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1 Education and Qualifications

11 - 14	**PhD in Geographic Information Science** (*Awarded Oct. 2014*) - City, University of London, UK.
03 - 06	**BA (*1st Class Hons*) in Geography** - Durham University, UK.

2 Awards Honors and Distinctions

2017	**InfoVis Best Poster Award** – top 1 of 64 submissions, IEEE VIS 2017, Phoenix, Arizona.
2016	**InfoVis Best Paper Honorable Mention** – top 3 of 165 papers, IEEE VIS 2016, Baltimore, Maryland.
2014	**Top 10 Taylor & Francis articles in Transport** for the paper 'Exploring gendered cycling behaviours within a large-scale behavioural data-set' (listed under Publications).
2013	**Smeed Prize (1st place)** for best student paper and presentation (14 shortlisted papers), 45th National Universities Transport Study Group Annual Conference, University of Oxford.
2012	**VAST Challenge Award for Efficient Visualization** – IEEE Visweek, Seattle, Washington.
	Nokia Mobile Data Challenge – 3rd best paper from c.100 entries, Pervasive 2012, University of Newcastle.
2011	**University Studentship** for PhD study.
2006	**Robin Mills Award** for second highest first in academic cohort, Durham University Geography.

3 Employment

17 - pres	**Lecturer in Geographic Data Science, University of Leeds**. Research proposes, evaluates and deploys visualization techniques in the analysis of large social science datasets. Methodological work published in the Information Visualization domain and applied work in the Transport, Political Science and Geography domains. Co-leader of the Centre for Spatial Analysis and Policy (CSAP) research group and of the LIDA Visualization Study Group. Teaching is on modules with an applied Data Science focus. For 2020-21 contribute to six PGT modules, module leader on three.

14 - 17	**Research Fellow - giCentre, City, University of London**. A €13m, four-year EU project involving academic and commercial partners across Europe. Responsible for contributing new research and software in spatial analysis for crime research. As well as publishing research outputs at IEEE VIS and VGTC Eurovis, designed visual analysis software prototypes. Contributed to teaching via guest lectures and lab assistance for modules in Data Science and Data Visualization.
11 - 14	**PhD Researcher - giCentre, City, University of London**. Recent advances in information visualization and data analytics were used to analyse and classify customer travel behaviours within the London Cycle Hire scheme. Work was presented at international academic and industry conferences, winning best paper at one leading conference, and research papers were published in four international academic journals. Tutored and guest lectured on undergraduate and postgraduate modules in Data Visualization and Research Methods. Delivered invited talks on data analytics to industry and academic audiences.
10 - 11	**Senior Researcher - YouGov, London**. Managed fieldwork, client relationships, data analysis and reporting for various customer insight projects. As well as developing and extending skills in data analysis, a substantial aspect of the role was around survey design and implementation: preparing and piloting scripts and monitoring response rates and making decisions about sample boosting when surveys were 'live'. Also introduced new chargeable analysis outputs: dashboard reporting for tracker projects and basic interactive graphics for client use.
08 - 10	**Research Officer - Leicestershire County Council, Leicestershire**. In an award-winning research team, managed and was the principal analyst on a large-scale evidence base commissioned by the council's Transport Department. Using current techniques within GIS and market research, the work considered factors such as access to services, local labour market efficiency and fear of crime on Leicestershire's public transport system. The project was featured in a leading international conference on data analysis. Also worked on various smaller economic insight research projects.
06 - 08	**Research Executive - QA Research, York**. Graduate scheme in social and market research. Developed skills in both qualitative and quantitative research, presenting, report writing, sales/PR writing and project management.

4 Research Income

(a) Awards

2020	**Department for Transport** (Co-I) – SaferActive: prioritising investment in traffic calming measures for vulnerable road users.	£90,000
2018	**Alan Turing Institute** (Co-I) – Creating a Digital Twin (SPF).	£888,464

(b) Consultancy

2015	**Mirror Group** – A web-based visualization of Bus usage data to support media campaign. [`project web-site`].	£2,700

5 Publications

(a) Refereed Academic Journals

2021 Radburn, R. and **Beecham, R.** (2021). Mapping deprivation for each and every small area in England. **Regional Studies, Regional Science**.

Beecham, R., Dykes, J., Hama, L., and Lomax, N. (2021). On the Use of 'Glyphmaps' for Analysing the Scale and Temporal Spread of COVID-19 Reported Cases. **ISPRS International Journal of Geo-Information**, 10(4).

2020 Lovelace, R., **Beecham, R.**, Heinen, E., Vidal Tortosa, E., Yang, Y. Slade, C., and Roberts, A. (2020). Is the London Cycle Hire Scheme becoming more inclusive? An evaluation of the shifting spatial distribution of uptake based on 70 million trips. **Transportation Research Part A: Policy and Practice**, 140(October):1–15.

Beecham, R., Dykes, J., Rooney, C., and Wong, W. (2020). Design Exposition Discussion Documents for Rich Design Discourse in Applied Visualization. **IEEE Transactions on Visualization and Computer Graphics**. [code].

Beecham, R., Williams, N., and Comber, L. (2020). Regionally-structured explanations behind area-level populism: an update to recent ecological analyses. **PLoS ONE**, 15(3):e0229974. [code].

Beecham, R. (2020). Using position, angle and thickness to expose the shifting geographies of the 2019 UK General Election. **Environment and Planning A: Economy and Space**, 52(5):833–836 [code][press].

2019 **Beecham, R.** and Slingsby, A. (2019). Characterising labour market self-containment in London with geographically arranged small multiples. **Environment and Planning A: Economy and Space**, 51(6):1217–1224. [code].

2018 **Beecham, R.**, Slingsby, A., and Brunsdon, C. (2018). Locally-varying explanations behind the United Kingdom's vote to leave the European Union. **Journal of Spatial Information Science**, 16:117–136. [code].

2017 **Beecham, R.**, Dykes, J., Meulemans, W., Slingsby, A., Turkay, C., and Wood, J. (2017). Map line-ups: effects of spatial structure on graphical inference. **IEEE Transactions on Visualization and Computer Graphics**, 23(1):391–400. [paper web-site] [23% acceptance rate] [Best Paper Honorable Mention].

2016 **Beecham, R.**, Rooney, C., Meier, S., Dykes, J., Slingsby, A., Turkay, C., and Wong, W. (2016). Faceted Views of Varying Emphasis (FaVVEs): a framework for visualising multi-perspective small multiples. **Computer Graphics Forum**, 35(3):241–249. [paper web-site] [28% acceptance rate].

2014 Wood, J., **Beecham, R.**, and Dykes, J. (2014). Moving beyond sequential design: Reflections on a rich multi-channel approach to data visualization. **IEEE Transactions on Visualization and Computer Graphics**, 20(12):2171–2180. [23% acceptance rate].

Beecham, R. and Wood, J. (2014). Characterising group-cycling journeys using interactive graphics. **Transportation Research Part C: Emerging Technologies**, 47(October):194–206.

Beecham, R., Wood, J., and Bowerman, A. (2014). Studying commuting behaviours using collaborative visual analytics. **Computers, Environment and Urban Systems**, 47(September):5–15.

Beecham, R. and Wood, J. (2014). Exploring gendered cycling behaviours within a large-scale behavioural data-set. **Transportation Planning and Technology**, 37(1):83–97. [Smeed Prize (1st place)] [Taylor & Frances top 10 articles in transport from 2014]

2013 Slingsby, A., **Beecham, R.**, and Wood, J. (2013). Visual analysis of social networks in space and time using smartphone logs. **Pervasive and Mobile Computing**, 9(6):848–864.

(b) Book Chapters

2015 **Beecham, R.** (2015). Using bikeshare datasets to improve urban cycling experience and research urban cycling behaviour. In Gerike, R. and Parkin, J., editors, **Cycling Futures: From Research into Practice.**, pages 267–283. Ashgate, Farnham, UK.

(c) Refereed Conference Proceedings

2021 Doppler, J. H., Pohl, M., **Roger Beecham**, and Dykes, J. (2021). Strategies for Detecting Difference in Map Line-Up Tasks. In Lamas, D., Loizides, F., Nacke, L. E., Petrie, H., Winckler, M., and Zaphiris, P., editors, **INTERACT 2021 - 18th International Conference on Human-Computer Interaction, Bari, Italy, August 30th-2nd September, 2021, Proceedings**, Lecture Notes in Computer Science. Springer.

2019 Lovelace, R., Hama, L., and **Beecham, R.** (2019). Reproducible road safety research: an exploration of the shifting spatial and temporal distribution of car-pedestrian crashes. In **Geographical Information Science Research UK (GISRUK)**, Newcastle, UK.

2017 Rooney, C., **Beecham, R.**, Dykes, J., and Wong, W. (2017). Dynamic Design Documents for supporting applied visualization. In **Poster presented at IEEE VIS**, Phoenix, USA. [Best Poster Award]

Beecham, R. and Dykes, J. (2017). Map LineUps: implications for spatial analysis. In **Geocomputation 2017**, Leeds, UK.

Beecham, R., Slingsby, A., Brunsdon, C., and Radburn, R. (2017). Spatially varying explanations behind the UK's vote to leave the EU. In **Geographical Information Science Research UK (GISRUK) 2017**, Manchester, UK.

2016 **Beecham, R.**, Wood, J., and Turkay, C. (2016). Towards explanatory model building in social data science. In **Royal Geographical Society Annual International Conference 2016: Urban Analytics**, London, UK.

2015 **Beecham, R.**, Dykes, J., Slingsby, A., and Turkay, C. (2015). Supporting crime analysis through visual design. In **Poster presented at IEEE VIS**, Chicago, USA.

Dykes, J., Rooney, C., **Beecham, R.**, Turkay, C., Slingsby, A., Wood, J., and Wong, W. (2015). Multi-Perspective Synopsis with Faceted Views of Varying Emphasis. In **Poster presented at IEEE VIS**, Chicago, USA.

2014 **Beecham, R.**, Dykes, J., Turkay, C., Slingsby, A., and Wood, J. (2014). Map Line Ups: Using Graphical Inference to Study Spatial Structure. In **DECISIVe: Dealing with Cognitive Biases in Visualizations, a workshop at IEEE VIS**, Paris, UK.

Beecham, R. and Wood, J. (2014). Towards confirmatory data analysis? Deriving and analysing routing information for an origin-destination bike share dataset. In **46th Annual Universities Transport Study Group (UTSG) Conference**, Newcastle, UK.

2012	**Beecham, R.**, Wood, J., and Bowerman, A. (2012). Identifying and explaining inter-peak cycling behaviours within the London Cycle Hire Scheme Conference. In **Progress in Movement Analysis: Experiences with Real Data**, Zurich, Switzerland.
	Kachkaev, A., Dillingham, I., **Beecham, R.**, Goodwin, S., Ahmed, N., and Slingsby, A. (2012). Monitoring the Health of Computer Networks with Visualization - VAST 2012 Mini Challenge 1 Award: Efficient Use of Visualization. In **IEEE Conference on Visual Analytics Science and Technology**, Seattle, USA.
	Beecham, R., Wood, J., and Bowerman, A. (2012). A visual analytics approach to understanding cycling behaviour. In **Poster presented at the IEEE Conference on Visual Analytics Science and Technology (VAST)**, Seattle, USA.
2010	Radburn, R., **Beecham, R.**, Dykes, J., Wood, J., and Slingsby, A. (2010). Using spatial treemaps in local authority decision making and reporting. In **IEEE Conference on Information Visualization (InfoVis), Discovery Exhibition**, Utah, USA.

6 PhD

2018 –	Caroline Tait (ESRC CDT), 1st Supervisor

(a) Postdoc/Researcher

2021	Research Assistant - Thomas Richardson (UKRI Research Fund; line manager and co-supervisor)
2020	LIDA Intern - Thomas Richardson (co-supervisor)
2020	LIDA Intern - Millie Wagstaff (co-supervisor)
2018	LIDA Intern - Benjamin Wilson (co-supervisor)

7 Teaching Experience

(a) Invited Courses

20-21	**Invited 10-day course**, Computational methods for Social Data Science: Exploring Society through Visualization and Modelling, Essex Summer School. `roger-beecham.com/comp-sds/`
18-19	**LIDA Seminar**, Explaining Trump and Brexit with Tidy Data Graphics, Leeds Institute for Data Analytics. `www.roger-beecham.com/tidy-datavis/`
15-16	**Active Mobility**, MSc lecture series, TU Vienna.

(b) Postgraduate

8 Invited Presentations

2021	**Beecham, R.** (2021). Visualizing the pandemic and other health outcomes, i-sense Q&A Series. London, UK.

2020	**Beecham, R.** (2020). Glyphmaps for analysing the scale and temporal spread of covid-19 cases, at Annual VizTIG 2020 Symposium, Alan Turing Institute. London, UK.
	Beecham, R. (2020). Visualization for social data science principles and applications, at 53rd Essex Summer School. Essex, UK.
	Beecham, R. (2020). Data graphics as statistics? A call to adventure for statistical communication, at 52nd Annual Meeting of the French Statistical Society (cancelled). Nice, France.
2016	**Beecham, R.** (2016). Thinking spatially ... through visualization, at Geography Department Seminar Series. University College School, London.
	Beecham, R. (2016). Visualising uncertainty (and probability), at Visual Analytics Bootcamp. Middlesex University, London.
2015	**Beecham, R.** (2015). Thinking spatially ... through visualization, at Geography Department Seminar Series. University College School, London.
2014	**Beecham, R.** (2014). Discovering bike share cycle behaviours through interactive visual analysis. Or why pictures are a necessary part of big data analytics, at LSHTM Public Health Group Seminar Series. London School of Hygiene & Tropical Medicine, London.
2013	**Beecham, R.** (2013). Exploratory visualization for discovering data stories, Hacks versus Hackers Meetup. London.
	Beecham, R. (2013). Data visualization, at The Power of Data, PPA Digital Publishing Conference 2013. London.
	Beecham, R. (2013). Visualization for better data analysis, at Transport Statistics User Group. London.
	Beecham, R. (2013). Exploring gender and cycle behaviour in a large-scale datasets, at Urban Digital: GIS Mapping and Technology, King's College London Geography Department. London.
2012	**Beecham, R.** (2012). Beyond representation: using visual analytics to classify cycling behaviours within the London Barclays bike share scheme, at ICLCity2012: Innovation, Creativity and Leadership - Research and Practice. London.
	Beecham, R. (2012). Visualization of the London bike share scheme, at Public Transport Interest Group, ITS UK. London.

9 Academic and Professional Duties

(a) Reviewing

CS/Vis	ACM CHI; EuroVis; IEEE VIS; IEEE Transactions on Visualization & Computer Graphics; Computers & Graphics; IEEE Pervasive Computing.
Geog	IJGIS; Computers, Environment & Urban Systems; Applied Geography; Environment & Planning B; Cambridge Journal of Regions, Economy and Society.
Tran	Journal of Transport Geography; Journal of Transportation & Health; International Journal of Sustainable Transportation; Research in Transportation Business Management; IEEE Transactions on Intelligent Transport Systems.
Other	Psychological Science.

(b) Conference and Seminar Organisation

2021	**RGS-IBG** 2021: The Presence and Impact of Spatial Boundaries in Transport Geography, September 2021, London, UK. Committee member.
2017	**DECISIVe**: Dealing with Cognitive Biases in Visualisations (a workshop at IEEE VIS 2017), 2nd October 2017, Phoenix, USA. Committee member.
2015	**Universities Transport Study Group**, 47th Annual Conference, 6th-8th January, City, University of London. Committee member and judging panel for best paper award.
2014	**DECISIVe**: Dealing with Cognitive Biases in Visualisations (a workshop at IEEE VIS 2014), 9th November 2014, Paris, France. Committee member.

10 Technical skills

code	R, Java, Processing, PHP, HTML, CSS.
dbase	MySQL, PostgreSQL SQLite, MongoDB.
vis	ggplot2, vega-lite, vega, Tableau
soft	QGIS, SPSS, Excel.
stats	computational statistics, machine learning approaches, graphical inference.

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