

# Samuel H. Forbes

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## EMPLOYMENT

**2018 -** **Senior Research Associate**, School of Psychology, University of East Anglia  
**Supervisor:** Prof. John P. Spencer  
**Project:** Probing the neural basis of visual working memory in development (NIH). [5pt]

## EDUCATION

**2014 - 18** **DPhil**, Experimental Psychology - University of Oxford, United Kingdom  
**Advisors:** Prof. Kim Plunkett & Dr E. Matthew Husband  
**Dissertation:** Colour word and colour category learning in infants and toddlers  
**Funding:** Rhodes Scholarship

**2011 - 13** **MA (Research and Coursework)**, Linguistics and Applied Linguistics, -  
Nanjing Normal University, PR China  
**Advisor:** Assoc. Prof. Liang DanDan  
**Dissertation:** A Comparative Study of the Use of the Perfective Aspect Under Narrative  
Conditions of English and Mandarin Children  
**Funding:** Chinese Scholarship Council

**2010 - 11** **Cert Lang**, Mandarin Chinese, - Nanjing Normal University, PR China

**2009** **Grad Cert**, Asian Studies, - University of Tasmania, Australia

**2006 - 08** **BA**, Japanese and Mandarin, - University of Tasmania, Australia

## FUNDING AND AWARDS

**2020** **Award for Special Merit in Research**, University of East Anglia

**2019** **Flux Society Travel Award** \$1000 USD for conference travel

**2019** **LCICD Fee Waiver** valued at approximately £250

**2017** **Brasenose College Hulme Completion Grant** funding associated with thesis completion.

**2017** **Brasenose College Grant** funding for conference attendance £448

**2016** **Brasenose College Grant** funding for conference attendance £450

**2016 - 18** **Brasenose College Senior Hulme Scholarship** for outstanding DPhil performance

**2015** **Brasenose College Grant** funding for conference attendance £436

**2014 - 18** **Rhodes Scholarship** Tasmania

**2010 - 13** **Chinese Scholarship Council Award** for 4 years' study in PRC

**2007 - 08** **Japan Student Services Organization Award** for 1 year exchange in Japan

## PEER-REVIEWED PUBLICATIONS

- In Press** Forbes, S.H. & Plunkett, K. The development of contour processing abilities in the second year. *Developmental Psychology*.
- In Press** Visser, I., Bergmann, C., Byers-Heinlein, K., Dal Ben, R., Duch, W., Forbes, S.H., ... et al. Improving the generalizability of infant psychological research: The ManyBabies model. *Behavioural and Brain Sciences*  
**Preprint** available at PsyArXiv <https://doi.org/10.31234/osf.io/8vwbfb>.
- 2020** Forbes, S.H. (2020). PupillometryR: An R package for preparing and analysing pupillometry data. *Journal of Open Source Software*. 5(50), 2285.
- 2020** Delgado Reyes, L., Wijekumar, S., Magnotta, V.A., Forbes, S.H., & Spencer J.P. (2020). The functional brain networks that underlie visual working memory in the first two years of life. *NeuroImage*. 219, 116971.
- 2020** Forbes, S.H., & Plunkett, K. (2020). Linguistic and cultural variation in early color word learning. *Child Development*. 91(1), 28-42.
- 2019** Forbes, S.H., & Plunkett, K. (2019). The role of colour labels in mediating infant visual attention. *Cognition*. 186, 159-170.
- 2019** Forbes, S.H., & Plunkett, K. (2019). Infants show early comprehension of basic colour words. *Developmental Psychology* 55(2), 240-249.
- 2017** Forbes, S.H., & Plunkett, K. (2017). Early colour word learning in British infants. *Proceedings CogSci*, 367-372.
- 2015** Liang D.D., Song, Y.Q., Forbes, S.H. (2015). A contrastive study of the perfective aspect use in English and Chinese children's narratives. *Foreign Language Teaching and Research* 7(1), 81-93.

## PUBLICATIONS UNDER REVIEW

- Under Review** Forbes, S.H., Wijekumar, S., Eggebrecht, A., Magnotta, V., & Spencer, J.P. A processing pipeline for image reconstructed fNIRS analysis using both MRI templates and individual anatomy. *NeuroPhotonics*.  
**Preprint** available at bioRxiv <https://doi.org/10.1101/2021.01.14.426719>
- Under Review** Wahab, A.G.A., Forbes, S.H., Cattani, A., Goslin, J., & Floccia, C. An adaptation of the MacArthur-Bates CDI in 17 Arabic dialects for children aged 8 to 30 months. *Language Learning and Development*.
- Under Review** Fu, X.W., Forbes, S.H., & Liang, D.D. High functioning autistic children's abilities in scalar implicature of the term "Some".  
*Research in Autism Spectrum Disorders*.
- Under Review** Defenderfer, J., Forbes, S.H., Wijekumar, S., Hedrick, M., Plyler, P., & Buss, A. Frontotemporal activation differs between perception of simulated cochlear implant speech and speech in background noise: An image-based fNIRS study. *NeuroImage*.

## OPEN SOURCE SOFTWARE CONTRIBUTIONS

- 2020** Forbes, S.H. digitizeR  
<https://github.com/samhforbes/digitizeR>

- 2019** Forbes, S.H. PupillometryR: An R package for preparing and analysing pupillometry data. <https://github.com/samhforbes/PupillometryR>
- 2019** Forbes, S.H. DDLab: Common eyetracking functions needed in the Developmental Dynamics Lab. <https://github.com/samhforbes/DDLab>

## SUPERVISION

- 2020 - 21** **Tyler Wallace (MSc)**
- 2018 -** **Undergraduate supervision**
- Responsible for supervising 2 undergraduate psychology student projects per year
  - Responsible for marking student dissertations

## TEACHING

- 2019 - 21** **Demonstrator** Undergraduate courses, UEA
- Running and assisting with practical demonstrations in the fNIRS lab
- 2019 - 21** **Seminar leader** Cognitive Masters course, UEA
- Designed and ran a lecture and demonstration on theory and practice of fNIRS
- 2019 - 21** **Seminar leader** Developmental Masters course, UEA
- Designed and ran a lecture on replicability and publishing in Developmental Psychology
- 2019** **Seminar leader** PhD course, UEA
- Designed and ran a workshop on open science and replicability for PhD students
- 2017** **Seminar leader** Language and Cognition, Oxford
- Redesigned and ran a core practical in MATLAB on research design for undergraduates
- 2015 - 18** **Tutor** Language and Cognition, Oxford
- Responsible for tutoring groups of 3 students at multiple colleges
- 2011 - 13** **Lecturer & Course Co-ordinator** Foreign and National Education, NJNU
- Designed and lectured 2 units per year to both of 3rd and 4th year undergraduates
  - Responsible for examination and grading of students

## INVITED TALKS

- Feb. 2021** **University of York**
- Title: Mommy and me: Using cross-cultural methods to understand links between infant and mothers cognition.
- Host: Eve Holden
- Feb. 2021** **University of Oslo**
- Title: Was Whorf Half Right? Examining Colour Words and Colour Perception.
- Host: Prof. Julien Mayor
- Sep. 2020** **BASIS 2020**, Virtual conference
- Title: Examining sleep and neural development in early infancy.
- June 2019** **CLEAR 2019**, Potsdam
- Title: PupillometryR: A framework for investigating pupillometry data in R.
- Sep. 2018** **University of Sussex** Department of Psychology:
- Title: Colour Word and Colour Category Learning in Infants and Toddlers
- Host: Prof. Anna Franklin

**Feb. 2018** **Oxford Brookes University** Department of Psychology:  
Title: The Effect of Colour Word Learning on Colour Category Knowledge  
Host: Dr. Nayeli Gonzalez-Gomez

## CONFERENCE PRESENTATIONS

- Sep. 2020** Flux virtual conference.  
**Poster** Forbes, S.H., Wijekumar, S., Delgado Reyes, L., Kumar, A., Magnotta, V., Spencer J. Assessing the development of visual working memory in a global context: The INDIA Project.
- July 2020** Virtual International Conference on Infant Studies (ICIS)  
**Poster** Forbes S.H. PupillometryR: An R tool for measuring infant visual behaviour through pupil size
- July 2020** Virtual International Conference on Infant Studies (ICIS)  
**Poster** Bakopoulou, M.E., Forbes, S.H., Lorenz, M.G., Tremlin, R., Bates, J., Samuelson, L. Visual exploration in novel noun generalization task: A window on the relationship between vocabulary and shape bias
- July 2020** Virtual International Conference on Infant Studies (ICIS)  
**Poster** Forbes, S.H., Wijekumar, S., Delgado Reyes, L., Kumar, A., Magnotta, V., Spencer, J.P. Assessing the development of visual working memory in a global context: The INDIA project
- Sept. 2019** fNIRS UK, Birmingham  
**Talk** Spencer, J.P., Forbes, S.H., Delgado Reyes, L., Magnotta, V.  
Examining changes in visual working memory in early development using fNIRS and structural MRI
- Sept. 2019** fNIRS UK, Birmingham  
**Poster** Forbes, S.H., Delgado Reyes, L., Magnotta, V., Spencer, J.P.  
An fNIRS-based approach to understanding the role of sleep in the development of visual working memory
- Aug. 2019** Annual Meeting of the Flux Society, NY  
**Poster** Forbes, S.H., Delgado Reyes, L., Grewal, J., Deoni, S., Spencer J.P.  
The role of sleep in early infant myelin development
- Aug. 2019** Annual Meeting of the Flux Society, NY  
**Poster** Delgado Reyes, L., Forbes, S.H., Deoni, S., Spencer, J.P.  
The role of toddler myelination in preschool executive function development
- Aug. 2019** 4<sup>th</sup> Lancaster Conference on Infant and Child Development (LCICD), Lancaster  
**Talk** Forbes, S.H., Delgado Reyes, L., Grewal, J., Deoni, S., Spencer J.P.  
The role of sleep in the development of visual working memory.
- Aug. 2019** 4<sup>th</sup> Lancaster Conference on Infant and Child Development (LCICD), Lancaster  
**Talk** Forbes, S.H. Measuring infant visual behaviour through pupil size:  
An introduction to PupillometryR.
- Aug. 2019** 4<sup>th</sup> Lancaster Conference on Infant and Child Development (LCICD), Lancaster  
**Talk** Aneja, P., Forbes, S.H., Spencer, J.P. Visual exploration during parent-infant interaction in India and UK
- July 2019** European Congress of Psychology, Moscow  
**Talk** Forbes, S.H., Delgado Reyes, L., Grewal, J., Deoni, S., Spencer J.P.  
The role of sleep in visual working memory and brain health. Part of a symposium: *Global Brain Health and Development* chaired by S.H. Forbes

- July 2019** European Congress of Psychology, Moscow  
**Talk** Aneja P., Forbes S.H., Spencer J.P. Cultural differences in dyadic interaction using head-mounted cameras. Part of a symposium: *Global Brain Health and Development* chaired by S.H. Forbes
- June 2019** CLEAR 2019, Potsdam  
**Talk** Forbes S.H. PupillometryR: A framework for investigating pupillometry data in R.
- Mar. 2019** Society for Research in Child Development  
**Poster** Forbes, S.H., Delgado Reyes, L.M., Grewal, J., Cassidy, J.R., Spencer, J.P. A Neurodevelopmental Approach to Understanding the Role of Sleep in the Development of Visual Working Memory
- Oct. 2018** Biennial Meeting of the Society for fNIRS, Tokyo  
**Poster** Forbes, S.H., Delgado Reyes, L.M., Cassidy, J.R., Spencer, J.P. A Neurodevelopmental Approach to Understanding the Role of Sleep in the Development of Visual Working Memory
- Sep. 2018** 2<sup>nd</sup> British Psychological Society East of England Conference, Norwich  
**Talk** Forbes, S.H., Delgado Reyes, L.M., Cassidy, J.R., Spencer, J.P. A Neurodevelopmental Approach to Understanding the Role of Sleep in the Development of Visual Working Memory
- Sep. 2018** 2<sup>nd</sup> British Psychological Society East of England Conference, Norwich  
**Talk** Aneja, P., Forbes, S.H., & Spencer, JP. Cultural differences in dyadic interaction using head-mounted cameras
- Sep. 2018** 20<sup>th</sup> ESCON Transfer of Knowledge, Cologne, Germany  
**Talk** Aneja, P., Forbes, S.H., & Spencer, JP. Cultural differences in dyadic interaction using head-mounted cameras
- Sep. 2018** 3<sup>rd</sup> Lancaster Conference on Infant and Child Development (LCICD), Lancaster  
**Talk** Forbes, S.H., & Plunkett, K. Visual Closure in Early Colour Vision Testing.
- June 2018** Social Communication Across the Lifespan, Canterbury  
**Poster** Aneja, P., Forbes, S.H., & Spencer, JP. Cultural differences in dyadic interaction using head-mounted cameras
- June 2018** Expanding the Field 2018: Multi-disciplinary Developmental Dynamics, Norwich  
**Poster** Mosteller, S., Samuelson, L.K., Wijekumar, S., Forbes, S.H., Ghose Coveney, S., Grewal, J., Johns, E. & Spencer, J.P. Neural Mechanisms of Spatial Coordination During Interactive Word Learning in Early Development
- June 2018** 48th Annual Meeting of the Jean Piaget Society, Amsterdam, The Netherlands  
**Talk** Aneja, P., Forbes, S.H., & Spencer, JP. Cultural differences in dyadic interaction using head-mounted cameras.
- May 2018** The 48<sup>th</sup> Annual meeting of the Jean Piaget Society, Amsterdam  
**Talk** Mosteller, S., Samuelson, L.K., Forbes, S.H., Wijekumar, S. & Spencer, J.P. Shared Space and Neural Coherence in Early Word Learning.
- Aug. 2017** 2<sup>nd</sup> Lancaster Conference on Infant and Child Development (LCICD), Lancaster  
**Poster** Forbes, S.H., & Plunkett, K. The Role of Labels in Understanding Contextual Information.
- Aug. 2016** 1<sup>st</sup> Lancaster Conference on Infant and Child Development (LCICD), Lancaster  
**Talk** Forbes, S.H., & Plunkett, K. The Development of Colour Word Knowledge in Infants and Toddlers
- July 2016** 39<sup>th</sup> Annual Meeting of the Cognitive Science Society, London  
**Talk** Forbes, S.H., & Plunkett, K. Early Colour Word Learning in British Infants

- July 2016** 39<sup>th</sup> Annual Meeting of the Cognitive Science Society, London  
**Poster** Forbes, S.H., & Plunkett, K. The Development of Visual Closure in Infancy
- May 2016** 2016 International Conference on Infant Studies (ICIS), New Orleans  
**Poster** Forbes, S.H., & Plunkett, K. The Development of Colour Word Knowledge in Infants and Children

## PUBLIC ENGAGEMENT

- May 2019** **Pint of Science, Norwich**  
 - 3 Nights of presenting neuroscience and psychology fact or myth quiz
- Sep. 2017** **Oxford Curiosity Carnival**  
 - Public engagement explaining work and playing games with parents and children
- July 2016** **UNIQ Summer School**  
 - Presented an interactive introduction and workshop on testing infants  
 - For outstanding State School students interesting in studying at Oxford
- Feb. 2016** **Oxford Making Links** St Catherine's College, Oxford  
 - Presented a portion of research to teachers involved in early years teaching
- Sep. 2015** **Belfast Baby Day**  
 - Presented two invited talks to mothers and researchers at inaugural Belfast Baby Day

## PROFESSIONAL EXPERIENCE

- 2014 - 18** **Webmaster** Oxford University BabyLab  
 - Managed Lab website and social media sites
- 2015 - 17** **Graduate Mentor** Department of Experimental Psychology, University of Oxford  
 - Mentored 2 first-year DPhil students each year
- 2015 - 16** **President** Brasenose College Hulme Common Room (HCR)  
 - Responsible for overseeing graduate common room of approximately 250 members
- 2013 - 14** **Executive Assistant to the Arts** St Michael's Collegiate School, Tasmania  
 - Responsible for administration in Arts faculty of leading girl's school

## TECHNICAL SKILLS

- Statistics** **R** Bayesian hierarchical modeling, mixed effect modeling, survival analysis, GAMs  
 - Familiar with STAN, JAGS, lme4, brms, ggplot2, etc  
**MRI Analysis** Structural and mcDESPOT
- Coding** R, Python, Matlab, L<sup>A</sup>T<sub>E</sub>X
- Testing** Infant & Adult Eye-tracking, Pupillometry, fNIRS, Head-mounted eye-tracking