

CURRICULUM VITAE

JACOB L. MACDONALD

Jacob.Macdonald@liverpool.ac.uk

www.jacobmacdonald.org | linkedin.com/in/jacobmacdonald02

CURRENT POSITION

2019 -	Geographic Data Science Research Fellow – University of Liverpool <i>Consumer Data Research Centre Geographic Data Science Lab</i>	Liverpool UK
Nov. 2020 - Apr. 2021	Research Support Secondment – UK Joint Biosecurity Centre (JBC); Office for National Statistics (ONS); Administrative Data Research (ADR) UK <i>Local Data Spaces Programme for rapid local COVID-19 research response</i>	“

EDUCATION

2014 - 2020	PhD in Economics and Finance – Nova School of Business and Economics <i>Visiting Scholar: University of California Irvine, USA 2016 Thesis: “Leveraging Geospatial Statistics for Measuring and Valuing the Urban Environment.” Pass with Distinction and Honours</i>	Lisbon Portugal
2012 - 2015	Masters of Research in Economics – Nova School of Business and Economics <i>Study Exchange: Sun Yat-Sen University, China 2013 Thesis: “What are the Impacts of Historic Amenities on the Lisbon Housing Market.”</i>	“
2007 - 2012	Bachelor of Science (Joint Honours Economics and Statistics) – Memorial University of Newfoundland and Labrador	St. John’s Canada

TEACHING AND INVITED TALKS

Feb. 2021	Liverpool Open Research Week 2021 <i>Tools and Tech for Open Research – Following the Open Research Project Lifecycle</i> github.com/jacobmacdonald02/OpenResearchWeek_2021	Liverpool England
Jan. 2020	Module Instructor – Summer School on Spatial Analysis, Land-Use & The Environment (Nova Environmental Econ. Center and Universidad del Pacífico) <i>Spatial Analysis and Spatial Econometrics – Urban-Environmental Modelling in R</i>	Lima Peru
Aug. 2019	Course Instructor – Nova School of Business and Economics <i>Business Economics 2563 (Bridging Economics Summer Session)</i>	Lisbon Portugal
2016 - 2018	Teaching Assistant/ Grader – Nova School of Business and Economics <i>Intermediate Undergraduate Microeconomic Theory (Spring 2016; Fall 2017; Fall 2018) Advanced Undergraduate Microeconomic Theory (Spring 2017; Spring 2018) Masters Strategy 1 (Grader Spring 2016)</i>	“
2015 - 2018	Guest Research Lectures – Instituto Superior Economia e Gestão <i>Spatial Econometric Applications (May 15, 2015; Feb 4, 2016; Feb 6, 2017; Feb 10, 2018)</i>	“

RESEARCH

Interests: Urban/ environmental economics; spatial statistics and econometrics; regional/ geographical analysis; GIS; remote sensing; machine learning; data sciences; open/ accessible and big data.

Peer Reviewed Articles:

- 2019 Lopes, Ana Faria, Jacob L. Macdonald, Paula Quinteiro, Luís Arroja, Cláudia Carvalho-Santos, Maria Cunha-e-Sá, and Ana Dias. “**Surface vs. groundwater: The effect of forest cover on the costs of drinking water.**” *Water Resources and Economics*. doi.org/10.1016/j.wre.2018.06.002
- 2018 Franco, Sofia F., and Jacob L. Macdonald. “**The Effects of Cultural Heritage on Residential Property Values: Evidence from Lisbon, Portugal.**” *Regional Science and Urban Economics*. doi.org/10.1016/j.regsciurbeco.2018.02.001
- Franco, Sofia F., and Jacob L. Macdonald. “**Measurement and Valuation of Urban Greenness: Remote Sensing and Hedonic Applications to Lisbon, Portugal.**” *Regional Science and Urban Economics*. doi.org/10.1016/j.regsciurbeco.2017.03.002

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- 2017 Ban, Jifei. Richard Arnott, and Jacob L. Macdonald. **“Identifying Employment Subcenters: The Method of Exponentially Declining Cutoffs.”** *Land*. doi.org/10.3390/land6010017

Conference Papers/ Working Drafts:

- 2021 Ballantyne, Patrick, Alex Singleton, Les Dolega, and Jacob L. Macdonald. **“American Retail Centre Geographies: Centres, Characteristics & Catchments”**
[American Association of Geographers \(AAG\) Annual Meeting 2021](#)
- 2020 Macdonald, Jacob L., Daniel Arribas-Bel, and Alex Singleton. **“London Neighbourhood Housing Price Dynamics: Identifying Spatio-Temporal Hotspots and At-Risk Areas”**
[Urban Displacement Project \(UC Berkeley\) Symposium on Neighbourhood Change \(Berkeley, USA\)](#)
- Macdonald, Jacob L. **“Urban Transport Initiatives and Pollution Patterns: Comparing Low Emission Zones and Metro Expansions via a Spatial-Temporal Difference-in-Difference”**
[Sustainable Resource Use and Economic Dynamics \(SURED\) 2020 \(Ascona, Switzerland\)](#)
- 2018 Franco, Sofia F., and Jacob L. Macdonald. **“Living on the edge: How does your house price respond to urban hazard risks?”**
[VIII Conference of the Spanish-Portuguese Association of Natural Resource and Environment Economics](#)
- 2016 Franco, Sofia F., and Jacob L. Macdonald. **“The Money Doesn’t Fall Far from the Trees: Valuing public urban trees and their environmental spillover benefits”**
[11th Meeting of the Urban Economics Association \(Minneapolis, USA\)](#)

Work in Progress:

- Macdonald, Jacob L., Les Dolega, and Alex Singleton. **“An open source delineation of UK retail centres based on point clusters”**
- Macdonald Jacob L. **“Identification Algorithm for Exponentially Decaying Employment Subcentres across England”**
- Macdonald, Jacob L., and Pranjal Dave. **“Decomposing the Spatial Distribution of Employment Subcentres in London, England”**
- Calafiore, Alessia, Jacob L. Macdonald, and Alex Singleton. **“Decomposing the Temporal Signature of Nitrogen Dioxide Declines during the COVID-19 Pandemic in UK Urban Areas”**

Peer Reviewer:

Environment and Planning B: Urban Analytics and City Science | Regional Science and Urban Economics Housing, Care and Support | City and Environment Interactions | REGION | International Journal of Geo-Information | Real Estate Economics

PRESENTATIONS AND SEMINARS

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- 2020 **SURED 2020 (Ascona, Switzerland)*; GISRUK 2020 (London, UK)*; VIII AERNA Conference (Berlin, Germany)*; Open Research Week: Geographic Open Data and Software (Liverpool, UK); Geographic Data Science Lab Brown Bag Seminar (Liverpool, UK); Predicting Neighbourhood Change Using Big Data and Machine Learning (Berkeley, USA)**
- 2019 **Alan Turing Institute Urban Analytics Workshop (Bristol, UK);**
- 2018 **Nova SBE Economics Seminar Series (Lisbon, Portugal); VII AERNA Conference (Madrid, Spain); 58th European Regional Science Association Congress (Cork, Ireland); Third International Conference of Young Urban Researchers (Lisbon, Portugal); 2018 Quantitative Economics Doctorate Jamboree (Alicante, Spain)**
- 2017 **23rd European Association of Environmental and Resource Economists (Athens, Greece)**
- 2016 **11th Meeting of the Urban Economics Association (Minneapolis, USA); VII AERNA Conference (Aveiro, Portugal); 6th European Meeting of the Urban Economics Association (Vienna, Austria);**

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- 22nd **European Association of Environmental and Resource Economists** (*Zurich, Switzerland*);
Nova SBE Summer School on Network Econometrics (*Lisbon, Portugal*); **15th International
Workshop on Spatial Econometrics** (*Orleans, France*)
- 2015 **5th European Meeting of the Urban Economics Association** (*Lisbon, Portugal*)
- 2014 **European Regional Science Association Summer School** (*Poznan, Poland*); **International
Transportation Economics Association Summer School** (*Toulouse, France*)
- *Virtual Attendance*

TECHNICAL

Languages and Software:

R: Spatial statistics; spatial econometrics; GIS; geographically weighted regression; remote sensing; big data analysis; geographic data; machine learning; data visualization

QGIS: Cartography and map design; spatial analysis and GIS; remote sensing; data visualization

SQL: Local and server-based database management and querying; big data storage

GitHub: Shared resource management; code storage; streamlined and collaborative workflow processes; website, blog and tutorial management

Training:

UK Data Security Course, JISC February 2019

Accredited Researcher for ONS Secure Research Services (SRS)

PERSONAL

Citizenship: Canada

Residency: United Kingdom (Tier 2 April 2022)

Mother Tongue: English

Languages:

French (bilingual)

Portuguese (intermediate)