

Justin Delloye

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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 24-hours lecture in Economic Geography (LGEO1323) to Bachelor students. Occasionally co-teaching lectures in cartography (LGEO1241) and rural geography (LGEO1321).

Since Mar. 2021 **Research Fellow.** *Luxembourg Institute of Socio-Economic Research - LISER.* Belval/Esch-sur-Alzette, Luxembourg.

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 Tranfrontaliers), 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 exogeneous 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

- Under review* **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”
- Under review* Cottineau C., M. Batty, I. Benenson, **J. Delloye**, E. Hatna, D. Pumain, S. Sarkar, C. Tannier and R. Ubarevičienė. “Unforeseen Influence. The development of analytical models and their impacts on urban studies and policy”.
- 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* Caruso G., P. Kilgarriff, **J. Delloye** and R. Lemoy “The scaling of urban land and density profiles: empirical facts and theory”. In D’Acci Luca S., editor, *Urban Scaling*, London, United-Kingdom: Routledge.
- In preparation* **Delloye, J.**, E. Mennicken, P. Kilgarriff, 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.
- 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.”. *Cybergeog: European Journal of Geography*, cybergeog/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

- 2022 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 Rousseaux, J., E., Cornelis, S., Godefroy, V., Lang-Karevski, V., Rapp, S., Larose, M., Jacquot, G., Besch, J., Schiebel, P., Gerber, S., Klein, J., **Delloye**. *Grande Enquête de mobilité: Partie 1: Résultats des préférences déclarées*. AGAPE - Agence d’urbanisme et de développement durable Lorraine Nord, Longlaville, France. [↗](#)
- 2021 Godefroy S., S. Klein, **J. Delloye**, C. Bredel, V. Lang-Karevski, M. Jacquot, J. Schiebel. *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

- Mar. 16, 2023 **Delloye, J.** "Poverty. A Perspective from Economic Geography", *Rencontres Pauvreté Horizon 2040*, organized by the 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.
- Nov. 10, 2017 **Delloye, J.**, Peeters, D. and Tharakan, J. "Expected Dynamic Trajectories of Population distribution in core-periphery 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

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.**

Since 2021 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.**

Languages

French Mothertongue

English Professional usage

Dutch Intermediate (B1)

IT skills

Familiar SAS, SQL, Git & GitLab/GitHub, R, Python (NumPy, SciPy, Matplotlib, Pandas, GeoPandas, SciKit Learn), Markdown, MiniConda, Jupyter, QGIS3 (PyQgis, SAGA, GRASS), Ms. Office Suite, Inkscape, GIMP, Zotero, LaTeX

Occasional Java, PostGreSQL (PostGIS), SQLite (Spatialite)

Novice HTML, CSS, JavaScript