Sophie Schauman, D.Phil.

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RESEARCH EXPERIENCE

Stanford University, USA - *Postdoctoral Researcher*

AUGUST 2021 - PRESENT

Current project: Synthetic MRI, a deep learning approach to clinical translation of quantitative MR methods. I am leading a 4 person research team and clinical collaborators to build and deploy an acquisition and reconstruction pipeline throughout Stanford Health Care and the Lucile Packard Children's Hospital that can bring MRI scan times from approx. 30 minutes to 2 minutes.

University of Oxford, UK - *Postdoctoral Researcher*

OCTOBER 2020 - JULY 2021

Various projects related to MRI trajectory and spatial encoding optimization for both ASL and fMRI.

University of Oxford, UK - *Doctoral Candidate*

OCTOBER 2016 - OCTOBER 2020

Project focused on acceleration of radially acquired ASL angiography. It included exploration of spatial and temporal constraints applied to iterative non-linear reconstruction methods.

Great Ormond Street Hospital, UK - *Summer Research Project*

JUNE 2016 - JULY 2016

Image segmentation and analysis of MR data using semi-supervised methods.

Nikon Metrology, UK - *Junior Research Scientist*

JULY 2015 - SEPTEMBER 2015

R&D on industrial CT systems. Performance testing and optimization of new product prototypes.

University College London, UK + Aalto University, Finland - *Research Assistant*

JUNE 2014 - AUGUST 2014

Development and testing of a near infrared spectroscopy system and phantom.

EDUCATION

University of Oxford, UK - *Doctor of Philosophy*

OCTOBER 2016 - OCTOBER 2020

Thesis: Improving Acquisition Speed and Efficiency of Advanced Arterial Spin Labelling MRI
Supervisors: Thomas Okell, Mark Chiew, Peter Jezzard

University College London, UK - *Bachelor of Science (Physics with Medical Physics)*

OCTOBER 2013 - OCTOBER 2016

Thesis: Comparison of Different X-ray Imaging Techniques in Breast Cancer
1st Class Degree and Dean’s List Commendee (top 5% in graduating class)

OTHER EXPERIENCE

Teaching

2018 - 2020	Demonstrator and Presenter at FMRIB MR Physics Graduate Course Topics: Image Formation, Fast Imaging, Compressed Sensing
2017 - 2019	Demonstrator at EPSRC-MRC Centre for Doctoral Training Topics: Advanced Medical Imaging, GLM and Parallel Imaging, Introduction to Matlab

Public Engagement

2021	Soapbox Science Speaker at Women in STEM Event @ MPLS, University of Oxford
2019	Public Engagement Ambassador for the Wellcome Centre for Integrative Neuroimaging
2019	Panellist at Magnetic Moments Secret Session @ ISMRM Annual Meeting
2018	Finalist at Magnetic Moments Competition @ ISMRM Annual Meeting
2018 - 2019	Presenter at the UNIQ Summer School, a University of Oxford Outreach initiative

Administration

2020 - 2021	Co-organiser of lab image reconstruction study group
2019	Organising committee, Advanced MR Physics Lecture Series
2018 - 2019	President of Wolfson College Boat Club
2017 - 2018	Captain of Coxes, Wolfson College Boat Club

Courses

2021	Effective Altruism In-Depth Fellowship - EA Oxford (8 weeks)
2020	Effective Altruism Introductory Fellowship - EA Oxford (8 weeks)
2017	FMRIB MR Physics and Analysis Graduate Course (3 terms)

AWARDS

2020	ISMRM Trainee Stipend Award for Workshop on Data Sampling and Image Reconstruction
2019 - 2020	Magna Cum Laude Merit Award for abstracts presented at ISMRM Annual Meeting
2018 - 2020	ISMRM Trainee Stipend Award for Annual Meeting
2018 - 2019	British and Irish Chapter of ISMRM Student Stipend for Annual Meeting
2018	2nd Best Oral Presentation – British and Irish Chapter of ISMRM Postgraduate Symposium
2018	Public Engagement Prize - University of Oxford, Doctoral Training Centre
2018	Magnetic Moment Finalist - ISMRM Public Engagement Competition
2016 - 2020	Doctoral Studentship funded through EPSRC Doctoral Training Centre
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

Papers

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: https://doi.org/10.1002/mrm.27979. **Featured in Magnetic Resonance in Medicine Virtual issue: Perfusion MRI: Technical Advances and Applications**

Pre-prints

1. Schauman S.S., Okell T.W., Chiew M. “The Set Increment with Limited Views Encoding Ratio (SILVER) Method for Optimizing Radial Sampling of Dynamic MRI”. Preprint: https://doi.org/10.1101/2020.06.25.171017

Conference Abstracts (oral presentations)

1. Schauman S.S., Okell T.W., Chiew M. “Sometimes SILVER is better than gold(en angle radial sampling)”, 2020 British and Irish Chapter of ISMRM Postgraduate Symposium, Online
2. 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, Online (Power Pitch) – **Magna Cum Laude**
3. 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 – **Magna Cum Laude**
4. Schauman S.S., Chiew M., Okell T.W. "A Five Minute 4D Vessel-Encoded Arterial Spin Labelling Angiography Scan”, 2019 British and Irish Chapter of ISMRM Postgraduate Symposium, Birmingham, UK
5. 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 British and Irish Chapter of ISMRM Annual Meeting, Oxford, UK
6. Schauman S.S., Chiew M., Okell T.W. "Vessel-encoding improves compressed sensing reconstruction of arterial spin labelling angiograms”, 2018 British and Irish Chapter of ISMRM Postgraduate Symposium, London, UK **- Awarded a silver prize for best oral presentation of the symposium**
7. 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)

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 ISMRMAnnual Meeting, Online
2. Schauman S.S., Woods J.G., Chiew M., Okell T.W. “Highly Accelerated Time-Encoded Dynamic ASL Angiography”, 2020 ISMRM Annual Meeting, Online
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 British and Irish Chapter of ISMRM Annual Meeting, Sheffield, UK
5. Schauman S.S., Chiew M., Okell T.W. "4D Vessel-Encoded pCASL Angiography in a Five-Minute Scan", 2019 University of Michigan 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)

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 – **Magna Cum Laude**