

CURRICULUM VITAE

DR. JACOB L. MACDONALD

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CURRENT AFFILIATION

2021: **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 (CDRC)
Geographic Data Science Lab (GDSL) Liverpool
UK

Nov. 2020 - **Research Support Secondment** – UK Joint Biosecurity Centre (JBC); Office for
Apr. 2021 National Statistics (ONS); Administrative Data Research (ADR) UK “
Local Data Spaces Programme for rapid local COVID-19 research response

2016 - 2018 **Teaching Assistant** – 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) Lisbon
Portugal

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

RESEARCH

Research Interests:

My research looks to use new and novel forms of data under the lens of urban analytics, geographic data science, spatial statistics, machine learning and econometric methods. Emerging opportunities exist to leverage secondary administrative information or remotely sensed data to better understand how individual agents value, interact with and define their natural and built urban environments. I am particularly interested in quantifying and analysing urban policies and interventions to evidence and inform best practices. I am a broad champion of open data and open science principles, replicability and making research accessible to all.

Peer Reviewed Articles:

2022 Macdonald, Jacob L , Les Dolega, and Alex Singleton. “**An open source delineation of UK retail centres based on point clusters.**” *Scientific Data*. doi.org/10.1038/s41597-022-01556-3

“ Ballantyne, Patrick, Alex Singleton, Les Dolega, and Jacob L. Macdonald. “**Integrating the Who, What and Where of American Retail Centre Geographies**” *Annals of the American Association of Geographers*. doi.org/10.1080/24694452.2022.2098087

“ 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**” *Applied Spatial Analysis and Policy*. doi.org/10.1007/s12061-022-09438-2

- 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 Proceedings:

- 2022 Macdonald, Jacob L., and Pranjal Dave. **“Decomposing the Spatial Distribution of Employment Sub-centres in London, England”** *GISRUK 2022 (Liverpool, UK)*
- 2021 Macdonald, Jacob L., Mark Green, Maurizio Gibin, Simon Leech, Alex Singleton, and Paul Longely. **“Local Data Spaces for Local Policy: Leveraging Trusted Research Environments for Granular and Secure Research in the Age of Covid-19”** *Data and Policy 2021 (London, UK)*
- “ 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 \(Minneapolis, USA\)](#)

Reports and Academic Writing Contributions:

- 2022 Richard Dunning, Yiquan Gu, Alex Lord, Thomas Moore, Jacob L. Macdonald, and Ian Wilson. **Mobile Homes: The impact of a change in the maximum park home sale commission** – Dept. for Levelling Up, Housing and Communities
<https://www.gov.uk/government/publications/mobile-homes-the-impact-of-a-change-in-the-maximum-park-home-sale-commission>
- 2021 Jacob L. Macdonald, Mark Green, and Maurizio Gibin. **“The NCRM wayfinder guide to moving to secondary data analysis”** – National Centre for Research Methods (NCRM)
<https://eprints.ncrm.ac.uk/id/eprint/4474>

- “ Francisco Rowe, Daniel Arribas-Bel, Alessia Calafiore, Martin Fleischmann, Krasen Samardzhiev, and Jacob L. Macdonald. “**Workshop on mobility data in urban science: Workshop Report**” – *Alan Turing Institute*
<https://www.turing.ac.uk/research/publications/workshop-mobility-data-urban-science-workshop-report>
- “ Jacob L. Macdonald and Simon Leech. “**Local Data Spaces: Supporting Local Authority Covid-19 Response**” – *Consumer Data Research Centre* <https://data.cdrc.ac.uk/stories/local-data-spaces-supporting-local-authority-covid-19-response>

ACADEMIC AND ADMINISTRATIVE ACTIVITIES

Editorial Positions:

Jul. 2022 **Associate Editor** – *Regional Studies, Regional Sciences*

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 | Regional Studies, Regional Science

Consumer Data Research Centre – External Data Project Reviewer

Research and Data Training:

UK Data Security Course, JISC February 2019

Accredited Researcher for ONS Secure Research Services (SRS)

SPEAKING ENGAGEMENTS AND PRESENTATIONS

Invited Sessions and Talks:

Oct. 2022	University of Sheffield OpenFest 2022 (Sheffield) <i>The Open Research Project Life Cycle – From getting the idea, to getting the idea out there</i>	Sheffield UK
May 2022	Pint of Science UK (Sheffield) <i>The Red, Green and Blue of Urban Environmental Data Science</i>	“
Feb. 2021	Liverpool Open Research Week <i>Tools and Tech for Open Research – Following the Open Research Project Lifecycle</i> github.com/jacobmacdonald02/OpenResearchWeek_2021	Liverpool UK
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
2015 - 2018	Guest Research Lecturer – Instituto Superior Economia e Gestão <i>Spatial Econometric Applications (May 15, 2015; Feb 4, 2016; Feb 6, 2017; Feb 10, 2018)</i>	“

Conference Presentations:

- 2022 **Housing Studies Association** (Sheffield, UK); **GISRUK 2022** (Liverpool, UK)
- 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 & Software** (Liverpool, UK); **Geographic Data Science Lab Brown Bag Seminar** (Liverpool, 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);
- 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);
- 2015 **5th European Meeting of the Urban Economics Association** (Lisbon, Portugal)

*Virtual Attendance

Workshops and Event Presentations:

- Jun. 2022 **4th Symposium on Urban Green Infrastructure** (Sheffield, UK)
- Apr. 2022 **Sheffield Data Science and AI Interest Group Workshop** (Sheffield, UK)
- Jan. 2020 **Predicting Neighbourhood Change Using Big Data and Machine Learning** (Berkeley, USA)
- Oct. 2019 **Alan Turing Institute Urban Analytics Workshop** (Bristol, UK)
- May 2018 **Quantitative Economics Doctorate Jamboree** (Alicante, Spain)
- Jun. 2016 **Nova SBE Summer School on Network Econometrics** (Lisbon, Portugal);
- May 2015 **15th International Workshop on Spatial Econometrics** (Orleans, France)
- Jul. 2014 **ERSA Summer School in Spatial Econometrics and Regional Analysis** (Poznan, Poland);
- Jun. 2014 **International Transportation Economics Association Summer School** (Toulouse, France)

TEACHING AND MENTORSHIP

Advanced GIS Methods (Masters – Spring 2022/23); **The Professional GIS Project** (Masters – Spring 2022/23); **Researching the City + European Field Trip** (Undergraduate – Spring 2022/23); **Quantitative Analysis** (Masters – Fall 2022); **Spatial Data Science for Social Scientists** (Masters – Spring 2023)

- 2022: Undergraduate and Master dissertation supervisor for students in Applied GIS, Urban and Regional Planning, Real Estate Planning and Development, and Geography
- 2020 - 2021 Geographic Data Science Lab Visiting (Virtual) Research Sponsor – *Pranjal Dave* (Birla Institute of Technology and Science, Pilani)

HONOURS AND DISTINCTIONS

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

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PERSONAL

Citizenship:	Canada	Mother Tongue:	English
Residency:	United Kingdom (<i>Skilled Worker 2024</i>)	Languages:	French (bilingual) Portuguese (intermediate)

LinkedIn: <https://www.linkedin.com/in/jacobmacdonald02/>

Twitter: <https://twitter.com/jacobmac02>

GitHub: <https://github.com/jacobmacdonald02>