Ayan Sengupta

Sir Peter Mansfield Imaging Center
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Education	**Ph.D. (Dr. rer. nat.), Psychoinformatics**	2013-2016
	Otto-von-Guericke-Universität	Germany
	Thesis: *The Effect of Acquisition Resolution and*	
	Magnetic Field Strength on Multivariate Decoding of fMRI	
	M.S., Computer Science and Engineering	2010-2012
	University of Nebraska, Lincoln	USA
	Thesis: *MRI and histo-pathological image co-registration*	
	of brain for HIV-based murine model of neurocognitive decline	
	B.Tech., Electronics and Communication Engineering	2004-2008
	West Bengal University of Technology	India
Academic Honors	**DFG Research Fellowship**	2013
	Otto-von-Guericke-Universität	Germany
	Graduate Teaching Assistantship	2010
	University of Nebraska, Lincoln	USA
	Chancellor's Fellowship	2010
	University of Nebraska, Lincoln	USA
	Oracle 9i PL/SQL Award of Achievement from Oracle University	2010
	Sun Certified JAVA programmer (SCJP 1.5)	2009
	National Merit Scholarship	2002 and 2004
	Exceptional academic performance in Middle and High School	India
Professional and Research Experience	**Research Fellow**	2016-present
	Sir Peter Mansfield Imaging Center	
	University of Nottingham	UK
	Supervisor: **Prof. Susan Francis**, Dept. of Physics and Astronomy	

- Somatotopic mapping of digits in human primary somatosensory cortex.
- Multivariate Analysis of BOLD response to Intraneural Microstimulation and vibrotactile stimulation

DFG Research Associate   2013-2016
Otto-von-Guericke-Universität   Germany
Supervisor: **Dr. Michael Hanke**, Dept. of Psychoinformatics, OVGU
Co. Supervisor: **Dr. Stefan Pollmann**, Dept. of Experimental Psychology, OVGU

- Multivariate Pattern Analysis of ultra-high field (7T) multi-resolution fMRI for orientation decoding in human primary visual cortex.
- Comparison of Magnetic Field Strength (3T vs 7T) for better SNR and sensitivity in multi-resolution fMRI, to find its contribution to orientation classification analysis.

Technical Officer, Govt. of India   2012-2013
National Brain Research Center   India
Collaborator: **Dr. Alan Evans**, MNI, McGill University

- Designed and implemented of the first Tele-Medicine grid of Neuroscience in India in collaboration with McGill University, Montreal. This project was an extension of **LORIS** platform for studying Dementia in the aging population in India.
- Research on determining track followed by neural stem cells from sub-ventricular zone to the area of infarct during neurogenesis in stroke models of rodents. Worked on co-registration of MR angiography and DTI image volumes in this project.
- Worked on the field of Computational Neuroscience, designing and running fMRI experiments.

Visiting Scholar   2012
National Institute of Mental Health and Neurosciences   India
Supervisor: **Dr. John P. John**, Dept. of Psychiatry, NIMHANS

- Hands-on experience in Multi-modal Imaging like fMRI,MRS, EEG, High-Angular DTI
- Analysis and correlation of fMRI and DTI images

Graduate Researcher and Teaching Assistant   2010-2012
University of Nebraska Lincoln   USA
Supervisor: **Dr. Ashok Samal**, Dept. of Computer Science, UNL
Co. Supervisor: **Dr. Yutong Liu**, Dept. of Radiology, UNMC

- Worked in collaboration with University of Nebraska Medical Center, USA on a project involving automatic landmark selection and optimization of landmarks, for non-linear co-registration of MRI slices of rat brains with corresponding histological images. This project was done for tracking growth of HIV induced neuro-cognitive disorders in murine models.
- Taught 'Introduction to computer Science with Java' and was in-charge of 'Introduction to data structure and algorithms' laboratory

Programmer Analyst   2008-2010
Cognizant Technology Solutions   India

- Defect-resolving and performance-tuning of databases. Worked on design and development of Global Strategic Trading Platform of JP Morgan Chase Bank, USA
- Sybase Analyst and Developer, Java developer

Technical Strengths

- Programming Languages: Python, MATLAB, BASH, C++, JAVA
- Neuroimaging Softwares: PyMVPA, FSL, Freesurfer, AFNI, SPM

Conference Presentations

Presenter

- Ayan Sengupta, Renat Yakupov, Oliver Speck, Stefan Pollmann and Michael Hanke (2015). **Optimal Resolution and Filtering for Orientation Decoding in V1 at 7T**. Organization of Human Brain Mapping 2015. Presentation delivered at the Organization of Human Brain Mapping 2015 meeting, Honolulu, Hawaii, June, 2015.

- Ayan Sengupta, Cecile Madjar and Samir Das (2014). **DicAT - DICOM Anonymization Tool** Organization of Human Brain Mapping 2014. The software was conceived, developed and presented in collaboration with LORIS team of McGill University at the Organization of Human Brain Mapping Hackathon, Berlin, June, 2014.

- Ayan Sengupta, Michael D. Boska, Howard E. Gendelman, Ashok Samal and Yutong Liu (2012). **Automation of Landmark Selection for Rodent Brain MRI-Histology Registration using Thin-Plate Splines**. Nebraska Annual Research Symposium 2012, Lincoln, Nebraska, 2012.

Publications

- **Ayan Sengupta**, Renat Yakupov, Oliver Speck, Stefan Pollmann and Michael Hanke. *The effect of acquisition resolution on orientation decoding from V1 BOLD fMRI at 7 Tesla*.

- **Ayan Sengupta**, Falko Kaule, J. Swaroop Guntupalli, Michael B. Hoffmann, Christian Häusler, Jörg Stadler and Michael Hanke. *A studyforrest extension, retinotopic mapping and localization of higher visual areas*.

- Michael Hanke, Nico Adelhöfer, Daniel Kottke, Vittorio Iacovella, **Ayan Sengupta**, Falko R. Kaule, Roland Nigbur, Alexander Q. Waite, Florian Baumgartner and Jörg Stadler. *A studyforrest extension, simultaneous fMRI and eye gaze recordings during prolonged natural stimulation*.

- Samir Das, Cécile Madjar, **Ayan Sengupta**, Zia Mohades. *LORIS: DICOM anonymizer*.

- **Ayan Sengupta**. *Automation of Landmark Selection for Rodent Brain MRI-Histology Registration using Thin-Plate Splines*.