

## JUSTIN T. VAN DIJK

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### Profile

Human Geographer. Data scientist. Teacher. Interested in urban analytics, geo-demographics, urban transport, spatial inequalities, and big data applications in scarce data environments. Extensive experience in the domain of Geographic Information Systems, urban studies, and transport research. Possesses a wide skill set in the field of advanced spatial analysis, including experience with Python programming, R scripting, and PostgreSQL/PostGIS.

### Present appointment

*2018 - Present*      **Postdoctoral research associate**, University College London  
Department of Geography. Geospatial Analytics and Computing Research Group. Working on the analysis and visualisation of big spatial population data sets; both historic and contemporary.

### Previous appointments

*2014 - 2017*      **Junior lecturer** (part-time), Stellenbosch University  
Department of Logistics. Tasks included thesis supervision of BSc (Honours) students and teaching the post-graduate course *Spatial Accessibility and Transport Network Analysis*.

*2013*      **Junior lecturer**, Utrecht University  
Department of Human Geography and Planning. Tasks included thesis supervision of BSc students and teaching various undergraduate courses on Geographic Information Systems Human Geography and Planning.

*2012*      **Teaching assistant**, Stellenbosch University  
Department of Logistics. Assistant in the course *Spatial Accessibility and Transport Network Analysis*.

*2009 - 2012*      **Teaching assistant**, Utrecht University  
Department of Human Geography and Planning. Assistant in the courses *Introduction to GIS*, *Transport Geography*, and *Advanced GIS*.

## Education

- 2014 - 2017      **Doctor of Philosophy**, Stellenbosch University  
Transport Economics. Thesis: Designing Travel Behaviour Change interventions: A spatiotemporal perspective.
- 2011 - 2013      **Master of Science**, Utrecht University. GPA 4.0. **Cum Laude**.  
Human Geography and Planning. Thesis: Towards spatial justice: The spatial equity effects of a toll road in Cape Town, South Africa.
- 2007 - 2011      **Bachelor of Science**, Utrecht University. GPA 4.0.  
Human Geography and Planning. Thesis: Contemporary Orientalism? Representations of Islam and Muslims in the Dutch Press: a content analysis of 'De Volkskrant' and 'De Telegraaf', 2001-2010.

## Refereed publications: International journals

1. **Van Dijk, J. T.** and Longley, P. A., 2020, Interactive display of surname distributions in historic and contemporary Great Britain. *Journal of Maps* 169(1): 68-76. doi: 10.1080/17445647.2020.1746418
2. Kandt, J., **Van Dijk, J. T.**, and Longley, P. A., 2020, Family name origins and inter-generational demographic change in Great Britain. *Annals of the American Association of Geographers*. Advance Online Publication. doi: 10.1080/24694452.2020.1717328
3. Engin, Z., **Van Dijk, J. T.**, Lan, T., Longley, P. A., Treleaven, P., Batty, M., and Penn, A., 2019, Data-driven urban management: Mapping the landscape. *Journal of Urban Management*. Advance Online Publication. doi: 10.1016/j.jum.2019.12.001
4. **Van Dijk, J. T.**, 2018, Identifying activity-travel points from GPS-data with multiple moving windows. *Computers, Environment and Urban System* 70: 84-101. doi: 10.1016/j.compenv.urb.2018.02.004
5. **Van Dijk, J. T.** and Krygsman, S.C., 2017, Using GPS-based activity spaces and opportunity indicators for travel behaviour analysis. *Journal of Urban Technology* 25(2): 105-124. doi: 10.1080/19475683.2017.1340340
6. **Van Dijk, J. T.** and De Jong, T. 2017, Post-processing GPS tracks in reconstructing travelled routes in a GIS-environment: Network subset selection and attribute adjustment. *Annals of GIS* 23(3): 203-217. doi: 10.1080/10630732.2017.1400814
7. Idahosa, L. O. and **Van Dijk, J. T.**, 2015, Freedom for whom in South Africa? Inequality, unemployment and the elderly. *Development* 58(1): 96-102. doi: 10.1057/dev.2015.18

8. **Van Dijk, J. T.**, Krygsman, S. C., and De Jong, T., 2015, Towards spatial justice: The spatial equity effects of a toll road in Cape Town, South Africa. *Journal of Transport and Land use* 8(3): 95-114. doi: 10.5198/jtlu.2015.555

### Manuscripts under consideration

1. **Van Dijk, J. T.**, Lansley, G., and Longley, P. A., Using linked consumer registers to estimate internal migration in the United Kingdom. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*. Under review.

### Manuscripts in preparation

1. **Van Dijk, J. T.**, Lansley, G., and Longley, P. A., Consumer data perspectives upon residential mobility in the UK housing market.

### Book chapters

1. **Van Dijk, J. T.**, Lansley, G., and Longley, P. A., Using linked consumer and administrative data to model demographic changes in London's city fringe. In: Clarke, G., Birkin, M., and Stimson, B. (Eds.), *Applications of Big Data in geography and planning*. Cheltenham: Edward Elgar Publishing Ltd. Forthcoming.
2. Wolfensberger M., Dekker, M., **Van Dijk, J. T.**, Zubizarreta, J., Hait, C., Mann, C., and Lucas, C., 2013, Learning as salon: Honors International Collaboration. In: Mulvaney, M. K. and Klein, K. (Eds.), *Preparing Tomorrow's Global Leaders: Honors International Education*, pp. 75-84. Lincoln: National Collegiate Honors Council. NCHC Monograph Series.

### Conference proceedings

1. **Van Dijk, J. T.** and Longley, P. A., 2020, Platial geo-temporal demographics using family names. In: Westerholt, R. and Mocnick, F.-B. (Eds.), *Proceedings of the 2nd International Symposium on Platial Information science (PLATIAL'19)*. Warwick: Warwick University. 23-31. doi: 10.5281/zenodo.3628863
2. **Van Dijk, J. T.**, Lansley, G., Lan, T., and Longley, P. A., 2019, Using the spatial analysis of family names to gain insight into demographic change. *Proceedings of the 27th Conference of GIS Research UK (GISRUk)*. Newcastle: Newcastle University.
3. Lan, T., Lansley, G., **Van Dijk, J. T.**, and Longley, P. A., 2019, Geocoding historical census records in England and Wales. *Proceedings of the 27th Conference of GIS Research UK (GISRUk)*. Newcastle: Newcastle University.
4. **Van Dijk, J. T.** and Krygsman, S. C., 2016, Mobile technologies for data collection in sub-Saharan Africa: An outlook to the future of mobility research. *#CelebrateGeography: Proceedings of the 11th Biennial Conference of the Society of South African Geographers (SSAG 2016)*. Stellenbosch: SunMedia. 180-189.

5. **Van Dijk, J. T.** and Krygsman, S. C., 2015, Gathering individual travel data with GPS-enabled smartphones: A proof of concept study. *Proceedings of the 34th Southern African Transport Conference (SATC 2015). Pretoria: Southern Africa Transport Conference.* 448-460.

### Professional publications

1. **Van Dijk, J. T.** and De Jong, T., 2010, Medische voorzieningen in kaart. Bereikbaarheid medische voorzieningen in Bushbuckridge, Maruleng en Sekhukhune [Accessibility of Medical services in Bushbuckridge, Maruleng and Sekhukhune]. *Geografie* 19 (5): 18-20.

### Books

1. **Van Dijk, J. T.**, 2017, Designing Travel Behaviour Change Interventions: a spatiotemporal perspective [dissertation]. Stellenbosch: Stellenbosch University. Persistent URL: <http://hdl.handle.net/10019.1/102809>

### Grants

|             |   |
|-------------|---|
| 2020        | Frank Carter Travel Fund, University College London<br><b>£ 550</b>   |
| 2015 - 2017 | NRF-DST innovation scholarship, National Research Foundation and Department of Science and Technology<br><b>ZAR 330,000</b> |
| 2016        | Postgraduate travel grant, National Research Foundation<br><b>ZAR 24,222</b>  |
| 2015 - 2016 | Stellenbosch merit bursary, Stellenbosch University<br><b>ZAR 50,000</b>  |
| 2014 - 2016 | Scholarship award for full-time doctoral studies, Stellenbosch University<br><b>ZAR 390,000</b>                             |

### Papers presented at international conferences

1. "Platial geo-temporal demographics using family names". 2nd International Symposium on Platial Information science. *Warwick, United Kingdom, September 5 – September 6, 2019.*
2. "Using the spatial analysis of family names to gain insight into demographic change". 27th Conference of GIS Research UK. *Newcastle, United Kingdom, April 23 – April 26, 2019.*
3. "Mobile data collection techniques in sub-Saharan Africa: An outlook to the future of transport research". 11th Biennial Conference of the Society of South African Geographers. *Stellenbosch, South Africa, September 25 – September 25, 2016.*

4. "Designing a Voluntary Travel Behaviour Change Intervention: Smartphones and Space-Time Accessibility Analysis". Mobile Tartu 2016. *Tartu, Estonia, June 29 – July 1, 2016*.
5. "Gathering individual travel data with GPS-enabled smartphones: A proof of concept study". 34th Southern African Transport Conference. *Pretoria, South Africa, 6 July – July 9, 2015*.
6. "Twenty years of Freedom: The role of the Old Persons Grant in addressing unemployment and inequality in a young democracy". 12th Development Dialogue "Rethinking Democracy". *The Hague, the Netherlands, October 16 – October 17, 2014*.
7. "Towards spatial justice: The spatial Equity Effects of a Toll Road in Cape Town, South Africa". World Symposium on Transport and Land Use. *Delft, the Netherlands, June 24 – June 27, 2014*.

### **Guest lectures and invited research seminars**

1. "What's in a name? Storing surname geographies for both visualisation and analysis". Guest lecture Graduate School Economic and Management Sciences. *Stellenbosch University, South Africa, March 8, 2019*.
2. "What's in a name? Storing surname geographies for both visualisation and analysis". Geo+Data London (AGI/CDRC event). *University College London, United Kingdom, December 4, 2018*.
3. "Using GPS-enabled smartphones for Voluntary Travel Behaviour Change interventions". Guest lecture Utrecht University Summer School on "GPS data analysis". *Utrecht University, the Netherlands, July 12, 2017*.
4. "GPS data analysis". Guest lecture Utrecht University in the course "Introduction to GIS". *Utrecht University, the Netherlands, February 18, 2016*.
5. "GPS data analysis". Guest lecture Utrecht University in the course "Introduction to GIS". *Utrecht University, the Netherlands, November 25, 2015*.

### **Enabling roles**

- |             |  |
|-------------|--|
| 2019 - 2020 | <i>Undergraduate dissertation supervision</i><br>Co-supervisor undergraduate dissertation. Institute of Education, University College London.  |
| 2019        | <i>"Technical Tuesdays" seminar series</i><br>Co-organiser and speaker in this weekly Seminar Series on methods and techniques for quantitative researchers. GitHub: <a href="https://github.com/jtvandijk/TechnicalTuesdays">https://github.com/jtvandijk/TechnicalTuesdays</a> |

- 2019 *Nuffield Research Placement supervision*  
Supervision of first-generation prospective university student.
- 2014 - 2015 *Social Sciences for Development conference*  
Member of the local organising committee at Stellenbosch University for the 2015 conference.

### Web development

- 2019 - Present *Gamble Aware*  
Data analysis and visualisations on the geographical distribution of supply and demand for treatment and support for problematic gamblers.
- 2018 - Present *GBNames website*  
Website development. GBNames explores the spread of family names across Great Britain, using historic censuses and recent consumer registers, and links surnames to consumer data statistics. The latest version of the website is accessible through: [gbnames.mappingdutchman.com](http://gbnames.mappingdutchman.com)

### External projects

- 2019 *Greater London Authority*  
Preparation of selected data products on ethnicity, population churn, migration, and social mobility for the Greater London Authority.
- 2016 - 2017 *Harambee Youth Employment Accelerator*  
Data analysis using well-known statistical techniques as well as more advanced machine learning classifiers for Harambee Youth Employment Accelerator to better understand, and possibly predict, successful job placements.
- 2016 - 2017 *Human Sciences Research Council*  
Contributions project proposal for funding the establishment of a nationally representative cell phone panel of South Africans.
- 2009 *AfriScope*  
Contributions to a study on the accessibility of government services in the Integrated Sustainable Rural Development (ISRD) Nodes in South Africa.

### Review

- 2020  
Computers, Environment, and Urban Systems  
Journal of Transport Geography  
Transactions in GIS
- 2019  
Transactions in GIS  
Journal of Transport Geography

|      |   |
|------|---|
|      | The Israel Science Foundation (Grant review)      |
|      | Journal of Traffic and Transportation Engineering |
| 2018 | Journal of Transport Geography                    |
|      | Computers, Environment, and Urban Systems         |
| 2016 | Area Development and Policy                       |
| 2015 | Journal of Transport and Land Use                 |

### Core technical skills

|                                       |                               |
|---------------------------------------|-------------------------------|
| <i>Geographic Information Systems</i> | R, Python, Q-GIS, ArcGIS      |
| <i>Data processing</i>                | R, Python, Bash, GNU Parallel |
| <i>Data analysis</i>                  | R, Python                     |
| <i>Data visualisation</i>             | ggplot                        |
| <i>Project management</i>             | Git, GitHub                   |
| <i>Web mapping</i>                    | Leaflet.js                    |
| <i>Web development</i>                | HTML, CSS, JavaScript, Django |
| <i>Database management</i>            | PostgreSQL                    |
| <i>Typesetting</i>                    | LaTeX                         |

### Language proficiency

|          |                                  |
|----------|----------------------------------|
| Dutch    | Native proficiency               |
| English  | Full professional proficiency    |
| isiXhosa | Basic conversational proficiency |

### References

Professor Paul Longley

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Professor James Cheshire

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Dr Neil Rankin

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