

XVIII World Conference of Spatial Econometrics Association

Spatial Econometrics: Past and future 50 years

June 24 and 25, 2024 | Groningen, the Netherlands



university of
 groningen

faculty of spatial sciences



university of
 groningen

faculty of economics
 and business



SPATIAL
ECONOMETRICS
ASSOCIATION

FEB Research Institute

Spatial Econometrics: Past and future 50 years

Fifty years ago, Jean Pealinck, Belgian by birth but working at a Dutch university, introduced the term “Spatial Econometrics” (see https://en.wikipedia.org/wiki/Spatial_econometrics). We celebrate this anniversary by looking back and forward fifty years at the XVIII World Conference of the Spatial Econometrics Association (SEA 2024) in Groningen, the Netherlands: June 23-25, 2024.

On behalf of Spatial Econometric Association, we welcome you to the city of Groningen. We hope that you, in addition to attending the many exciting paper presentations, take the opportunity to reconnect with colleagues and make new connections for future collaborations, and if some time is left to also visit a couple of highlights of our beautiful city.

The Local Organizing committee

Paul Elhorst (Chair), Henk Folmer, Michaela Kesina, Milad Abbasiharofteh, Chang Tan, Rina Koning and Hanneke Tamling.

Key notes:

Xiaodong Liu

Professor of Economics

University of Colorado Boulder

United States

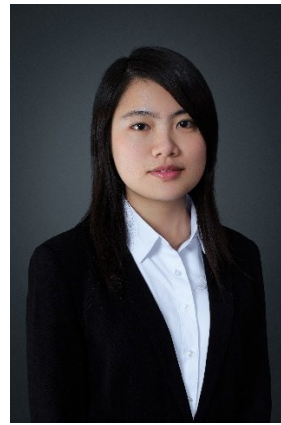


Xi Qu

Professor of Economics

Shanghai Jiao Tong University

China



Travel information

Entering the Netherlands

Visa Information

Please visit [this website](#) to determine whether you need a visa to travel to the Netherlands.

Getting to Groningen

By public transportation

The City of Groningen is located in the northeast of the Netherlands, approximately 200 km from Amsterdam. Groningen has excellent connections to all main airports and railway stations in the Netherlands. The closest airports to the University of Groningen are Schiphol Airport, Amsterdam (2hr 10 mins) and Bremen Airport, Bremen, Germany (2hr).

Schiphol – Groningen

You will probably arrive in the Netherlands at Schiphol, Amsterdam International Airport. The easiest way to travel to Groningen is to take the train. The underground train station is located near Schiphol Plaza, within several minutes walking distance from the luggage claim. The Dutch railway system is run by Nederlandse Spoorwegen and known as NS. You will recognize it by its yellow and blue colors. Look out for the yellow illuminated signs that direct you 'To the trains'. Every 5 minutes after every hour or half hour there is either a direct train to Groningen or a train to Leeuwarden. In the latter case you can switch train to Groningen half-way at the train station Zwolle at the other side of the platform. The journey from Amsterdam or Schiphol Airport to Groningen takes slightly more than 2 hours.

Bremen – Groningen

Another way to arrive in the Netherlands is via Bremen Airport. The cheapest and easiest way to travel from Bremen to Groningen is to take the [Flixbus](#). This will take you from Bremen to Groningen in about 2.5 hours and costs around 11 euros (one way), depending on the time you travel. You can book your ticket online or buy one directly from the driver. The buses run about 8 times a day, from 6.00h to 22.30h.

To plan your journey

We recommend using the 9292 [journey planner](#) for all public transport services in the Netherlands.

To obtain tickets

A few options are available.

1. Buy your train ticket [online](#) or at the ticket machines found at NS train stations. Note: [Bus tickets](#) in Groningen can be purchased on the bus (debit and credit cards only).
2. The 9292 App provides an all-in-one solution for planning your journey and buying relevant e-tickets for all modes of public transportation in the Netherlands. See this [link](#) for detailed instructions.
3. Alternatively, buy a disposable [OV-chip card](#) with sufficient credit to travel on all modes of public transport in the Netherlands. Note that this card costs around EUR7.50 to purchase (excluding travel credit).

By car

You can reach Groningen via the A7 and A28 highways. However, note that large-scale reconstruction of the southern ring road affects the A7 and A28 highways and main roads in and around the City of Groningen. See [here](#) for up-to-date information about routes affected and alternatives.

Locations in the city of Groningen

Market Hotel (Welcome reception and conference dinner), Flonk Hotel (Conference), City Hotel and NH Groningen (hotel), see

<https://www.google.com/maps/d/edit?mid=1xpUlg-r2062-SjyXKtyHoxGY5-9PpV0&ll=53.22076267515163%2C6.57285165500185&z=15>

Instructions to presenters and discussants

1. Please stick to the printed program schedule. Each session has a specific time slot assigned to presentations. If there is a no-show, use the time to discuss previous papers or take a break. Do not rearrange papers to fill gaps in the schedule, as attendees may have specific interests in particular papers.
2. Presenters are recommended to save their presentations in PDF or PPT format and take it with them on a USB stick. Emailing a copy to yourself ensures a backup.
3. Most sessions have 3 papers. Each paper should be given 30 minutes in total (20-minute presentation, 5-minute discussion, and 5-minute Q&As).
4. The presenter of the last paper acts as chair of the session.
5. Hold everyone to the time allotted. If a speaker continues after time has expired, rise, ask those present to join you in thanking the speaker, and announce the next presentation. The audience and other speakers will support your decision.
6. Please be considerate of the next session by ensuring your session is completed at the appropriate time, and the meeting room is vacated in time for the next session.
7. Each paper is assigned a discussant to review and offer constructive comments on the paper. There is one discussant for each paper. The discussants for each session are listed in the program in sequential order. The first discussant listed is responsible for discussing the first paper presented; the second discussant listed is responsible for discussing the second paper presented, etc.
8. The discussant should come prepared to provide approximately 5 minutes of discussion of the paper. Possible speaking points include its merits and questions regarding methods, data, or findings – a summary of the paper is neither expected nor appropriate. As a presenter, we ask that you share your paper (or slides) with your discussant as early as possible so that the discussant has sufficient time to review it.

Conference location is the Flonk hotel

Room 1 is the “Tromp/Singel zaal” (capacity 75).

Room 2 is the “Ontvangstzaal” (capacity 30)

Room 3 is the “Radesingelzaal” (capacity 30)

Wifi code: Welcome1

Conference program

Sunday, June 23, [The Market Hotel](#), Grote Markt 31, Groningen

20:00 - 22:00 Registration and welcome reception (drinks and small snacks)

Monday, June 24, [Flonk Hotel Groningen Centre](#), Radesingel 50, Groningen

09:00 – 18:00 Registration, entry hall

09:00 – 09:30 Opening ceremony, Chair Paul Elhorst

Prof. Jouke van Dijk, Faculty of Spatial Sciences, University of Groningen

Former president of the European Regional Science Association

Prof. Paul Elhorst, Faculty of Economics and Business, University of Groningen

09:30 – 10:45 Invited lecture

Prof. Xiaodong Liu, University of Colorado Boulder

Title: “Robust Tests for Network Effects in Panel Data”

10:45 – 11:15 Break

11:15 - 12:45 Parallel sessions 1

Session 1.1, Room 1, Estimation/determination of spatial weight matrix

1. Shi Ryoung Chang (Ohio State University) Testing spatial interactions in the presence of dominant units when both n and T are large, Discussant: Li Haoyang
2. Li Haoyang (Heriot-Watt University) Estimating spatial weights in high dimensions: A CCE-OCMT variable selection procedure (co-author Arnab Bhattacharjee), Discussant: Gianfranco Piras
3. Gianfranco Piras (Catholic University of America) Endogenous weights matrix and measurement error in spatial models (co-author Francesca Rossi), Discussant: Shi Ryoung Chang

Session 1.2, Room 2, Spatial Statistics

1. Angela Parenti (University of Pisa) The time-space evolution of economic density: theory and estimation (co-authors Davide Fiaschi and Cristiano Ricci), Discussant: Jakub Olejnik.
2. Jakub Olejnik (University of Lodz) Finding the implied value of spatial correlation coefficient from Moran's I with some new results (co-authors Anil K. Bera, Alicja Olejnik), Discussant: Alfredo Cartone
3. Alfredo Cartone (G. d'Annunzio University of Chieti-Pescara) Spatial methods to build non-compensatory composite indicators (co-authors Paolo Postiglione, Andrea D'Isidoro), Discussant: Angela Parenti

Session 1.3, Room 3, Empirical macro data I (Forecasting)

1. Matthias Gähl (Forschungszentrum Jülich) Exploring different energy transition regimes in the case of German federal states by forecasting regional GDP growth and measuring diffusion across space, Discussant: Kateryna Zabarina
2. Kateryna Zabarina (University of Warsaw) Application of hybrid Gibbs processes to firm location forecasting, Discussant: Pui-Hang Wong
3. Pui-Hang Wong (University of Maastricht) Detecting and measuring spatial spillover effects and heterogeneity using interpretable tree-based machine learning approaches: An illustration using the Boston housing dataset (co-authors M.H. Celbis, Kourtit, K., Nijkamp, P.), Discussant: Matthias Gähl

12:45 – 14:00 Lunch Break

14:00 - 15:30 Parallel sessions 2

Session 2.1, Room 1, Estimation issues I (non-standard techniques)

1. Nicolas Debarsy (University of Lille) Semiparametrically efficient estimation of linear models with spillovers (co-authors Vincenzo Verardi, Catherine Vermandele), Discussant: Victoria Zinde-Walsh
2. Victoria Zinde-Walsh (McGill University) Multivariate kernel regression in vector and product metric spaces (co-author Schafgans, Marcia), Discussant: Zhenlin Yang
3. Zhenlin Yang (Singapore Management University) Adjusted quasi score estimation of panel data models with time-varying covariate and spatial effects (co-author Yuhong Xu), Discussant: Nicolas Debarsy

Session 2.2, Room 2, Night Lights

1. Davide Fiaschi (University of Pisa) Nightlights as measure of local development: the case of Italy (co-authors Angela Parenti, Cristiano Ricci), Discussant: Jordan Norris
2. Jordan Norris (New York University Abu Dhabi) Geography and networks (co-authors Jean Imbs, Talal Rahwan, Marcin Waniek), Discussant: John Gibson
3. John Gibson (University of Waikato) Local economic effects of connecting to China's high-speed rail network: Evidence from spatial econometric models (co-author Xiaoxuan Zhang), Discussant: Davide Fiaschi

Session 2.3, Room 3, Empirical finance with macro data

1. Xin Tian (University of Groningen) Spillovers of national financial cycles: A dynamic spatial panel data model with common factors (co-authors Jan P.A.M. Jacobs, Jakob de Haan, Paul Elhorst), Discussant: Jungyoon Lee
2. Jungyoon Lee (University of London) Spatial contagion and policy evaluation in housing markets (co-authors Elena Manzoni, Ren Ren, Francesca Rossi), Discussant: Dananjani Basnayake
3. Dananjani Basnayake (Griffith University) Does financial inclusion have a spatial spillover effect? The global evidence (co-authors Athula Naranpanawa, Saroja Selvanathan, Jayathilleke Bandarlage), Discussant: Xin Tian

15:30 – 16:00 Break

16:00 - 17:30 Parallel sessions 3

Session 3.1, Room 1, Estimation issues II (fixed effects)

1. Yusep Suparman (Universitas Padjadjaran) Panel spatial dependence structural equation models with a latent regional specific fixed effect (co-author Cepy Ramdhani), Discussant: Runyu Dai
2. Runyu Dai (Tohoku University) A bias-correction approach for cross-sectional and serial correlations and heteroskedasticities in large linear panel models with interactive fixed effects (co-authors Yasumasa Matsuda, Takashi Yamagata), Discussant: Lukas Kleinheinz
3. Lukas Kleinheinz (Universität Innsbruck) Fixed effects spatial panel model: simulation study on spatial- and panel-specific autocorrelation of error terms (co-author Janette Walde), Discussant: Yusep Suparman

Session 3.2, Room 2, Empirical macro data II (local aggregated data)

1. Alejandro Moreno Jimenez (University of York) Public expenditure spillovers in Mexico, Discussant: Cristiano Ricci
2. Cristiano Ricci (University of Pisa) Unveiling spatial patterns of population in Italian municipalities (co-authors Davide Fiaschi, Angela Parenti), Discussant: Mariluz Maté Sánchez Val
3. Mariluz Maté Sánchez Val (Universidad Politécnica de Cartagena) Space in business environment. Causal or casual relationship? (co-author Manuel Ruiz-Marín), Discussant: Alejandro Moreno Jimenez

Session 3.3, Room 3, GWR and Eigenvector Filtering

1. Yujing Yang (University of Birmingham) Eigenvector-based spatial filtering for synthetic instruments in a dynamic spatial Durbin model (co-author Nicholas Horsewood), Discussant: Yigong Hu
2. Yigong Hu (University of Bristol) A Hierarchical and geographically weighted model and its backfitting maximum likelihood estimator (co-authors Richard Harris, Richard Timmerman, Binbin Lu), Discussant: Izabella Szakálné Kanó
3. Izabella Szakálné Kanó (University of Szeged) Assessing spatial and social disparities in Hungary from 2010 to 2020 using spatial econometric techniques (co-author György Vida), Discussant: Yujing Yang

19:30 Conference Dinner, [The Market Hotel](#), Grote Markt 31, Groningen

Tuesday, June 25, [Flonk Hotel Groningen Centre](#), Radesingel 50, Groningen

09:00 – 18:00 Registration, entry hall

09:00 – 10:15 Invited lecture, Chair Michaela Kesina
Prof. Xi Qu, Shanghai Jiao Tong University
Title: “Social Networks with Link Misclassification”

Abstract: We propose an adjusted 2SLS estimator for social network models when the network links reported in samples are subject to two-sided misclassification errors (due, e.g., to recall errors by survey respondents, or lapses in data input). Misclassified links make all covariates endogenous, and add a new source of correlation between the structural errors and peer outcomes (in addition to simultaneity), thus invalidating conventional estimators used in the literature. We resolve these issues by adjusting endogenous peer outcomes with estimates of the misclassification rates and constructing new instruments that exploit properties of the noisy network measures. Simulation results confirm our adjusted 2SLS estimator corrects the bias from a naive, unadjusted 2SLS estimator which ignores misclassification and uses conventional instruments. We apply our method to study peer effects in household decisions to participate in a microfinance program in Indian villages.

10:15 – 10:45 Prof. Giuseppe Arbia, President of the Spatial Econometric Association

10:45 – 11:00 Prof. Henk Folmer, Young Scholar Award

11:00 – 11:30 Break

11:30 – 13:00 Parallel sessions 4

Session 4.1, Room 1, Multi-dimensional spatial panels

1. Ioanna Tziolas (University of Groningen) Estimation of large three-dimensional panels with fixed effects, common factors and spatial lags (co-authors J. Paul Elhorst and Petros Milionis), Discussant: Alain Pirotte
2. Alain Pirotte (University Paris-Panthéon-Assas) Multi-dimensional spatial panel data models with fixed effects: Formulation, estimation and inference (co-author Zhenlin Yang), Discussant: Chun Song
3. Chun Song (CGIAR) Linguistic diversity, climate shock, and farmers-herder conflicts: Implications for inclusive innovations for agro-pastoralism systems (co-authors Elisabetta Gotor, Athanasios Petsakos), Discussant: Ioanna Tziolas

Session 4.2, Room 2, Health and sustainability

1. Ye Yang (Capital University of Economics and Business) Specification and estimation of matrix exponential social network models (co-authors Osman Dogan, Suleyman Taspinar), Discussant: Ștefana Belbe
2. Ștefana Belbe (Babes Bolyai University) Hybrid health regimes: Access to primary care physicians and COVID-19 vaccine uptake across municipalities in Romania (co-authors Norbert Petrovici, Codruța Mare, Călin Cotoi), Discussant: Mateusz Jankiewicz
3. Mateusz Jankiewicz (Nicolaus Copernicus University in Torun) The influence of changes in the economy structure on social sustainability in developing countries – a spatial approach, Discussant: Ye Yang

Session 4.3, Room 3, Estimation issues III

1. Elkanah Nyabuto (University of Glasgow) Estimation of spatial and temporal autoregressive effects using LASSO – An example of hourly particulate matter concentrations (co-authors Otto Philipp, Yarema Ohkrin), Discussant: Juncong Guo
2. Juncong Guo (Shanghai Jiao Tong University) Learning from neighbors: Peer effects in Chinese household financial investments (co-author Xi Qu), Discussant: Govert Bijwaard
3. Govert Bijwaard (NIDI) interdependent hazards, local interactions, and the return decision of recent migrants (co-author Christian Schluter), Discussant: Elkanah Nyabuto

13:00 – 14:00 Lunch Break

14:00 - 15:30 Parallel sessions 5

Session 5.1, Room 1, Estimation issues IV

1. Chang Tan (University of Groningen) General nesting spatial panel models with parameterized distance-based decay matrices (co-authors Michaela Kesina, Paul Elhorst), Discussant: Xiaoyu Meng
2. Xiaoyu Meng (Nankai University) Threshold spatial panel data models with fixed effects (co-author Zhenlin Yang), Discussant: Yicheng Xu
3. Yicheng Xu (Babeş-Bolyai University) A review of spatial threshold models: Advancements, applications, and aspirations (co-authors Codruța Mare, Diping Zhang, Wenjing Jiang), Discussant: Chang Tan

Session 5.2, Room 2, Empirical micro data

1. Sonia Yousfi (Laboratoire d'Economie de Dijon) Identification of firm's cluster and industry diversification: An application based on spatial-micro data (co-author Jean Dubé), Discussant: Rawaa Laajimi
2. Rawaa Laajimi (INRAE d'Avignon) Evaluating the spatio-temporal patterns of economic activities in the metropolitan region of Quebec: Introducing spatio-temporal function based on micro-geographic data (co-author Jean Dubé). Discussant: Anna Tort-Carrera
3. Anna Tort-Carrera (NIDI/University of Groningen) Neighbourhood effects, interaction effects and depressive symptoms in adulthood: is it the neighbourhood or the neighbours? (co-authors Govert Bijwaard, J.Paul Elhorst), Discussant: Sonia Yousfi

Session 5.3, Room 3, Frontier models

1. Silvia Emili (University of Bologna) A simultaneous system of dynamic spatial stochastic frontier models (co-author Galli Federica), Discussant: Elisa Fusco
2. Elisa Fusco (University of Florence) On spatiotemporal stochastic frontier models (co-authors Giuseppe Arbia, Vincenzo Nardelli), Discussant: Alicja Olejnik
3. Alicja Olejnik (University of Lodz) Introducing spatial data envelopment analysis with independent neighbours' inputs (co-authors Agata Zoltaszek, Jakub Olejnik), Discussant: Silvia Emili

15:30 – 16:00 Break

16:00 - 17:30 Parallel sessions 6

Session 6.1, Room 1, Estimation issues V

1. Otto Philipp (University of Glasgow) A review of spatial and spatiotemporal GARCH models (co-authors Osman Dogan, Süleyman Taspınar, Wolfgang Schmid, Anil K. Bera), Discussant: Yasumasa Matsuda
2. Yasumasa Matsuda (Tohoku University) Estimation of high-dimensional volatility matrices by spatial AR models with unknown linkages (co-authors Runyu Dai, Jieying Zhang), Discussant: Isabelle Cadoret
3. Isabelle Cadoret (Université de Rennes) Risk of poverty or social exclusion in European regions: measure of direct and indirect causal effect of income with Double Machine Learning, (co-authors Auréline Fargeas, Véronique Thelen), Discussant: Otto Philipp

Session 6.2, Room 2, Spatial DID

1. Tetsu Kawakami (Kindai University) Valuing the capitalization effects of public elementary education: A spatial panel analysis in Osaka City, Japan (co-authors Nengyu Yang, Eri Yamada, Piyush Tiwari), Discussant: Andrzej Torój
2. Andrzej Torój (SGH Warsaw School of Economics) Regional airports and regional development: spatial dynamic difference-in-difference evidence from Poland (co-author Julia Kotowska), Discussant: I Gede Nyoman Mindra Jaya
3. I Gede Nyoman Mindra Jaya (Padjadjaran University) Does the inclusion of a confounded covariate improve the accuracy of spatiotemporal forecasting models? (co-author Henk Folmer), Discussant: Tetsu Kawakami

Session 6.3, Room 3, Limited dependent variables and outliers

1. Anil Bera (UIUC) Robust tests for latent and simultaneous spatial autoregressive Tobit models with spatial autoregressive disturbances (co-author Chang Lu), Discussant: Vincenzo Nardelli
2. Vincenzo Nardelli (Università Cattolica del Sacro Cuore) Assessing the effect of outliers in spatial econometric model estimation (co-author Giuseppe Arbia), Discussant: Michaela Kesina
3. Michaela Kesina (University of Groningen) Dynamic probit models with network interdependence and unobserved heterogeneity (co-author Peter Egger), Discussant: Anil Bera