unemployment: Application of a spatial filtering approach to local labor markets in Germany, <i>Journal of Regional Science</i> 52: 300–23. DOI: doi.org/10.1111/j.1467-9787.2012.00759.x
Getis A, DA Griffith (2002) Comparative spatial filtering in regression analysis, <i>Geographical Analysis</i> 34: 130–40. DOI: 10.1111/j.1538-4632.2002.tb01080.x
Chun Y, DA Griffith (2011) Modeling network autocorrelation in space–time migration flow data: An eigenvector spatial filtering approach, <i>Annals of the Association of American Geographers</i> 101: 523–36. DOI: doi.org/10.1080/00045608.2011.561070
Mayor M, R Patuelli (2015) Spatial panel data forecasting over different horizons, cross-sectional and temporal dimensions, <i>Revue d'Économie Régionale & Urbaine</i> 1/2: 149–80. DOI: doi.org/10.3917/reru.151.0149

Wednesday, February 16th, 2022

Prof. Martin Andersson (Blekinge Institute of Technology, Sweden)

Martin Andersson has a PhD in Economics. His research focuses on entrepreneurship, industrial dynamics and the geography and role of agglomeration in such processes. He is professor of Industrial Economics and vice dean of the Faculty of Engineering at the Blekinge Institute of Technology, professor at Lund University and affiliated to the Swedish Entrepreneurship Forum and the Research Institute of Industrial Economics in Stockholm. Martin is the European Editor-in-Chief of *Annals of Regional Science*, chairman of the Global Award for Entrepreneurship Research (www.e-award.org) and chairman of the Nordic Section of ERSA. Since 2021 he is also chairman of the Growth Commission of the city of Malmö (one of Sweden's main metropolitan areas) with the mission to develop evidence-based policy recommendations to strengthen the conditions for growth and inclusiveness (<https://malmo.se/Tillvaxtkommissionen.html>).

Link to research:

<https://scholar.google.se/citations?user=KZ5WF3EAAAAJ&hl=sv>

Topic of the day: Attenuation of agglomeration externalities with examples of empirical analyses on geo-coded data to assess "micro-geographies" of agglomeration externalities – conceptual, theoretical and methodological issues

09:00 – 10:30 Lecture part 1

10:30 – 11:00 Coffee break

11:00 – 12:00 Lecture part 2

12:00 – 12:15 Coffee break

12:15 – 13:15 Lecture part 3

13:15 – 14:00 Lunch break

14:00 – 15:00 Lecture part 4

15:00 – 15:30 Coffee break

15:30 – 17:00 Discussion seminar (presentations)

18:00 Evening meeting

Venue: Restauracja Gospoda, Wąski Dunaj 4/6/8 (at the Old Town)

How to get from winterschool venue: we go Długa street to the Old Town, then turn right to Barbican and right again at Barbican wall

How to get from dormitory: take bus 116 from SPACEROWA01 to PLAC ZAMKOWY (direct connection) or bus 180 from SPACEROWA03 (also direct connection)

Extra reading for the class:

Title, link, DOI, ...
Andersson, M., & Larsson, J. P. (2021). Mysteries of the trade? Skill-specific local agglomeration economies. <i>Regional studies</i> , 1-16. https://www.tandfonline.com/doi/abs/10.1080/00343404.2021.1954611
Andersson, M., Larsson, J. P., & Wernberg, J. (2019). The economic microgeography of diversity and specialization externalities—firm-level evidence from Swedish cities. <i>Research Policy</i> , 48(6), 1385-1398. https://www.sciencedirect.com/science/article/pii/S0048733319300447
Andersson, M., & Larsson, J. P. (2016). Local entrepreneurship clusters in cities. <i>Journal of Economic Geography</i> , 16(1), 39-66 https://academic.oup.com/joeg/article/16/1/39/2412566?login=true
Andersson, M., Larsson, J. P., & Öner, Ö. (2021). Ethnic enclaves and self-employment among Middle Eastern immigrants in Sweden: ethnic capital or enclave size?. <i>Regional Studies</i> , 55(4), 590-604. https://www.tandfonline.com/doi/abs/10.1080/00343404.2020.1839638
Arzaghi, M., & Henderson, J. V. (2008). Networking off Madison avenue. <i>The Review of Economic Studies</i> , 75(4), 1011-1038 https://academic.oup.com/restud/article/75/4/1011/1559091?login=true

Thursday, February 17th, 2022

Prof. Giuseppe Arbia (Catholic University of the Sacred Heart, Rome, Italy)

Topic of the day: Point pattern analysis application to spatial econometrics

09:00 – 10:30 Lecture on methods
10:30 – 11:00 Coffee break
11:00 – 12:00 Lab workshop / lecture
12:00 – 12:15 Coffee break
12:15 – 13:15 Lab workshop / lecture
13:15 – 14:00 Lunch break
14:00 – 15:00 Lab workshop / lecture
15:00 – 15:30 Coffee break
15:30 – 17:00 Discussion seminar (presentations)

We all move to dinner place

18:00 Evening meeting

Venue: Restauracja Stolica, Szeroki Dunaj 1/3 (at the Old Town)

How to get from winterschool venue: we go Długa street to the Old Town, then turn right to Barbican and right again at Barbican wall

How to get from dormitory: take bus 116 from PLAC ZAMKOWY to SPACEROWA01 (direct connection) or bus 180 to SPACEROWA03 (also direct connection)

Extra reading for the class:

Photo of cover if a book	Title, link, DOI, ...
	<i>To be announced soon</i>

Friday, February 18th, 2022

Prof. Katarzyna Kopczewska (University of Warsaw, Poland)

She is a specialist in spatial quantitative methods: spatial statistics, spatial econometrics and spatial machine learning. Her research concentrates on business location and housing, as well as regional socio-economic development and policy. ORCID: [0000-0003-1065-1790](https://orcid.org/0000-0003-1065-1790)

Dr Mateusz Kopyt (University of Warsaw, Poland)

He is a specialist in IT solutions for economic analyses. His interests are around spatial geo-coding and Web-API usage. ORCID: 0000-0001-5285-7792

Topic of the day: Machine learning (& clustering solutions) in spatial modeling + API & web solutions in spatial analysis

Spatial machine learning (ML) develops recently quickly and establishes analytical approaches being the real alternatives to traditional spatial statistics and spatial econometrics. This class presents the modern solutions in ML to consider space and spatial relations. Labs show practical implementations of clustering in space: k-means for clustering, block sampling, spatial cross-validation, detection of heterogeneity and anisotropy in spatial drift models etc. Lab on geo-coding will show how to run web spatial data pre-processing.

09:00 – 10:30 Lecture on methods – Spatial Machine Learning

10:30 – 11:00 Coffee break

11:00 – 12:00 Lab workshop – spatial clustering (1)

12:00 – 12:15 Coffee break

12:15 – 13:15 Lab workshop – spatial clustering (2)

13:15 – 14:00 Lunch break

14:00 – 15:00 Lab workshop / lecture – geo-coding, API & web solutions

15:00 – 15:30 Coffee break

15:30 – 17:00 Discussion seminar (presentations)

We all move to dinner place

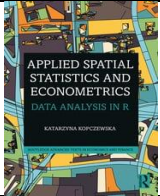

18:00 Evening meeting

Venue: Bazyliiszek, Rynek Starego Miasta 1/3 (at the Old Town)

How to get from winterschool venue: we go Długa street to the Old Town, then turn right to Barbican and right again at Barbican wall

How to get from dormitory: take bus 116 from SPACEROWA01 to PLAC ZAMKOWY (direct connection) or bus 180 from SPACEROWA03 (also direct connection)

Extra reading for the class:

	ed. Kopczewska K. (authors: Kopczewska K., Kubara M., Cwiakowski P., Kopyt M., Wójcik P., Festi A., Zabarina K.), 2020, Applied Spatial Statistics and Econometrics: Data Analysis in R , Oxfordshire: Routledge
	Kopczewska K. (2022) Spatial machine learning: new opportunities for regional science, <i>Annals of Regional Science</i> , https://doi.org/10.1007/s00168-021-01101-x

Twitter /Tweet intensively/

We know that social media activity can bring a lot of fun. We also have that fun when posting on Twitter. That is why we organise a contest for best Twitter-user among the participants of winter school. Please use tags & hashtags:

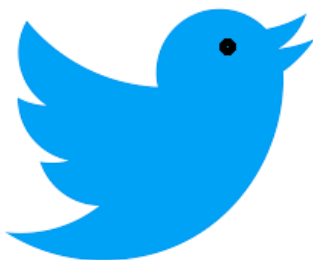
#ERSAwinterSchool
#ERSAwinterSchool22
@SpatialWarsaw
@ERSA_org
@ERSA_PL
@NewsRSAI

The winner will be awarded at the Friday evening meeting.



To check, what's new and interesting in Warsaw please follow @warszawa

On the profiles of ERSA (@ERSA_org) and LOC (@SpatialWarsaw) you will find all fresh and necessary information.



Further scientific opportunities

International meetings of specialists are crucial for young scholars. In 2022 there are few worth-considering international events in this thematic area:



The XVI World Conference of Spatial Econometrics Association (SEA 2022) – organised in our venue – University of Warsaw, Faculty of Economic Sciences, on 23-24 June 2022. See details at: <https://spatia.l.wne.uw.edu.pl/index.php/sea2022/>
Applications deadline: March 1st
Please note there is competition for young scholars for **Jean Paelinck Prize**



61st European Regional Science Association (ERSA) – organised in Pecs, Hungary, on 23-26 August 2022. See details at: <https://ersa.eventsair.com/ersa2022/>
Applications deadline: February 28th
Please note there is competition for young scholars for the **EPAINOS prize**



Publishing opportunities – RSAI & ERSA are publishers of well-established journals, which are worth considering.

- Papers in Regional Science <https://rsaconnect.onlinelibrary.wiley.com/journal/14355957>
- Regional Science Policy & Practice <https://rsaconnect.onlinelibrary.wiley.com/journal/17577802>



Journal of Spatial Econometrics

Theory, Methods and Applications of Spatial and Network Statistics to Economic Analysis



Also SEA (Spatial Econometrics Association) has its own journal:
– Journal of Spatial Econometrics <https://www.springer.com/journal/43071>

List of participants

ID	Name	Family Name	Position	Institution	Country	e-mail	Research topic
1	Karina	Acosta	Post-doc researcher	Central Bank Of Colombia	Colombia	kda27@cornell.edu	Re-examining a classical question: does development push migration?
2	Wirginia	Aksztejn	PhD student	University Of Warsaw	Poland	wa.aksztejn@uw.edu.pl	Spatial patterns and factors influencing availability of institutional childcare for children aged 0-3 years old at municipal level. Case of Pomerania Region
3	Zofia	Bednarowska-Michael	Post-doc researcher	University Of Warwick	United Kingdom	zofia.bednarowska-michael@warwick.ac.uk	Mobilities injustice and regional inequalities in cycling to work
4	José	Castillo Sánchez	PhD student	University Of Warsaw	Poland	j.castillo@uw.edu.pl	Physical and administrative restrictions limiting private sector development across regions and localities in West Bank: A Spatial Econometric Analysis
5	Gerardo	Di Letizia	PhD student	University of Foggia	Italy	gerardo.diletizia@unifg.it	Essays on the contribution of woody biomass in protected areas: An economic, environmental and social approach.
6	Rania	Dial	Post-doc researcher	University Of Caen	France	rdial.univ@gmail.com	How does the port's specialisation matters for its Connectivity? Evidence from spatial analysis on Northern and Southern Europe
7	Adelia	Fatikhova	PhD student	Gran Sasso Science Institute	Italy	adelia.fatikhova@gssi.it	Effects of air pollution on urban housing prices
8	Sarah	Ferreira	PhD student	State University of Campinas	Brasil	sarahcristina_rf@hotmail.com	A Spatial Panel Analysis of Regional Innovation in Brazil
9	Anirudh	Govind	PhD student	Ku Leuven	Belgium	anirudh.govind@kuleuven.be	Neighbourhood Boundaries
10	Fernanda	Gutierrez Amaros	PhD student	Gran Sasso Science Institute (gssi)	Italy	fernanda.gutierrezamaros@gssi.it	Spatial patterns of inequality and violent crime in Mexico
11	Kristóf	Gyódi	PhD student	University of Warsaw	Poland	kgyodi@wne.uw.edu.pl	Analyzing Airbnb with spatial econometrics methods
12	Eduardo	Hernández Rodríguez	PhD student	Utrecht University	Netherlands	e.hernandezrodriguez@uu.nl	Regional Task Spaces: Functional Diversification Processes Throughout GVCs
13	Alberto	Hidalgo	PhD student	IMT School For Advanced Studies Lucca	Italy	alberto.hidalgo@imtlucca.it	The effect of peer-to-peer (P2P) accommodations on urban areas
14	Olena	Holubowska	PhD student	KU Leuven	Belgium	olenaholubowska@gmail.com	How urban planning can enhance the assimilation or isolation of migrants in European cities?

15	Arleta	Kędra	PhD student	Maria Curie-Skłodowska University	Poland	arleta.kedra@gmail.com	Spatial patterns in knowledge creation and technology proximity
16	Egor	Kotov	PhD student	HSE University	Russian Federation	kotov.egor@gmail.com	Land use and accessibility factors of work and non-work trips: evidence from the Moscow mobile phone data
17	Dana	Kubenkova	PhD student	University Of Economics In Bratislava	Slovakia	dana.kubenkova@euba.sk	The Spatial Context of Educational Attainment in Voting Behavior
18	Nadiia	Matsiuk	Ph.D. Student	University of Padua	Italy	nadia.matsiuk@gmail.com	Historical institutional legacy and socio-economic spatial inequality in Europe
19	Carles	Méndez-ortega	Post-doc researcher	Universitat Oberta De Catalunya	Spain	cmendezor@uoc.edu	Place the 'Candy' and 'Crush' it: Entry determinants of the Software and Video games firms in Barcelona
20	Maike	Metz-Peeters	Ph.D. Student	Ruhr-university Bochum	Germany	Maike.Metz-Peeters@rub.de	The effect of speed limits on accident frequency on the German Autobahn - A causal machine learning approach
21	Tatjana	Neuhuber	PhD student	Vienna University Of Technology	Austria	tatjana.neuhuber@tuwien.ac.at	The effects of local government spending and fiscal strength on inequality: The case of Austria
22	Domenico	Pisani	PhD student	University	Italy	domenico.pisani@unifg.it	Investigating the relationship between the meat production and the pandemic risk
23	Elena	Semerikova	Phd Student	Humboldt University, Higher School of Economics	Russian Federation	lena.sem7@mail.ru	Convergence in German regional housing markets
24	Joep	Steegmans	Post-doc researcher	Leiden University	Netherlands	j.w.a.m.steegmans@law.leidenuniv.nl	Spatial dependencies in online housing search
25	Filippo	Tassinari	Ph.D. Student	University of Barcelona & Institut d'Economia de Barcelona (IEB)	Spain	filippo.tassinari@ub.edu	Low emission zones and traffic congestion: evidence from Madrid Central