Julien BOELAERT

Born in 1986, Belgian nationality
julien.boelaert <at> univ-lille.fr

EDUCATION

2008-2012 **Université Paris 1**, PhD in economics, supervised by François Gardes, "Between- and within-country convergence of household consumption patterns." Jury: Jean-Bernard Chatelain (CES, Paris 1), Marie Cottrell (SAMM, Paris 1), F. Gardes (CES, Paris 1), J. Gautié (CES, Paris 1), S. Langlois (Dép. sociologie, Univ. Laval, Québec), P. Merrigan (ESG, UQAM Montréal), A. Trognon (INSEE).

2007-2008 **Université Paris X Nanterre**, masters in institutional economics, supervised by Olivier Favereau and Robert Boyer.

2004-2008 **HEC Paris** (Hautes Etudes Commerciales), masters in business administration.

ACADEMIC POSITIONS

2018- **CERAPS, Université de Lille, France**
Assistant professor (MCF), political science (on leave since September 2021).

2017-2018 **INED, iPops, Paris, France**
Postdoctoral researcher, machine learning for demographic research (national institute for demography).

2015-2017 **SAGE, Université de Strasbourg, France**
Postdoctoral researcher, political sociology of French and European Parliaments.

2015 **STEF, Ecole Normale Supérieure de Cachan, France**
Postdoctoral researcher, analysis of pedagogical resources and the use of MOOCs.

2014 **ESG, Université du Québec à Montréal, Canada**
Post-doctoral researcher, econometrics, studies of household consumption and time-use, development of the revealedPrefs R package.

2013-2014 **SAMM, Université Paris 1 Panthéon-Sorbonne, France**
Post-doctoral researcher, dimensionality reduction and development of the SOMbrero R package.

2011-2013 **CES, Université Paris 1 Panthéon-Sorbonne, France**
Teaching and research assistant (ATER).

OTHERS

Languages French (mother tongue), English (fluent), Dutch (fluently spoken), German, modern Greek.

Statistics R, STATA

Programming R, C/C++, Python, JavaScript.

TEACHING

Summer/winter schools

2022   Machine learning for social sciences (doctoral level, Quantilille summer school, with T. Soubiran)

2021   Statistical analysis of text data (doctoral level, Quantilille summer school)

2021   Digital methods (doctoral level, online course published at css.cnrs.fr, with E. Ollion)

2019   Web data: scraping, curation and analysis (research level, CNRS summer school, with E. Ollion)

2018   Web data: scraping, curation and analysis (doctoral level, Quantilille summer school, with E. Ollion and J. Pagis)

2016   Digital methods for social sciences (doctoral level, Quantilille summer school, with E. Ollion and J. Pagis)

2015-2016   Digital methods (bachelor level, Sciences Po Paris, Reims campus, with E. Ollion)

Full courses (lectures and TA)

2021   Statistical methods for research in social sciences (masters level, Lille university)

2020-2021   Quantitative methods for social sciences (bachelor level, Lille university)

2019-2021   Statistical surveys for social sciences (bachelor level, Lille university)

2019   Webscraping with R (doctoral level, Paris Dauphine university)

2018-2019   Methods of social sciences (bachelor level, Lille university)

2017   Digital social sciences (bachelor level, Strasbourg university)

Short courses (lectures and TA)

2018   Introduction to machine learning (masters level, Paris Est university)

2018   Introduction to supervised machine learning (doctoral level, INED)

2016   Introduction to machine learning (doctoral level, Strasbourg university)

2015   Digital methods for social sciences (doctoral level, Strasbourg university)

Lectures

2019   International political economy (bachelor level, Lille university)

2019-2021   Contemporary French politics (bachelor level, Lille university)

2017   Statistical surveys (bachelor level, Strasbourg university)

TA-ing

2018-2020	French political history (bachelor level, Lille university)
2012-2013	Mathematics – analysis (bachelor level, Paris 1 Panthéon-Sorbonne university)
2009-2012	Advanced topics in microeconomics (masters level, Paris 1 Panthéon-Sorbonne university)
2008	Statistics (bachelor level, Paris 1 Panthéon-Sorbonne university)
2005-2014	Mathematics tutoring for small classes of *classes préparatoires* students (Optimal Prépa, Paris), *ca.* 1000 total hours of teaching.

Workshops

2016-2017	Research seminar « In the shadow of the law », political sociology of the French parliament (masters and doctoral level, Ecole Normale Supérieure, Paris, coordinated with É. Ollion, D. Lecomte and A. Bellon).
2015-2016	Research seminar « In the shadow of the law », political sociology of the French parliament (masters and doctoral level, Ecole Normale Supérieure, Paris, coordinated with É. Ollion).
2014-2015	Research seminar « Besides the law », political sociology of the French parliament (masters and doctoral level, Ecole Normale Supérieure, Paris, coordinated with É. Ollion).

Tutoring

2018	Tutoring for the collective scientific project of Ben Dhiaf, Garinet, Landreau, Meyer and Vital: text tagging and machine learning for the analysis of political commentary in the media (Ecole Polytechnique, with É. Ollion)
2018-2019	Evaluator for the doctoral thesis advancement committee of L. Scholtus: statistics applied to archaeology (Strasbourg university)
2016-2017	Tutoring of two teams of masters students in computer science, M. Megdoud, O. Naji, A. Lemba and T. Renoud: programming of interactive visualizations of self-organizing maps (Lille university, with S. Hym)

ORGANIZATION

2018-2022	Member of the organizing and scientific committees of the annual Quantilille summer school for quantitative methods in social sciences.

RESEARCH

Book

- J. Boelaert, S. Michon and É. Ollion, *Députés, des élus de métier. Sur la « professionnalisation » de la vie politique en France*, (On the professionalization of French politics), Raisons d'agir, May 2017.

Book chapter

- W. Beauvallet, J. Boelaert, S. Michon (2018) « Qui contrôle le Parlement européen ? Contribution à une sociologie du pouvoir dans l'Union européenne. » (Who controls the European Parliament? Contribution to a sociology of power in the European Union), in S. Michon (dir), Le Parlement au travail. Un espace européen de production parlementaire, Presses Universitaires de Rennes, pp. 49-63.

Published papers

- J. Boelaert, É. Ollion (2020) "Les Sommets du Palais. Analyser l'espace parlementaire avec des cartes auto-organisatrices" (The Summits of the House. Analyzing parliamentary practices with self-organizing maps), Revue Française de Science Politique, vol. 70, pp. 373-398.
  - invited presentation at the "Administrer la preuve statistique en sciences sociales" seminar, online, December 2020; presented (as "Living in Politics – Careers and Practices after the Second Moment of Political Professionalization") at the congress of the Association Française de Science Politique, Bordeaux, July 2019.

- J. Boelaert, É. Ollion (2018) "The Great Regression. Machine learning, econometrics and the future of quantification", Revue Française de Sociologie, vol. 59, no. 3, 2018, pp. 475-506.
  - invited presentation (by É. Ollion) at the Berkeley Sociology Colloquium, April 2018.

- J. Boelaert, S. Michon, É. Ollion (2018) "Le temps des élites. Ouverture politique et fermeture sociale à l'Assemblée en 2017", Revue Française de Science Politique, vol. 68, no. 5, 2018, pp. 677-802.
  - methodology presented at the methodological seminar of ISP, Nanterre, May 2019; paper presented at the seminar of ISP, Nanterre, March 2019; general seminar of CERAPS, Lille, January 2019; seminar of the political science doctoral school, Paris 1 university, January 2018

- D. Lecomte, H. Bouvard, D. Perez and J. Boelaert (2017) "Le respect de la boutique – L'étiolement de la discipline partisane dans le groupe parlementaire socialiste sous la XIVème législature" (The waning of partisan discipline in the socialist parliamentary group in 2012-2017), *Politix* (117), vol. 1, pp. 171-199.
  - presented at the congress of the Association Française de Sociologie, Saint-Quentin en Yvelines, July 2015.

- J. Boelaert, S. Michon and É. Ollion (2017) "Le temps long de la politique" (The long time of politics), Pouvoirs (161), vol. 2, pp. 61-72.
  - presented at the "Refaire la démocratie" conference, Assemblée nationale, Paris, October 2016.

- J. Boelaert, F. Gardes and S. Langlois (2017) "Convergence des consommations entre classes socioéconomiques et contraintes non monétaires au Canada" (Convergence of consumption patterns between socio-economic classes and non-monetary constraints in Canada), *L'Actualité Economique* (93), vol. 4.
  - presented at Journées de Microéconomie Appliquée conference, Nice June 2013; Société Canadienne de Sciences Economiques meeting, Sherbrooke May 2011.

- É. Ollion and J. Boelaert (2015) "Au-delà des *big data* – Les sciences sociales et la multiplication des données numériques." (Beyond big data – social sciences and the multiplication of digital data.) *Sociologie* (3), vol. 6, pp.295-310
  - presented at "Quantitativisme réflexif" seminar, ENS Cachan May 2015; Modal'X seminar, Nanterre May 2015; CoFSS seminar, Paris, February 2015 ; presented to the members of the Capla project, université Paris Dauphine, April 2017 ; guest presentation at the seminar of centre Cournot, Paris, May 2018.

- J. Boelaert, N. Mariot, J. Pagis and É. Ollion (2015) "Les aléas de l'interdisciplinarité – *Genèses* et l'espace des sciences sociales françaises (1990-2014)." (The vicissitudes of interdisciplinarity – *Genèses* and the space of French social sciences) *Genèses* (100-101), pp 20-49.

- J. Boelaert (2014) "Une seule fonction de demande ? Une enquête sur la stabilité des préférences par mélanges discrets de réseaux de neurones." (A single demand function? An inquiry on preference stability using discrete mixtures of neural networks.) *Revue Economique* (65) pp. 515-535
  - présented at Journées de Microéconomie Appliquée conference, Nice June 2013.

Conference proceedings

- L. Bendhaiba, J. Boelaert, M. Olteanu and N. Villa-Vialaneix (2014) "SOMbrero: an R Package for Numeric and Non-numeric Self-Organizing Maps" in T. Villman, F.-M. Schleiff, M. Kaden, M. Lange (eds) *Advances in Self-Organizing Maps and Learning Vector Quantization, Proceedings of the 10th International Workshop, WSOM 2014, Mittweida, Germany, July, 2-4, 2014*, pp. 219-228, Springer.

- J. Mariette, M. Olteanu, J. Boelaert et N. Villa-Vialaneix (2014) "Bagged Kernel SOM" in T. Villman, F.-M. Schleiff, M. Kaden, M. Lange (eds) *ibid*, pp. 45-54.

- J. Boelaert (2012) "Kudu Herd Optimization" in *Proceedings of the 6th IEEE International Conference on Intelligent Systems, IS 2012, Sofia, Bulgaria, September 6-8, 2012*, pp. 108-113.

Conference papers

- "How to Represent the Social Space? Methods and concepts for an enriched topography of fields" (with É. Ollion), presented at the congress of the Association Française de Science Politique, Bordeaux, July 2019.

- "Que faire de la prédiction en sciences sociales : *Random Forests vs.* régression logistique" (What to do with prediction in social sciences: Random Forests vs. logistic regression), Sciences XXL conference, INED, Paris March 2017 ; congress of the Association Française de Sociologie, Amiens, July 2017.

- "De Gaulle's Nightmare. The Steady Erosion of Party Discipline in France – A Network Based Approach" (with F. Tarissan et É. Ollion), European Conference on Social Networks (EUSN), Political Networks session, Paris, June 2016.

- "Are the old statistical methods doomed? GDA meets the 'machine learning revolution'" (with É. Ollion), Empirical investigation of social space II, Bonn, October 2015.

- "A neural network demand system", 29èmes Journées de Microéconomie Appliquée, Brest, June 2012.

Seminar papers and guest presentations

- "Extraction automatique et harmonisation de données web" (Automatic extraction and harmonization of webscraped data), guest presentation at the "Rencontres de statistiques appliquées", INED, Paris, February 2021

- "Living in Politics. Careers, Power and Political Professionalization in France", with É. Ollion and T. Collas, presented by É. Ollion at the Politics, History and Society Workshop at the University of Chicago, February 2020; presented at the ENSAE seminar, Malakoff, March 2019

- "Forests, neurons and logits: what to do with prediction models in the social sciences", guest presentation at the seminar of the Institute for Analytical Sociology, Linköping Universitet (Sweden) March 2017 ; guest presentation at the quantitative sociology seminar of CREST, Malakoff, June 2017.

- "How to quantitatively represent the social world – Field theory meets the 'machine learning revolution'", guest presentation at the scientific seminar of Observatoire Sociologique du Changement, IEP Paris, January 2017, and at the CREST quantitative sociology seminar, Malakoff, April 2017

Other works

- J. Boelaert and M. Khaneboubi (2015) "Une méthode de visualisation de traces d'activités sur la plateforme openEdX : le cas du Mooc 'Enseigner et former avec le numérique'" (Visualizing and analyzing MOOC activity logs), online article, adjectif.net.

- J. Boelaert and M. Khaneboubi (2015) "Elements d'analyse de données produites par le centre francais d'exploitation du droit de copie (CFC)" (Analysis of photocopy data from teachers' use in secondary education), technical report for the Revea project.

- "A Neural Network Demand System" (2013) working paper of the Centre d'Economie de la Sorbonne. Presented at the Journées de Microéconomie Appliquée conference, Brest June 2012.

Development – R packages

- *aweSOM* (v1.0 in 2021, v1.3 in 2022), available from CRAN.r-project.org, introduces interactive plots for self-organizing maps (SOM, aka Kohonen maps), which make these sometimes intricate maps much easier to read. The package also features a graphical user interface for easy training and analysis of SOM, and a large palette of plots to represent the data on the map. With contributions of J. Sodoge, M. Megdoud, O. Naji, A. Lemba, T. Renoud, É. Ollion and S. Hym.

- *scraEP* (v1.0 in 2017, v1.2 in 2021), available from CRAN.r-project.org, is a package for automated webscraping. Its main function makes it easy to transform a potentially large number of websites (in the form of downloaded html files or simple URLs) into a single table containing only the desired data, using either Xpath or CSS selectors. Another function, now deprecated, allowed the user to download, extract and format the career steps of Members of the European Parliament.

- *easi* (2015), available from r-forge.r-project.org, is aimed at estimating the EASI econometric model of individual consumer demand. The package is a correction and rewriting of the original package by S. Hoareau *et al*.

- *SOMbrero* (v1.0 in 2015) available from CRAN.r-project.org, is a package for computing self-organizing (Kohonen) maps, on numeric or relational data. I made contributions to version 1.0 of this package maintained by N. Vialaneix, notably writing the user interface and the computations for quality metrics.

- *revealedPrefs* (v0.1 in 2014, v0.4.1 in 2019) available from CRAN.r-project.org, is aimed at computing revealed preferences based on a dataset of bought quantities and prices, and testing the economic rationality axioms. It features fast searching algorithms, and allows the detection of classes of consumers with non-contradicting revealed preferences.