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I have a PhD in lighting and environmental psychology and have 3 years postdoctoral experience, working in lighting, transportation and human factors research. I am currently a Lecturer in Architectural Science at the University of Sheffield, UK. My research focuses on the interaction between the built environment and behaviour. In previous postdoctoral roles I worked at the University of Leeds studying human factors related to automated driving, and at the University of Sheffield investigating the effects of lighting on pedestrian and cyclist behaviour in the built environment. I have 8 years' experience working in policy and research roles in Local Government, which gave me extensive experience of managing projects, budgets and staff. I have skills in experiment design, quantitative data analysis and big data analytics, and am passionate about teaching and developing students.

Profile

Education

2011 – 2015 **University of Sheffield** **PhD (E-Futures Doctoral Training Centre) & Diploma in Personal Effectiveness Skills**

PhD title: Investigating the visual tasks of pedestrians and how one of these tasks, obstacle detection, is influenced by lighting

- Completed 4-year PhD programme in Doctoral Training Centre. First year was a taught programme about sustainable energy and three 2-month multidisciplinary research projects: 1) Investigation of preferred illuminances in office setting; 2) Impact of microhydropower scheme on population of macroinvertebrates; 3) Evaluation of cycling promotion scheme.
- Main PhD research topic was street lighting for pedestrians and identifying optimal lighting based on pedestrian visual needs
- Two major behavioural experiments completed, with additional preparatory smaller pilot experiments
- First experiment was a field study using eye-tracking with a novel dual-task paradigm to identify critical visual tasks of pedestrians whilst walking down a street
- Second experiment was a laboratory study investigating obstacle detection by pedestrians in a realistic situation, under different lighting conditions
- Alongside PhD I have completed a Diploma in Personal Effectiveness Skills, involving a number of workshops and seminars about professional skills such as networking, project management and research funding

2000 – 2003 **University of Sheffield** **BSc (Psychology) 2:1(hons)**

- Degree programme at Sheffield was research-led, focused on teaching scientific behavioural research methods
- Helped develop understanding of experimental design, research techniques, and critical thinking skills
- Developed sound understanding of statistics
- Completed final year research project about dynamic systems approach to child development

1999 – 2000 **Lancaster and Morecambe College HND in Sports Therapy (distinction)**

- Studied for HND in gap year taken between A-levels and University
- Helped develop practical communication skills through need to discuss treatments with clients

Research Experience

2019 – present **University of Sheffield** **Lecturer in Architectural Science**

- Member of Lighting Research Group
- Involved in designing, running, analysing and reporting experiments related to lighting and behaviour
- Conducting analysis of big data related to active travel behaviour
- Writing journal articles, presenting at conferences, promoting research activity

2018 – 2019 University of Leeds Research Fellow

- Working on Horizon 2020 funded InterACT EU project, investigating interactions between autonomous vehicles and other road users
- Designing and analysing behavioural experiments, using range of methods such as virtual reality headsets, driving simulators and observational approaches
- Coordinating management of a work package within project, liaising with European partners to organise activities and outputs
- Writing project reports and deliverables, academic papers, and conference articles
- Supporting coordination of Masters projects and teaching on Masters modules

2015 – 2018 University of Sheffield Research Assistant

- Working on EPSRC-funded MERLIN-2 project, investigating visual aspects of road lighting for pedestrians
- Understanding interactions between pedestrians and the urban environment, through eye-tracking analysis, surveys and lab experiments
- Supporting research to understand influence of urban infrastructure on perceived safety and fear of crime
- Supporting eye-tracking experiment investigating visual tasks of cyclists
- Experiments to understand impact of environment on driving behaviour, including research for Highways England about impact of lighting on hazard perception
- Big data analysis to evaluate impact of built environment factors on active travel and road safety

2005 – 2010 Sheffield City Council Research and Policy Officer

- Worked in Housing Strategy & Policy Team
- Analysed and compiled housing market information and developed housing policies and strategies
- Managed and involved in number of research projects, both qualitative and quantitative
- Presented research information and evidence to other Council officers, members of the public and politicians
- Line managed small team of Research Assistants

2004 – 2005 South Yorkshire Police Crime Analyst

- Worked in Intelligence Unit of a Sheffield police district
- Analysed crime data for patterns and compiled intelligence into usable information
- Required excellent analytical skills and ability to pick out key information and express it succinctly
- Supported police operations through production of intelligence and maps, and reporting of crime data to senior officers

2003 – 2004 Sheffield City Council Research Assistant

- Worked in Housing Strategy & Information Team
- Assisted in various research projects, analysed data, designed questionnaires, writing reports, responding to information requests from other Council teams and external organisations

Teaching and Supervision Experience

2019 – present University of Sheffield School of Architecture

- Module leader, ARC6990 Sustainable Architecture Studies dissertation module
- Delivering lectures on environmental comfort to undergraduate Architecture students
- Lecture and workshop about behaviour in the built environment, as part of ARC6771 module 'Future Cities and Architecture'
- Design tutor in Sustainable Architecture Studies Masters design review tutorials
- Supervisor of MArch dissertation students
- Co-supervisor of PhD student

2018 – present University of Leeds Institute for Transport studies Masters teaching

- Coordinating Masters projects for current research group, arranging introductory activity and presenting background information about research projects and group to students
- Planning and teaching on Spatial Planning and Analysis Masters modules

2017 – 2018 University of Sheffield School of Architecture Lectures & workshops

- Developed & delivered lectures about research methods to Postgrad students, e.g. questionnaire design & statistical analysis

2017 – present University of Sheffield Geography Thesis mentor

- Mentor to two PhD students, providing support and advice related to thesis writing and completing PhD

2016 – present University of Sheffield School of Architecture PhD supervision

- Co-supervision and support provided to four PhD students within the Lighting Research Group
- Support provided includes advice about experiment design, tutoring on data analysis techniques, and general pastoral support

2016 University of Sheffield School of Architecture Student placement supervisor

- Supervision of Masters student on work placement
- Designed research project for student to carry out during placement
- Regular supervision meetings, and advice given about carrying out research project

2015 University of Sheffield Faculty of Social Science Facilitator

- Worked as a facilitator during a week-long project week for first year undergraduates in Faculty of Social Science
- Provided information and support to four groups of eight students
- Helped guide students in developing a short research project about political participation
- Dealt with issues and problems such as lack of engagement from some students and uncertainty about what students were expected to produce

2012 – 2014 University of Sheffield Careers Service CV Assistant

- Worked part time providing advice and support to students about their CVs and other aspects of the job application process
- Required good communication and interpersonal skills to deliver meaningful feedback
- Also required efficient use of time to keep appointments to their time slots

Other Employment Experience

2011 Opportunity Centres Manager, Doncaster Council

- Managed ten 'Opportunity Centres', support centres to help local residents find work
- Supervised eleven staff, overseeing regular team meetings and providing staff development through informal training courses
- Managed budget of £300k, which covered building running costs, staffing costs, equipment and provision of support services within the Centres

2010 – 2011 Doncaster Council Outreach and Engagement Officer

- Role involved direct engagement with members of public, supporting local unemployed residents to find work
- Publicising of support available through a Work, Skills & Enterprise Programme
- Management of one Opportunity Centre, and wider budget for employment support activity in local area
- Identify gaps in support through discussions with local residents

Funding Awards

2017 White Rose Consortium Collaboration Fund

Awarded £11,000 to develop collaboration between transport geographers at Institute of Transport Studies and health economists at the York Health Economics Consortium, examining public health benefits of road lighting due to increased active travel after-dark

2016 University of Sheffield OnCampus Placement

Awarded £1,000 to hire a student on work placement to carry out research project investigating role of ambient light in determining propensity of pedestrians to walk

2016 **British Psychological Society** **Postgraduate Conference Travel Bursary**
Awarded £300 to support attendance at IAPS conference, Lund, Sweden

2013-2017 **Learned Society Fund – School of Architecture, University of Sheffield**
In each year between 2013 and 2017 I have been awarded funding from the School's Learned Society Fund to support attendance at academic conferences. This has totalled £1,300.

2014 **Psychology Postgraduate Affairs Group**
Awarded three separate awards, totalling £450, as a travel bursary, workshop attendance bursary and international conference bursary, to support attendance at Experiencing Light conference, Eindhoven

2011-2015 **PhD Studentship, E-Futures Doctoral Training Centre (4 years)**
Awarded a 4-year PhD studentship with the E-Futures Doctoral Training Centre. An enhanced stipend of £15k was awarded for 4 years, with additional funding for research costs and attendance at conferences.

Publications

Journal papers

1. Fotios, S., Mao, Y., **Uttley, J.**, & Cheal, C. (2019). Road lighting for pedestrians: Effects of luminaire position on the detection of raised and lowered trip hazards. *Lighting Research & Technology*, Advance online publication, doi: 10.1177/1477153519827067.
2. **Uttley, J.** (2019). Power analysis, sample size and assessment of statistical assumptions – improving the evidential value of lighting research. *LEUKOS*, Advance online publication, doi: 10.1080/15502724.2018.1533851.
3. Yao, Q., Wang., H., **Uttley, J.**, & Zhuan, X. (2018). Illuminance reconstruction of road lighting in urban areas for efficient and healthy lighting performance evaluation. *Applied Sciences*, 8(9), 1646.
4. Fotios, S., Liachenko-Monteiro, A. & **Uttley, J.** (2018). Evaluation of pedestrian reassurance gained by higher illuminances in residential streets using the day-dark approach". *Lighting Research & Technology*, Advance online publication, doi: 10.1177/1477153518775464.
5. Fotios, S., **Uttley, J.** & Fox, S. (2017). A whole-year approach showing that ambient light level influences walking and cycling. *Lighting Research & Technology*, Advance online publication, doi: 10.1177/1477153517738306.
6. Fotios, S., Cheal, C., Fox, S. & **Uttley, J.** (2017). The transition between lit and unlit sections of road and detection of driving hazards after dark. *Lighting Research & Technology*, 51(2), 243-261.
7. Fotios, S., Cheal, C., Fox, S. & **Uttley, J.** (2017). The effect of fog on detection of driving hazards after dark. *Lighting Research & Technology*, 50(7), 1024-1044.
8. **Uttley, J.**, & Fotios, S. (2017). The effect of ambient light condition on road traffic collisions involving pedestrians on pedestrian crossings. *Accident Analysis & Prevention*, 108, 189-200.
9. **Uttley, J.**, & Fotios, S. (2017). Using the daylight savings clock change to show ambient light conditions significantly influence active travel. *Journal of Environmental Psychology*, 53, 1-10.
10. Fotios, S., & **Uttley, J.** (2016). Illuminance required to detect a pavement obstacle of critical size. *Lighting Research & Technology*, 50(3), 390-404.
11. Fotios, S., **Uttley, J.**, & Fox, S. (2016). Exploring the nature of visual fixations on other pedestrians. *Lighting Research & Technology*, 50(4), 511-521.

12. Fotios, S, Qasem, H, Cheal, C, **Uttley, J** (2016). A pilot study of road lighting, cycle lighting and obstacle detection. *Lighting Research and Technology*, 49(5), 586-602.
13. **Uttley, J**, Lovelace, R (2016). Cycling promotion schemes and long-term behavioural change: A case study from the University of Sheffield. *Case Studies on Transport Policy*, 4(2), 133-142.
14. **Uttley, J**, Fotios, S, Cheal, C (2015). Effect of illuminance and spectrum on peripheral obstacle detection by pedestrians. *Lighting Research and Technology*, 49(2), 211-227.
15. Fotios, S, **Uttley, J**, Cheal, C (2015). Maintaining foveal fixation during a peripheral detection task. *Lighting Research and Technology*, 48(7), 898-909.
16. **Uttley, J** (2015). 'Turn that light off!' Psychological and psychophysical methods to save energy through lighting. *Quarterly (PsyPAG journal)*, 95, 48-53
17. Fotios, S, **Uttley, J**, Cheal, C, Hara, N (2015). Using eye-tracking to identify pedestrians' critical visual tasks, Part 1. Dual task approach. *Lighting Research and Technology*, 47(2), 133-148.
18. Fotios, S, **Uttley, J**, Yang, B (2015). Using eye-tracking to identify pedestrians' critical visual tasks, Part 2. Fixation on pedestrians. *Lighting Research and Technology*, 47(2), 149-160.
19. Fotios, S, Yang, B, **Uttley, J** (2015). Observing other pedestrians: Investigating the typical distance and duration of fixation. *Lighting Research and Technology*, 47(5), 548-564
20. **Uttley, J**, Fotios, S, Cheal, C (2012). Satisfaction and illuminances set with user-controlled lighting. *Architectural Science Review*, 56(4), 306-314

Book chapters

1. **Uttley, J.**, Simpson, J., & Qasem, H. (2018). Eye-tracking in the real world: Insights about the urban environment. In F. Aletta & J. Xiao (Eds.), *Handbook of Research on Perception-Driven Approaches to Urban Assessment and Design*. Hershey, United States: IGI Global (ISBN: 9781522536376).

Conference papers

1. **Uttley, J.** & Fotios, S. (2018). Road brightness and cycling rates after-dark. *Cycling & Society Annual Symposium*, 6-7 September 2018, Bristol.
2. **Uttley, J.** (2018). Eye-tracking for human factors lighting research. *CIE Expert Tutorial and Workshop on Research Methods for Human Factors in Lighting*, 13-14 August 2018, Copenhagen, Denmark.
3. **Uttley, J.** & Fotios, S. (2018). Lighting increases cycling rates after-dark. *Light Source 16 – 16th International Symposium on the Science and Technology of Lighting*, 17-22 June 2018, Sheffield, UK.
4. Liachenko-Monteiro, A., Fotios, S. & **Uttley, J.** (2018). Pedestrian reassurance and road lighting: minimum illuminance is a better predictor than mean illuminance. *Light Source 16 – 16th International Symposium on the Science and Technology of Lighting*, 17-22 June 2018, Sheffield, UK.
5. Liachenko-Monteiro, A., **Uttley, J.**, Fotios, S. (2017). Road lighting and reassurance – cognitive, emotional and behavioural responses. *International Conference of Environmental Psychology*, 31 Aug – 1 Sep 2017, A Coruna, Spain.
6. **Uttley, J.** & Fotios, S. (2017). The role of ambient light conditions in encouraging active travel. *International Conference of Environmental Psychology*, 31 Aug – 1 Sep 2017, A Coruna, Spain.
7. Qasem, H., **Uttley, J.**, & Fotios, S. (2017). Lighting for cyclists: An eye tracking study in natural settings to investigate where they look. *Lux Europa*, 18-20 September, Ljubljana, Slovenia.

8. Fotios, S., **Uttley, J.** (2017). The role of ambient light level in accidents at pedestrian crossings. *Lux Europa*, 18-20 September, Ljubljana, Slovenia.
9. Fotios, S., **Uttley, J.**, Cheal, C., & Fox, S. (2017). Investigating impediments to drivers' hazard detection ability: fog and sudden switch-off. *Lux Europa*, 18-20 September, Ljubljana, Slovenia.
10. **Uttley, J.**, Fotios, S., Qasem, H. (2016). Characteristics of salient trip hazards based on eye-tracking data. *IAPS 2016, The human being at home work and leisure, Lund*, p. 255-256.
11. **Uttley, J.**, Fotios, S., Cheal, C. (2016). Measuring perceived safety after-dark – three alternatives to rating scales. *IAPS 2016, The human being at home work and leisure, Lund*, p. 100-101.
12. **Uttley, J.**, Qasem, H., Fotios, S. (2016). Using skin conductance to indicate attention to environmental features – a pilot test. *IAPS 2016, The human being at home work and leisure, Lund*, p. 24.
13. Fotios, S., Cheal, C., **Uttley, J.**, Castleton, H., Qasem, H. (2015). Misleading ratings of perceived safety. *Proceedings of the 28th Session of the CIE 2015, Manchester*, p. 1628-1631.
14. **Uttley, J.**, Fotios, S., Cheal, C. (2014). Using lighting to make pavements safer for pedestrians. *Proceedings of the Experiencing Light 2014 Conference, Eindhoven*, p. 106-109.
15. Fotios, S., **Uttley, J.**, Yang, B (2014). Lighting for pedestrians: What are the critical visual tasks? *Proceedings of the CIE 2014 conference, 'Lighting Quality and Energy Efficiency', Kuala Lumpur*, p.164-173.
16. Fotios, S, Unwin, J, **Uttley, J.**, Hara N (2013). Identifying critical visual tasks of pedestrians after dark. *10th Biennial Conference on Environmental Psychology, Magdeburg*.
17. Fotios, S, **Uttley, J.**, Hara, N (2013). Critical pedestrian tasks: Using eye-tracking within a dual task paradigm. *Proceedings of the CIE 2013 conference, 'Towards a new century of light', Paris*, p. 234-240.
18. Fotios, S, **Uttley, J.**, Cheal, C (2013). What is the right level for residential roads? *Proceedings of the 7th Lux Pacifica 2013 conference, 'Cultural lighting', Bangkok*, p. 256-259.
19. Fotios, S, **Uttley, J.**, Cheal, C (2012). User control and satisfaction with different illuminance ranges. *Proceedings of the CIE 2012 conference, 'Lighting quality and energy efficiency', Hangzhou*, p. 185-195.

Conference posters

1. **Uttley, J.**, Fotios, S, Cheal, C. (2015). Pavement obstacle detection at mesopic levels: A step toward applicable context. Unpublished poster presentation at: *28th CIE session*, 28 June – 4 July 2015. Manchester, UK.
2. Fotios, S, **Uttley, J.**, Yang, B (2014). Empirical evidence towards appropriate lighting characteristics for pedestrians. Unpublished poster presentation at: *CIE 2014 conference 'Lighting Quality and Energy Efficiency'*, 23-26 April, Kuala Lumpur, Malaysia.
3. **Uttley, J.**, Fotios, S, Hara, N (2013). Improving the evidence for road lighting design: Critical visual tasks of pedestrians. Unpublished poster presentation at: *E-Futures annual conference*, 16 September 2013, Sheffield, UK.
4. Fotios, S, **Uttley, J.**, Hara, N (2013). Critical pedestrian tasks: Using eye tracking within a dual-task paradigm. Unpublished poster presentation at: *CIE 2013 conference 'Towards a new century of light'*, 15-16 April 2013, Paris, France.
5. **Uttley, J.**, Hara, N, Cheal, C, Fotios, S (2012). A novel approach to identifying pedestrian gaze behaviour. Unpublished poster presentation at: *British Oculomotor Group Meeting*, 17 December 2012, London, UK.

Professional memberships and standing

- The Energy Institute – Graduate Member since November 2012
 - Institute of Lighting Professionals – Member since December 2014
 - International Association People-Environment Studies (IAPS) – Member since June 2016
 - Member of CIE Technical Committee 4-52 – Lighting for pedestrians: New empirical data
 - Invited talk – ‘What is the right light level for residential roads?, Kasetsart University, Thailand, 9 March 2013
 - Invited expert, to deliver workshop on statistics in lighting research at CIE Expert Tutorial & Workshop on Research Methods for Human Factors in Lighting, 13-14 August 2018, Copenhagen, Denmark
 - Invited expert, active travel workshop organised by Department for Transport, 27 March 2018, London, UK
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Public engagement and media

- Invited talk to audience of general public – ‘Tales from the Ivory Tower’, Festival of the Mind, Sheffield, 26 September 2014
 - “Vanishing act: Why pedestrians and cyclists disappear when it starts getting dark”, article for The Conversation, published 27 October 2017 (<https://theconversation.com/vanishing-act-why-pedestrians-and-cyclists-disappear-when-it-starts-getting-dark-84938>)
 - “The science of street lights: What makes people feel safe at night”, article for The Conversation and CityMetrics (New Statesmen), published 28 September 2018 (<http://theconversation.com/the-science-of-street-lights-what-makes-people-feel-safe-at-night-103805>)
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Key skills

Interpersonal skills

- Worked as part of a team in both non-academic and academic environments, developing excellent
- Previously acted as thesis mentor to PhD student, providing motivation and pastoral support, and listening to the difficulties or concerns of the student
- Worked as CV Assistant during PhD, which involve providing constructive but often critical feedback to students about their CVs and job applications. This required tact and a positive approach.
- Provided support and supervision to small groups of students during a Faculty research project module, which required good interpersonal and teaching skills to provide information at a suitable level and support the students, who were from a range of different disciplines and with different experience of research

Experiment design

- Designed number of experiments during PhD resulting in publications in peer-reviewed journals
- Experiments have included a number of different methods and apparatus, for example a field study using eye-tracking, lab-based study investigating visual behaviour and responses, use of Biopac system for measuring physiological values including skin conductance and PPG, and using virtual reality headsets
- Have carried out pilot studies to test methods to be used in main experiments

Analytical skills

- Have required analytical skills throughout career prior to PhD, e.g. as crime analyst analysed large sets of crime data
- Applied analytical skills to range of different data and contexts, e.g. survey responses, observational data, eye movement data, psychophysical responses
- Competent at using statistics to identify meaningful patterns and differences in data

Communication

- Ability to write for range of different audiences, e.g. have written a number of papers in peer-reviewed journals, press releases, and reports designed for members of public
 - Confident at giving oral presentations to different audiences, e.g. have presented research at a number of high-profile conferences to other researchers and academics, and have given talks at public engagement events to audiences of the general public
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References

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