

Justin Delloye

PhD in Urban and Economic Geography

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Geographer by training, I am a regional scientist studying the dynamic co-evolution of land-use, migration and transport systems, at both urban and regional scales.

Current Affiliations

Since Dec. 2020 **Statistician. Statbel – Statistics Belgium.** Brussels, Belgium.

Attached to the “Territory Statistics” department. Collecting new datasets, dealing with data requests, developing new statistical products and contributing to European research projects. Representative projects :

- Automatic detection of origin and destination in GPS trajectories of trucks.
- Identification of salary cars in the national parc by the merging of 7 different administrative sources.
- Modernization of the IT infrastructure for Big Data Science projects.
- Automatic detection of built-up agglomerations for the redesign of Belgian statistical sectors.

Since Oct. 2020 **Guest Lecturer. Université catholique de Louvain – UCLouvain.** Louvain-la-Neuve, Belgium.

Teaching a 26-hours lecture in Economic Geography (LGEO1323) to Bachelor students.

Occasionally co-teaching lectures in cartography (LGEO1241) and rural geography (LGEO1321).

Research experience

Aug. 2018 – Oct. 2020 **Post-doc Researcher. Luxembourg Institute of Socio-Economic Research (LISER),** Esch-sur-Alzette, Luxembourg.

Collecting and analysing transport data for the MMUST project (Modèle Multimodal et Scénarios de Mobilité Transfrontaliers), an applied transport research project financed by the INTERREG V A program. [🔗](#)

Oct. 2014 – Jul. 2018 **FRESH grant fellow. Belgian Fund for Scientific Research (F.R.S.-FNRS).** Brussels, Belgium.

Research project on Urban Morphodynamics, supervised by Prof Dominique Peeters and Prof Isabelle Thomas.

Sep. 2016 – Jan. 2017 **Invited researcher. University of Luxembourg, Institute of Geography and Spatial Planning.** Esch-sur-Alzette, Luxembourg.

Research project on urban scaling laws with Prof Geoffrey Caruso and Prof Rémi Lemoy.

Teaching experience

Sep. 2018 – Jun. 2021 **Guest Lecturer. University of Luxembourg.** Esch-sur-Alzette, Luxembourg.

Co-teaching a 32-hours lecture on “Urban and Environmental Economics” of the Master in Geography and Spatial Planning with Prof Sophie Legras.

Feb. 2019 – Feb. 2017 **Lecturer. International Erasmus Program in Geographical Modelling.** Dijon and Rouen, France.

Teaching a 8-hours lecture on “Urban Economics through simulations” including practical simulation exercises (see hereunder) and the realization of a dedicated MOOC.

Teaching support

2019 **Delloye, J. “FO82model.nlogo”** [🔗](#)

A computer program that models a two-sector city with heterogeneous mobility. It aims at exploring the short-run and long-run urban configurations of an abstract city under exogenous population growth. Developed and updated for teaching activities at the International Master in Geographical Modelling.

2017 **Delloye, J. and Lemoy R. “Complex Systems and Urban Economics”**

A MOOC prepared with Prof Rémi Lemoy at the Media Lab of the University of Luxembourg for the 2017 edition of the International Erasmus Program in Geographical Modelling.

Academic credentials

- Oct. 2014 – **PhD in Science (Geography).** *Université catholique de Louvain - UCLouvain.* Louvain-la-Neuve, Belgium.
Apr. 2018 Thesis entitled “Urban Morphodynamics: Reconciling Location Theory and Complex Systems” [🔗](#)
- Feb. 2013 **Intensive Program Erasmus – Master’s degree in Geographical Modelling.** *Université de Lausanne,* Lausanne, Switzerland.
Magna cum laude
- Sep. 2012 – **Master’s degree in Geography.** *Université catholique de Louvain - UCLouvain.* Louvain-la-Neuve, Belgium.
Sep. 2014 General, in-depth orientation, *Summa cum laude*
- Sep. 2009 – **Bachelor’s degree in Geography.** *Université catholique de Louvain - UCLouvain.* Louvain-la-Neuve, Belgium.
Jun. 2012 General orientation with Economic minor, *Magna cum laude*

Other relevant trainings

- Apr. 2023 **Revue systématique : introduction.** Sophie Patris and Cédric Bonfils, UCLouvain Libraries.
- Jun. 2022 **Open data, Open source and reproducibility of statistical algorithms.** European Statistical Training Programme (ESTP).
3-days online training given by Marco Puts and Ole Mussmann
- Feb. 2021 – **Introduction to Big Data in official statistics.** European Statistical Training Programme (ESTP).
Apr. 2021 3-days online training led by Carlo Vaccari.
- Feb. 2020 **Winter School on Mediation Analysis and Machine Learning.** Esch-sur-Alzette, Luxembourg.
InGRID-2 lecture series given by Prof Martin Huber
- Sep. 2019 **R & Py Spatial Analysis Workshop.** Esch-sur-Alzette, Luxembourg.
Given by Prof Roger Bivand and Prof Daniel Arribas-Bel for the spatial analysis workshop of the 2019 edition of the European Colloquium of Theoretical and Quantitative Geography
- Jun. 2017 **Summer school in urban economics.** Paris, France.
Jointly organized by the Urban Economics Association, the Ecole Polytechnique Economics Department, the Center for Research in Economics and Statistics (CREST), and the Université Paris-Saclay
- Jun. 2016 **Optimal Transport and Economic Applications: Modelling and Estimation.** Louvain-la-Neuve, Belgium.
CORE Lecture Series given by Prof Alfred Galichon
- Jun. 2015 **Doctoral school MAPS8 on Agent-based Modelling Applied to Spatial Phenomenons.** Saint Paul de Vence, France.
Organized by MAPS network (Modélisation multi-agents Appliquée aux Phénomènes Spatialisés) and by the French CNRS, Institut INSHS, division DR08
- Feb. 2015 – **Local methods for nonlinear science and engineering.** Louvain-la-Neuve, Belgium.
Mar. 2015 Francqui Chair Lecture given by Prof Rodolphe Sepulchre

Honours & awards

- Nov. 2018 **RSAI Dissertation Award.** *Regional Science Association International (RSAI).* Austin (Tx), United States.
Phd dissertation entitled “Urban Morphodynamics: Reconciling Location Theory and Complex Systems”

Grants & fellowships

- Jun. 2014 **FRESH Grant (Fonds pour la Recherche en Sciences Humaines).** *Fonds de la Recherche Scientifique (F.R.S.-FNRS).* Brussels, Belgium.
Individual research grant (about 100 000 euros) aiming at completing a doctoral thesis in four years. The research proposal was entitled “Three-dimensional morphodynamics of a developers-conducted urban densification”.

Peer-reviewed publications

Published papers

- 2024 **Delloye, J.**, S. Klein, O. Klein, G. Drevon, M. Jacquot, V. Rapp, E. Cornelis, J. Rousseaux, J. Schiebel, G. Besch, S. Godefroy, P. Gerber “Improving the understanding of mobility in cross-border areas using a pooled travel survey”, *Transportation*. [🔗](#)
- 2024 Cottineau, C., M. Batty, I. Benenson, **J. Delloye**, E. Hatna, D. Pumain, S. Sarkar, C. Tannier and R. Ubarevičienė. “The role of analytical models and their circulation in urban studies and policy”, *Urban Studies*, 61 (12), 2370 – 2398. [🔗](#)
- 2020 **Delloye, J.**, R. Lemoy and G. Caruso. “Alonso and the Scaling of Urban Profiles”, *Geographical Analysis*, 52 (2), 127–54. [🔗](#)
- 2015 **Delloye, J.**, D. Peeters and I. Thomas, ‘On the Morphology of a Growing City: A Heuristic Experiment Merging Static Economics with Dynamic Geography’, *PLoS ONE*, 10 (8), e0135871. [🔗](#)

Chapters in books

- In preparation* **Delloye, J.**, E. Mennicken, P. Kilgariff, R. Lemoy et G. Caruso “Lois d’échelle des formes urbaines”. In Vacchiani-Marcuzzo. C., coordinator, *Des lois d’échelle et des villes*, London, United-Kingdom: ISTE Group.
- 2024 Caruso, G., P. Kilgariff, **J. Delloye** and R. Lemoy. ‘The scaling of urban land and density profiles: empirical facts and theory’, in L. S. D’Acci (ed), *Urban Scaling: Allometry in Urban Studies and Spatial Science*, 1st edition, New York: Routledge, pp. 246–56. [🔗](#)
- 2021 **Delloye, J.** and I. Thomas “A General Model of Dynamic Spatial Interactions”. In Reggiani, A., Schintler, L. and Czamanski, D., editors, *Entropy, Complexity and Spatial Dynamics: The Rebirth of Theory?*, London, United-Kingdom: Edward Elgar. [🔗](#)

Book reviews

- 2019 **Delloye, J.** “Jensen P., Pourquoi la société ne se laisse pas mettre en équations, Éditions du Seuil, Science Ouverte, Paris, 336p.”. *Cybergeo: European Journal of Geography*, cybergeo/32023 (5p.) [🔗](#)

Working papers

- 2018 **Delloye, J.**, D. Peeters and J. Tharakan, “Equilibrium Selection and Stability in Dynamic Core-Periphery Models with Heterogeneous Preferences”, *CORE Discussion Paper* 2018/02, Louvain-la-Neuve, Belgium: Center for Operations Research and Econometrics (28p.) [🔗](#)
- 2017 **Delloye, J.**, R. Lemoy and G. Caruso, “Alonso and the Scaling of Urban Profiles”, *CORE Discussion Paper* 2017/37, Louvain-la-Neuve, Belgium: Center for Operations Research and Econometrics (24p.) [🔗](#)

Other Publications

- Since 2022 (yearly) Possession de voitures par ménage. *Publication en ligne*. STATBEL – Statistics Belgium, Bruxelles, Belgique. [🔗](#)
Preparation of data tables, writing of the comment and conceptual design of visualizations.
- 2022 MMUST - Modèle MULTimodal et Scénarios de mobilité Transfrontaliers. *Grande Enquête de mobilité: Partie 1: Résultats des préférences déclarées*. AGAPE - Agence d'urbanisme et de développement durable Lorraine Nord, Longlaville, France. [🔗](#)
- 2021 MMUST - Modèle MULTimodal et Scénarios de mobilité Transfrontaliers. *Exploitation harmonisée des enquêtes de déplacements sur le périmètre MMUST*. AGAPE - Agence d'urbanisme et de développement durable Lorraine Nord, Longlaville, France. [🔗](#)

Invited conference & workshop presentations

- Dec. 05, 2024 **Delloye, J.** "Expérience: la méta-enquête de mobilité transfrontalière", *2ème Réunion de la Commission Territoires du Conseil National de l'Information Statistique*, Centre National de l'Information Statistique, Paris, France. [🔗](#)
- Mar. 16, 2023 **Delloye, J.** "Poverty. A Perspective from Economic Geography", *Rencontres Pauvreté Horizon 2040*, organisées par la Fondation Roi Baudouin, Waterloo, Belgium.
- Mar. 10, 2022 **Delloye, J.** "A stochastic model of economic geography", *2022 INMA Seminar Series*, Mathematical Engineering department, Université catholique de Louvain, Louvain-la-Neuve, Belgium.
- Nov. 22, 2021 **Delloye, J.** "Alonso's model and urban centrality", *2021-2022 Urban Models Seminar Series (online)*, Technische Universiteit Delft, Delft, Netherlands. [🔗](#)
- Nov. 29, 2019 **Delloye, J.** "Les systèmes migratoires dynamiques : un support formel pour la modélisation multi-agents ?", *TheMA seminar series*, Université de Franche-Comté, Besançon, France.
- Sep. 2019 4th edition of the CNRS EIGHTIES workshop, Saint-Pierre-d'Oléron, France.
- Dec. 20, 2018 **Delloye, J.** "A New Approach to Complexity in Economic Geography", *naXys seminar series*, Université de Namur, Namur, Belgium.
- Dec. 06, 2016 **Delloye, J.** "A Complex Approach to the Economics of Buildings Geometry", *Doctoral Seminar of the Institute of Geography and Spatial Planning*, University of Luxembourg, Belval, Luxembourg.
- Nov. 30, 2015 **Delloye, J.** "Urban Morphodynamics: Spatial Patterns Emerging from Interacting Location Decisions", *Earth and Life Institute Seminars*, Université catholique de Louvain, Louvain-la-Neuve, Belgium.

Presentations at scholarly conferences (10 lasts)

- Mar. 02-06, 2023 Delclite, T., **Delloye, J.**, and Walraven, R. "Early detection of major changes in market communities", *Eurostat Hackathon*, Brussels. [🔗](#)
- May. 06, 2022 **Delloye, J.**, Klein, S., Klein, O., Schiebel, J., Jacquot, M., Cornelis, E., Godefroy, S. and Gerber, P. "Comprendre la mobilité en zones transfrontalières à l'aide d'une enquête de mobilité composite", *Colloque International sur le Travail Frontalier en Europe*, Luxembourg-ville, Luxembourg.
- Jun. 04, 2021 **Delloye, J.**, Gerber, P., Klein, S., Klein, O., Schiebel, J., Jacquot, M. and Cornelis, E. "Une méta-enquête de mobilité pour la réalisation d'un modèle 4-étapes transfrontalier", *3èmes Rencontres Francophones Transports et Mobilités*, online.
- Dec. 11, 2019 **Delloye, J.** and Thomas, I. "A New Dynamic Spatial Interaction Model of Internal Migrations in Belgium", *2nd Scientific Workshop of the Belgian Urban and Regional Economists Network (BURENet)*, Brussels, Belgium.
- Sep. 09, 2019 **Delloye, J.**, Lemoy, R., and Caruso, G. "Profiles and Scaling of Urban Volumes in Europe", *XXI European Colloquium on Theoretical and Quantitative Geography (ECTQG)*, Mondorf-les-Bains, Luxembourg.
- Aug. 28, 2019 **Delloye, J.** and Thomas, I. "Towards New Dynamic Models of Migration Systems", *59th Congress of the European Regional Science Association (ERSA)*, Lyon, France.
- Dec. 17, 2018 **Delloye, J.**, Peeters, D., and Tharakan, J. "Path-dependent stochastic dynamics of core-periphery models with heterogeneous agents", *1st Scientific Workshop of the Belgian Urban and Regional Economists Network (BURENet)*, Brussels, Belgium.
- Avr. 11, 2018 **Delloye, J.**, Peeters, D., and Tharakan, J. "From individual relocation choices to collective spatial dynamics: a general model with application to economic geography", *2018 Annual Meetings of the American Association of Geographers (AAG)*, New Orleans, United States.
- Nov. 11, 2017 **Delloye, J.**, Lemoy, R., and Caruso, G. "Homothetic Scaling of Urban Land Use and Population Density Profiles in Monocentric Models", *64rd Annual North American Meetings of the Regional Science Association International (NARSC)*, Vancouver, Canada.

Poster presentations

- Nov. 13, 2015 **Delloye, J.**, Peeters, D. and Thomas, I. "On the Morphology of a Growing City: Adding Space and Time to Static Models", *VI Belgian Geography Days*, Ixelles (Brussels), Belgium.

Professional and public services

Since 2017 **Reviewer** for scientific journals

Papers in Regional Science

Environment and Planning B

Cybergeo

Land Use Policy

Networks and Spatial Economics

L'Espace Géographique

2020 **Member of recruitment committee.** *Luxembourg Institute of Socio-Economic Research (LISER)*, Esch-sur-Alzette, Luxembourg.

Press and media interventions

Jan. 18, 2019 **Le Jeudi**, Esch-sur-Alzette, Luxembourg.

Written interview given for a press release on free public transport, published in the edition of January 18, 2019

Organization of scientific events

Jun. 2021 **3èmes Rencontres Francophones Transports et Mobilités**, online.

Co-organisator and chair of a special session entitled "les modèles 4 étapes : expériences, savoir-faire, nouveaux défis et solutions innovantes".

Sep. 2019 **XXI European Colloquium on Theoretical and Quantitative Geography**, Esch-sur-Alzette, Luxembourg.

Nov. 30, 2018 **Researchers' Days**, Esch-sur-Alzette, Luxembourg

Animation of a public activity entitled "Marche dans les pas d'un géographe-aménageur", designed for children under 12.

Supervision of students

2021 – 2024 L. Vieira Magalhães. *Development and application of a spatial-explicit computable equilibrium urban model for a cross-border region*. University of Luxembourg, Esch-sur-Alzette/Belval, Luxembourg. **Member of the supervision committee and jury member.**

2023 G. Montero. *Morphological delineation and characterisation of urban spaces*. PhD Thesis in Science (Geography). Université catholique de Louvain, Louvain-la-Neuve, Belgium. **Jury member and secretary.**

Since 2022 G. Laziou. *Analyse radiale et lois d'échelles du prix des logements et des densités de population dans les aires urbaines françaises et européennes*. PhD Thesis in Geography. Université de Rouen, Rouen, France. **Member of the supervision committee.**

2022 – 2023 L. Charon. Ms Thesis in Applied Mathematics. Université catholique de Louvain, Louvain-la-Neuve, Belgium. **Member of the supervision committee and jury member.**

Languages

French Mothertongue

English Professional usage

Dutch Intermediate (B1)

IT skills

Familiar Git & GitLab/GitHub, Jupyter, LaTeX, Markdown, MiniConda/MiniForge, Ms. Office Suite, Python (NumPy, SciPy, Matplotlib, Pandas, GeoPandas, SciKit Learn), R, SAS, SQLite (Spatialite), Zotero

Occasional Linux – Ubuntu, GIMP, Inkscape, Java, PostGreSQL (PostGIS), QGIS3 (PyQgis, SAGA, GRASS)

Novice HTML, CSS, JavaScript