

# Juste Raimbault

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## Education

- since Feb. 2015 **PhD in Geography**, *Géographie-cités (UMR 8504 CNRS) / LVMT (UMR-T 9403 IFSTTAR)*, Paris, France.  
Towards Models Coupling Urban Growth and Transportation Network Growth, *under the supervision of HDR A. BANOS and MCF F. LE NECHET*.
- June 2016 **SFI Complex Systems Summer School**, *Santa Fe Institute*, Santa Fe, USA.
- 2012–2014 **MSc Complex Systems Science**, *Ecole Polytechnique ParisTech*, Palaiseau, France.  
Agent-based modeling, Evidence-based methods from Therapeutic Evaluation, Theoretical Analysis of Physical Complex Systems, Epistemology, Complex Networks, Datamining, Signal Processing  
*Memoire* : Complex Network Analysis for Real-time Trend Detection in a Financial System
- 2013–2014 **MSc Urbanism, Environment, Transportation**, *Ecole Nationale des Ponts et Chaussées ParisTech*, Marne-la-Vallée, France.  
Analysis of Territorial Systems, Management and design of Transportation Systems, Urbanism, History of Urbanism, Urban Economics, Environmental Planning and Design  
*Memoires* : Application of Evidence-based Methods in Urban Planning and Architecture ; Discrete Choice Models for Bike-sharing Transportation Systems
- 2010–2012 **BSc**, *Ecole Polytechnique ParisTech*, Palaiseau, France.  
Multidisciplinary scientific formation (mathematics, computer science, applied mathematics, physics, mechanics, biology, economics)

## Publications

- Raimbault, J. (2017). Identification of Causalities in Spatio-temporal Data. Forthcoming in *SAGEO 2017 proceedings*.
- Raimbault, J. (2017). An applied knowledge framework to study complex systems. Forthcoming in *CSDM 2017 proceedings*. arxiv:1706.09244
- Raimbault, J. & Bergeaud, A. (2017). The Cost of Transportation: Spatial Analysis of Fuel Prices in the US. Forthcoming in *EWGT 2017 proceedings*. arxiv:1706.07467
- Bergeaud, A., Potiron, Y., & Raimbault, J. (2017). Classifying patents based on their semantic content. *PloS one*, 12(4), e0176310.
- Raimbault, J. (2017). A Discrepancy-Based Framework to Compare Robustness Between Multi-attribute Evaluations. In *Complex Systems Design & Management* (pp. 141-154), Springer.
- Raimbault, J. (2017). Investigating the empirical existence of static user equilibrium. *Transportation Research Procedia*, 22, 450-458.
- Raimbault, J. (2016). Generation of Correlated Synthetic Data, forthcoming in *Actes des Journées de Rochebrune 2016*.
- Raimbault, J. (2015). Models Coupling Urban Growth and Transportation Network Growth: An Algorithmic Systematic Review Approach, forthcoming in *ECTQG 2015 proceedings*. arxiv:1605.08888
- 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. **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.

## Communications

- Modeling the Co-evolution of Urban Form and Transportation Networks, forthcoming at *Conference on Complex Systems 2017, Cancun, Sept. 2017*.

Raimbault J. & Baffi S. (2017). Structural Segregation: Assessing the impact of South African Apartheid on Underlying Dynamics of Interactions between Networks and Territories, forthcoming at *ECTQG 2017, York, Sept. 2017*

Invisible Bridges ? Scientific landscapes around similar objects studied from Economics and Geography perspectives, forthcoming at *ECTQG 2017, York, Sept. 2017*

Cottineau C., Raimbault J., Le Texier M., Le Néchet F. & Reuillon R. (2017). Initial spatial conditions in simulation models: the missing leg of sensitivity analyses?, forthcoming at *Geocomputation 2017, Leeds, Sept. 2017*

A macro-scale model of co-evolution for cities and transportation networks, *Medium International Conference, Guangzhou, June 2017*

Losavio C. & Raimbault J. (2017). Agent-based Modeling of Migrant Workers Residential Dynamics within a Mega-city Region: the Case of Pearl River Delta, China, *Urban China Development International Conference, London, May 2017*

Co-construire Modèles, Etudes Empiriques et Théories en Géographie Théorique et Quantitative: le cas des Interactions entre Réseaux et Territoires. *Treizièmes Rencontres de ThéoQuant, Besançon, May 2017*

Un Cadre de Connaissances pour une Géographie Intégrée. *Journée des jeunes chercheurs de l'Institut de Géographie de Paris, Paris, April 2017*

Towards a Theory of Co-evolutive Networked Territorial Systems: Insights from Transportation Governance Modeling in Pearl River Delta, China. *Medium Seminar-Urban Sustainable Development in Zhuhai, Guangzhou, December 2016*

Models of growth for system of cities : Back to the simple, *Conference on Complex Systems 2016, Amsterdam, Sep 2016*.

Raimbault J., Bergeaud A. and Potiron Y. (2016). Investigating Patterns of Technological Innovation. *Conference on Complex Systems 2016, Amsterdam, Sep 2016*.

For a Cautious Use of Big Data and Computation. *Royal Geographical Society - Annual Conference 2016 - Session : Geocomputation, the Next 20 Years (1), London, Aug 2016*.

Indirect Bibliometrics by Complex Network Analysis. *20e Anniversaire de Cybergeog, Paris, May 2016*.

Raimbault, J. & Serra, H. (2016). Game-based Tools as Media to Transmit Freshwater Ecology Concepts, *poster corner at SETAC 2016, Nantes, May 2016*.

Le Nechet, F. & Raimbault, J. (2015). Modeling the emergence of metropolitan transport authority in a polycentric urban region, *ECTQG 2015, Bari, Sept. 2015*.

Hybrid Modeling of a Bike-Sharing Transportation System, *poster at ICCSS 2015, Helsinki, June 2015*.

Raimbault, J. & Gonzales, J. (2015). Application de la Morphogénèse de Réseaux Biologiques à la Conception Optimale d'Infrastructures de Transport, *poster presented at Rencontres du Labex Dynamite, Paris, May 2015*.

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## Grants and Award

**MEDIUM mobility grant**, Young Researcher mobility grant for China, MEDIUM project.

**PhD grant**, *allocation doctorale AMX* for three years from Graduate School, Ecole Polytechnique.

**Best Student Paper Award** at Conference CSD&M, Paris, December 2014.

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## Teaching

Spring 2017 **Teaching Assistant**, Université Paris 7, Paris, France.

Teaching Assistant: *Statistics and Cartography, Spatial Analysis and Professionalization for Geographers*.

February 2016 **Seminar Geography and Big Data**, Université Paris 1 Sorbonne, Paris, France.

*Géoprisme* Master Seminar

Fall 2015 **Teaching Assistant**, Université Paris 7, Paris, France.

Teaching Assistant: *Introduction to Geography and Introduction to GIS*.

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## Scientific Activity

since 2016 Reviewing for *Cybergeog, European Journal of Geography, PLoS ONE*

Sept. 2017 ECTQG 2017. Session organisation: *Bridges between Economics and Geography: Lessons from Modeling Perspectives*

June 2017 Medium Conference 2017. Session organisation: *Spatio-temporal Behavior in Complex Urban Systems*

June 2014 EMCSS Seminar : Comparing Top-down and Bottom-up approaches to Urban Systems

## Research experience

- Aug.–Dec. 2014 **Research internship**, *L2 Technologies*, Paris, France.  
Complex Systems approaches to foreign exchange financial markets
- April–Sept. 2013 **Research internship**, *Chalmers University of Technology, Dpt. of Architecture*, Göteborg, Sweden.  
Interdisciplinary approaches of modeling and simulations in urban planning and architecture
- July–Sept. 2012 **Research internship**, *The Kube SA*, Paris, France.  
Machine Learning and Artificial Intelligence : Design and implementation of an intelligent matching algorithm

## Computer skills

OS	Unix (OSX, CentOS)	Scripts	Shell, AppleScript
Programming	JAVA, Python, Scala, C/C++, OCaml	Typography	L <sup>A</sup> T <sub>E</sub> X, API OO.org
Web	php, XHTML, CSS, AJAX	Database	MySQL, MongoDB, PostgreSQL
Scientific	R, NetLogo, Gama, OpenMole, Scilab, Matlab, Gephi, Freefem++	GIS	QGIS, PostGIS, TransCAD, Ocad

## Languages

**French**, *Native*

**German**, *Fluent, European Baccalaureate*

**English**, *Fluent*

**Mandarin**, *Notions, level HSK2*