

# Dr. Juste Raimbault

## Positions

- Since January 2019 **Research Fellow**, CASA, UCL, London, UK.  
*Coupling land-use transport interaction models with microsimulation models*
- 2018 **Post-doctoral Researcher**, Complex Systems Institute - UPS CNRS 3611 ISC-PIF, Paris, France.  
*Extending methods to explore spatial simulation models*

## Education

- 2015–2018 **PhD in Geography**, Géographie-cités (UMR 8504 CNRS) / LVMT (UMR-T 9403 IFSTTAR).  
Characterizing and Modeling the Co-evolution of Transportation Networks and Territories
- June 2016 **SFI Complex Systems Summer School**, Santa Fe Institute.
- 2012–2014 **MSc Complex Systems Science**, Ecole Polytechnique (Ingénieur Diplômé).
- 2013–2014 **MSc Urbanism, Environment, Transportation**, Ecole Nationale des Ponts et Chaussées.
- 2010–2012 **BSc**, Ecole Polytechnique.

## Journal papers

- Raimbault J., Broere J., Somveille M., Serna J.M., Strombom E. Moore C., Sugar L., Zhu B. (2020). A spatial agent based model for simulating and optimizing networked eco-industrial systems. *Resources Conservation and Recycling*, 155:104538. DOI:10.1016/j.resconrec.2019.104538
- Bergeaud, A. & Raimbault, J. (2020). An Empirical Analysis of the Spatial Variability of Fuel Prices in the United States. *Transportation Research Part A: Policy and Practice*, 132, 131-143. DOI:10.1016/j.tra.2019.10.016
- Raimbault, J. (2019). Second-order Control of Complex Systems with Correlated Synthetic Data. *Complex Adaptive Systems Modeling*, 7(4). DOI:10.1186/s40294-019-0065-y
- Raimbault, J. (2019). Multi-dimensional Urban Network Percolation. *Journal of Interdisciplinary Methodologies and Issues in Science*, 5(5). DOI:10.1186/s13023-019-0055-5
- Raimbault J., Cottineau C., Le Texier M., Le Nechet F. & Reuillon R. (2019). Space Matters: extending sensitivity analysis to initial spatial conditions in geosimulation models. *Journal of Artificial Societies and Social Simulation*, 22(4), 10. DOI:10.18564/jasss.4136
- Raimbault J., Chasset P.-O., Cottineau C., Commenges A., Kosmopoulos C., Pumain D. & Banos A. (2019). Empowering open science with reflexive and spatialised indicators. *Environment and Planning B: Urban Analytics and City Science*, 2399808319870816. DOI:10.1177/2399808319870816
- Raimbault, J. (2019). Exploration of an interdisciplinary scientific landscape. *Scientometrics*, 119(2), 617-641. DOI:10.1007/s11192-019-03090-3
- Raimbault, J. (2018). Calibration of a density-based model of urban morphogenesis. *PloS one*, 13(9), e0203516. DOI:10.1371/journal.pone.0203516
- Raimbault, J. (2018). Indirect evidence of network effects in a system of cities. *Environment and Planning B: Urban Analytics and City Science*, 2399808318774335. DOI:10.1177/2399808318774335
- Bergeaud, A., Potiron, Y., & Raimbault, J. (2017). Classifying patents based on their semantic content. *PloS one*, 12(4), e0176310. DOI:10.1371/journal.pone.0176310

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## Book chapters

- Raimbault, J. (2020). Models for the co-evolution of cities and networks, *Handbook on Cities and Networks*, Rozenblat C., Neal Z., eds. In press. [arXiv:1804.09430](#)
- Pumain D., & Raimbault J. (2020) Perspectives on Urban Theories. In: *Pumain D. (ed.), Theories and Models of Urbanization (pp. 303-330). Lecture Notes in Morphogenesis*. Springer, Cham. [DOI:10.1007/978-3-030-36656-8\\_16](#)
- Raimbault, J. (2020). Unveiling co-evolutionary patterns in systems of cities : systematic exploration of the SimpopNet model. In *Pumain D. (ed.), Theories and Models of Urbanization (pp. 261-278). Lecture Notes in Morphogenesis*. Springer, Cham. [DOI:10.1007/978-3-030-36656-8\\_14](#)
- Raimbault, J. (2020). Relating complexities for the reflexive study of complex systems. In *Pumain D. (ed.), Theories and Models of Urbanization (pp. 27-41). Lecture Notes in Morphogenesis*. Springer, Cham. [DOI:10.1007/978-3-030-36656-8\\_3](#)
- Raimbault, J., & Pumain, D. (2019). Methods for Exploring Simulation Models. In *Pumain D. (ed.), Geographical Modeling (pp. 125-150)*. Wiley Online Library. [DOI:10.1002/9781119687290.ch5](#)
- Raimbault, J. (2019). An urban morphogenesis model capturing interactions between networks and territories. In *D'Acci L. (ed.), The Mathematics of Urban Morphology (pp. 383-409)*. Birkhauser, Cham. [DOI:10.1007/978-3-030-12381-9\\_17](#)
- Raimbault, J. (2019). Evolving accessibility landscapes: mutations of transportation networks in China. In *Aveline N. (ed.), Pathways of Sustainable Development across China: the Cases of Hangzhou, Datong and Zhuhai (pp. 89-108)*. Imago Editor, [ISBN:978-88-94384-71-0](#)

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## Conference papers

- Raimbault, J. & Perret, J. (2019). Generating urban morphologies at large scales. *The 2019 Conference on Artificial Life 2019 NO. 31*, 179-186. [DOI:10.1162/isal\\_a\\_00159](#)
- Raimbault, J. (2017). An applied knowledge framework to study complex systems, *Complex Systems Design & Management* (pp.31-45). [arXiv:1706.09244](#)
- Raimbault, J. (2017). Identification de causalités dans des données spatio-temporelles, Sageo 2017 Proceedings. [arXiv:1709.08684](#) ([English translation](#))
- Raimbault, J. (2017). A Discrepancy-Based Framework to Compare Robustness Between Multi-attribute Evaluations. In *Complex Systems Design & Management* (pp. 141-154), Springer. [DOI:10.1007/978-3-319-49103-5\\_11](#)
- Raimbault, J. (2017). Investigating the empirical existence of static user equilibrium. *Transportation Research Procedia*, 22, 450-458. [DOI:10.1016/j.trpro.2017.03.053](#)
- Raimbault, J. (2017). Models coupling urban growth and transportation network growth: An algorithmic systematic review approach. *Plurimondi*, (17), *ECTQG 2015 Proceedings*. [ISSN:2420-921X](#)
- Raimbault, J. (2014). User-Based Solutions for Increasing Level of Service in Bike-Sharing Transportation Systems. In *Complex Systems Design & Management* (pp. 31-44), Springer. [DOI:10.1007/978-3-319-11617-4\\_3](#) **Best Student Paper Award at CSDM 2014.**
- Raimbault, J., Banos, A. & Doursat, R. (2014) A Hybrid Network/Grid Model of Urban Morphogenesis and Optimization. *Proceedings of the 4th International Conference on Complex Systems and Applications (ICCSA 2014)*, June 23-26, 2014, Université de Normandie, Le Havre, France; M. A. Aziz-Alaoui, C. Bertelle, X. Z. Liu, D. Olivier, eds.: pp. 51-60. [Editor arXiv:1612.08552](#)

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## Scientific Activity

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| Reviewing  | <i>Scientific Reports</i> (1), <i>Sustainability</i> (5), <i>International Journal of Geographical Information</i> (2), <i>Environment and Planning B</i> (1), <i>Scientometrics</i> (1), <i>Energies</i> (2), <i>Applied Spatial Analysis and Policy</i> (1), <i>Entropy</i> (1), <i>Ecological Modeling</i> (1), <i>PLoS ONE</i> (3), <i>Cybergeog</i> (14). |
| Oct. 2019  | CCS 2019. Satellite organisation: <i>New methods and epistemologies to explore simulation models - II</i>  |
| Sept. 2019 | ECTQG 2019. Special session organisation: <i>Geosimulation models exploration methods</i>  |
| 2018       | Participation in the CNRS experimental project “Incubator for scientific mediation”  |
| Sept. 2018 | CCS 2018. Satellite organisation: <i>New methods and epistemologies to explore simulation models</i>   |
| Sept. 2017 | ECTQG 2017. Session organisation: <i>Bridges between Economics and Geography</i>   |
| June 2017  | Medium Conference 2017. Session organisation: <i>Spatio-temporal Behavior in Complex Urban Systems</i>   |