

# S. Sophie Schauman

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## Education

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- 2016 - **D.Phil.** Biomedical Imaging CDT, University of Oxford
  - Thesis title: Accelerated Vessel-Selective Cerebral Blood Flow Imaging Using Magnetic Resonance Imaging
  - Supervisors: Prof. Peter Jezzard, Dr. Mark Chiew, Dr. Thomas Okell
- 2013 – 2016 **B.Sc.** Physics with Medical Physics, University College London
  - Final year project: Comparison of Different X-ray Imaging Techniques in Breast Cancer
  - Supervisors: Prof. Robert Speller, Dr. Robert Moss
  - 1st Class Degree and Dean's List Commendee (top 5% in graduating class)

## Awards & Scholarships

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- 2016 – 2020 Doctoral Studentship funded through EPSRC Doctoral Training Centre
- 2020 ISMRM Trainee Stipend for Workshop
- 2018, 2019 ISMRM Trainee Stipend Award for Annual Meeting
- 2018, 2019 BC-ISMRM Student Stipend for Annual Meeting
- 2018 2nd Best Oral Presentation - BCISMRM Postgraduate Symposium
- 2018 Public Engagement Prize - University of Oxford, Doctoral Training Centre
- 2018 Magnetic Moment Finalist - ISMRM Public Engagement Competition
- 2016 The Dean's List - UCL Undergraduate Award of Excellence
- 2013 The Jubilee Medal - High School Award for Excellence to Student in Graduating Class

## Publications

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1. **Schauman S.S.**, Chiew M., Okell T.W. "Highly Accelerated Vessel-Selective Arterial Spin Labeling Angiography using Sparsity and Smoothness Constraints", *Magn Reson Med* 2020;83:892–905 doi: 10.1002/mrm.27979.

## Conference Abstracts (presentations)

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1. **Schauman S.S.**, Okell T.W., Chiew M. "*High Resolution 4D vessel selective angiography in under 5 minutes using constrained reconstruction*", 2020 ISMRM Annual Meeting, Sydney, Australia (Power Pitch)
2. **Schauman S.S.**, Chiew M., Okell T.W. "*Highly Accelerated Dynamic 2D and 3D Vessel-Encoded Arterial Spin Labelling Angiography*", 2019 ISMRM Annual Meeting, Montreal, Canada
  - ISMRM Magna Cum Laude Award

3. **Schauman S.S.**, Chiew M., Okell T.W. "*A Five Minute 4D Vessel-Encoded Arterial Spin Labelling Angiography Scan*", 2019 BC-ISMIRM Postgraduate Symposium, Birmingham, UK
4. **Schauman S.S.**, Chiew M., Okell T.W. "*Heavily undersampled radial acquisition of dynamic vessel-encoded arterial spin labelling angiograms reconstructed in a compressed sensing framework*", 2018 BC-ISMIRM Annual Meeting, Oxford, UK
5. **Schauman S.S.**, Chiew M., Okell T.W. "*Vessel-encoding improves compressed sensing reconstruction of arterial spin labelling angiograms*", 2018 BC-ISMIRM Postgraduate Symposium, London, UK
6. **Schauman S.S.**, Biffi B., Schievano S., Bruse J.L., Arthurs O.J., Sury M.R.J. "*Changes in tracheal shape during gestation*", 2016 British Journal of Anesthesia Research Forum Winter Meeting, Glasgow, UK

## Conference Abstracts (posters)

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1. **Schauman S.S.**, Okell T.W., Chiew M. "*Radial sampling interactions in multi-dimensional sparse encoding problems using a joint decoding-reconstruction framework*", 2020 ISMRM Annual Meeting, Sydney, Australia
2. **Schauman S.S.**, Woods J.G., Chiew M., Okell T.W. "*Highly Accelerated Time-Encoded Dynamic ASL Angiography*", 2020 ISMRM Annual Meeting, Sydney, Australia
3. **Schauman S.S.**, Okell T.W., Chiew M. "*The SILVER Method: An Improvement upon Radial Golden ratio Sampling Within a Specified Window Size*", 2020 ISMRM Workshop on Data Sampling and image Reconstruction, Sedona, USA
4. **Schauman S.S.**, Okell T.W., Chiew M. "*Precision reconstruction of vessel-encoded ASL angiography*", 2019 BC-ISMIRM Annual Meeting, Sheffield, UK
5. **Schauman S.S.**, Chiew M., Okell T.W. "*4D Vessel-Encoded pCASL Angiography in a Five-Minute Scan*", 2019 UM Workshop on Arterial Spin Labelling, Ann Arbor, USA
6. **Schauman S.S.**, Chiew M., Okell T.W. "*Accelerated Acquisition of Vessel-Encoded Arterial Spin Labelling Angiograms with Compressed Sensing*", 2018 ISMRM-ESMRMB Joint Annual Meeting, Paris, France

## Conference Abstracts (presented by others)

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1. Woods J.G., **Schauman S.S.**, Chiew M., Chappell M.A., Okell T.W. "*Optimization of time-encoded pseudo-continuous ASL angiography with a variable flip-angle scheme*", 2019 ISMRM Annual Meeting, Montreal, Canada

## Other Experience

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### Teaching/Demonstrating

- 2019            Presenter, Advanced MR Physics Lecture Series (Compressed Sensing and Low-Rank Methods)
- FMRIB, University of Oxford
- 2018            Demonstrator, Medical Imaging (GLM and Parallel Imaging)
- EPSRC-MRC Centre for Doctoral Training in Biomedical Imaging, University of Oxford

- 2018, 2019 Demonstrator, MR Physics Graduate Course (Image Formation, Fast Imaging)
  - FMRIB, University of Oxford
- 2018, 2019 Demonstrator, Advanced Medical Imaging (Compressed Sensing)
  - EPSRC-MRC Centre for Doctoral Training in Biomedical Imaging, University of Oxford
- 2017 Demonstrator, Introduction to Matlab
  - EPSRC-MRC Centre for Doctoral Training in Biomedical Imaging, University of Oxford

### Public Engagement

- 2019 Public engagement ambassador for the Wellcome Centre for Integrative Neuroimaging
  - Assistant organiser of *SHElock Holmes - The Brain Detective*, a day about neuroimaging for 11-14 year old girls
  - Member of developing team of *The Big Brain Roadshow* taking Neuroscience to local schools
    - Developer of *The Imaged Brain*, an interactive stall explaining 2D Fourier Transforms
    - Cast member of the play *21st Century Phrenology*
- 2018 Public engagement through board games
  - Developed modified version of *Labyrinth* to showcase different imaging techniques.
    - Presented at *ATOM Science Festival*, Abingdon, UK

### Other Research

- 2016 Summer Project Assistant at Great Ormond Street Hospital, London, UK
  - Image segmentation and analysis of MR data
- 2015 Summer Junior Research Scientist at Nikon Metrology, Tring, UK
  - R&D on industrial CT systems
- 2014 Summer Research Assistant on joint project between sUniversity College London (London, UK) and Aalto University (Helsinki, Finland)
  - Development and testing of Near Infrared Spectroscopy system and phantom

### Administration/Leadership

- 2019 Organising Committee, Advanced MR Physics Lecture Series,
  - FMRIB, University of Oxford
- 2018-2019 President of Wolfson College Boat Club