CURRICULUM VITAE

JACOB L. MACDONALD

j.macdonald@sheffield.ac.uk

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

CURRENT POSITION

2021 - Present	**Lecturer in GIS & Spatial Analysis** – University of Sheffield *Department of Urban Studies and Planning*	Sheffield UK

PREVIOUS EMPLOYMENT

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

EDUCATION

2014 - 2020	**PhD in Economics and Finance** – Nova School of Business and Economics *Visiting Scholar: University of California Irvine, USA 2016* *Thesis: "Leveraging Geospatial Statistics for Measuring and Valuing the Urban Environment."* *Pass with Distinction and Honours*	Lisbon Portugal
2012 - 2015	**Masters of Research in Economics** – Nova School of Business and Economics *Study Exchange: Sun Yat-Sen University, China 2013* *Thesis: "What are the Impacts of Historic Amenities on the Lisbon Housing Market."*	''
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** *Tools and Tech for Open Research – Following the Open Research Project Lifecycle* 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) *Spatial Analysis and Spatial Econometrics – Urban-Environmental Modelling in R*	Lima Peru
Aug. 2019	**Course Instructor** – Nova School of Business and Economics *Business Economics 2563 (Bridging Economics Summer Session)*	Lisbon Portugal
2016 - 2018	**Teaching Assistant/ Grader** – Nova School of Business and Economics *Intermediate Undergraduate Microeconomic Theory (Spring 2016; Fall 2017; Fall 2018)* *Advanced Undergraduate Microeconomic Theory (Spring 2017; Spring 2018)* *Masters Strategy 1 (Grader Spring 2016)*	''
2015 - 2018	**Guest Research Lectures** – Instituto Superior Economia e Gestão *Spatial Econometric Applications (May 15, 2015; Feb 4, 2016; Feb 6, 2017; Feb 10, 2018)*	''

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
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 Sub-centres 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 | Heritage & Society | Landscape and Urban Planning

PRESENTATIONS AND SEMINARS

2020	**Data and Policy 2020** (*London, UK)**; **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*); **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

PRIZES AND DISTINCTIONS

ONS Research Excellence Award (2021) – *for participation in the Local Data Spaces (LDS) project*

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	Mother Tongue:	English
Residency:	United Kingdom	Languages:	French (bilingual)
	(Skilled Worker 2024)		Portuguese (intermediate)