BIOGRAPHICAL SKETCH

_{NAME} Disha Gupta	POSITION TITLE Visiting Scientist / Postdoctoral Researcher		
CONTACT dgupta@wadsworth.org BCI Lab, Wadsworth center, C600, Empire State Plaza, New York State Dept. of Health, Albany, New York, USA. 12201			
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Punjab Engineering College, Punjab University, India	B.E.	1998-2002	Electrical Engineering
Royal Institute of Technology, Stockholm, Sweden	M.Sc.	2003-2005	Information and Communication System Security
University of Southampton, United Kingdom	Ph.D.	2005-2009	Biomedical Signal Processing- Neuroscience (humans)
Radboud University Nijmegen, Donders Institute for Brain,Cognition and Behaviour, Netherlands/ Kempenhaeghe Centre for Sleep and Epilepsy, Netherlands	Postdoctoral	2009-2010	Biomedical Signal Processing (translational)
Albany Medical College, New York / Wadsworth Center, New York State Dept. of Health	Post- doctoral/Visit ing Scientist	2010-	Brain Computer Interfacing (humans)

A. Personal Narrative

My training has been in advanced digital signal processing techniques, especially applied to neurophysiology. I have experience with analysis of different modalities of biomedical data such as electrocardiography, electroencephalography, magnetoencephalography and electrocorticography. I have experience in state-of the art source localization and connectivity measures for causality analysis. My research interests include assistive technology for, and potential brain computer interfacing application in, epilepsy, autism and related developmental disorders.

B. Employment, Positions and Honors

Professional Employment

- 2002-03 Assistant Systems Software Engineer at Tata Consultancy Service (TCS), India
- 2005-09 Graduate tutor and lab assistant, Engineering Foundation Year, University of Southampton, UK
- 2010- Visiting Scientist, Wadsworth Center for Laboratories and Research, Albany NY 12210.

Additional Activities and Awards

1994-06	Senior National Level Talent Search Contest (Silver Medalist (Maths 82%), Silver Medalist (Science 82%)	
1998	Merit Certificate under National scholarship scheme in recognition of being	
2001	among the top 1% nationally in senior secondary examinations. Summer intern at Terminal Ballistic Research Lab-Defence and Research Organization (DRDO), India; Image digitization and pre-processing	
2002	Silver Medal for developing the best graduating project of the final year in B.E. (Project Title: Artificial Intelligence based Medical Diagnosis)	
2004	Telemed HC project: Design and implementation of a telemedicine solution for treatment in a home environment, in collaboration with KTH University and Karolinska Universitetssjukhuset (Hospital)	
2004-05	Masters research scholarship from Fraunhofer Institute- IIS, Germany	
2005-09	PhD scholarship and tuition fees by Life Sciences Interface, UK and ISVR, University of Southampton, UK	
2006	William James Memorial Biomedical Engineering Student Award for a conference paper at the 3rd International Conference on Advances in Medical, Signal and Information Processing	
2006	Selected for presentation of research at the House of Commons (Parliament), London, UK, SET for Britain 2006 Early-Stage Research Engineers	
2006	Member of International League Against Epilepsy	
2006-08	Nominated member of Staff-student Liaison committee for Engineering Foundation year, University of Southampton, UK	
2007	Finalist for the EMBS Student Paper at the 29th Annual International Conference of the IEEE Engineering in Medicine and Biology	
2008-	Ad Hoc Reviewer for "Journal of Neural Engineering", "Transactions in Biomedical Engineering: IEEE", "IEEE: Engineering in Medicine and Biology Society" and "Neuroscience Letters"	
2011	Nominated member of Sigma-Xi Scientific Research Society	
2011-12	Member of Society of Neuroscience and Institute of Electrical and Electronics Engineers	
Invited Speaker Presentations		

2010 Invited speaker "Dynamic imaging of 'generalized' seizure activity" at annual International clinical symposium 'Epilepsy & Sleep' at Kempenhague Sleep and Epilepsy Center, Netherlands

- 2011 Invited speaker: "Auditory processing and Anticipation in Humans: using ECoG" at the 3rd Intl. Workshop on Advances in Electrocorticography, held at the Annual Meeting of the Society for Neuroscience in Washington, USA.
- 2012 Invited speaker: "ECoG: A step closer to the brain", Brain Computer Interfacing workshop, University Old dominion, Norfolk, VA.

C. Selected Publications

- 1. J. Hill, D. Gupta, P. Brunner, A. Gunduz, M.A. Adamo, A.Ritaccio, G. Schalk, Using human electrocorticographic (ECoG) signals for neuroscientific research and real-time neural-engineering applications, Journal of Vis. Experiments, June 2012
- D. Gupta, M. Adamo, A. Ritaccio, G. Schalk, A method to co-register interoperatively placed ECoG grids with the cortical anatomy, (2012 in prep), (Society of Neuroscience selected abstract for Annual SfN conference, New Orleans, 2012).
- 3. D.Gupta, C.J. James, W.P. Gray, Seizure onset prediction with long-term epileptic scalp EEG recordings through Independent Component Analysis and phase synchronization II: Feature extraction and probabilistic modeling of prediction, in prep (2012).
- 4. D.Gupta, C.J. James, W.P. Gray, Seizure onset prediction with long-term epileptic scalp EEG recordings through Independent Component Analysis and phase synchronization I: Synchronization dynamics, in prep (2012).
- 5. D. Gupta, P. Ossenblok, G. van Luijtelaar Space-time network connectivity and cortical activations preceding MEG Spike Wave Discharges in human absence epilepsy, Medical and Biological Engineering and Computing, Med Biol Eng Comput (2011); 49(5): 555-65.
- 6. C. J. James, D. Gupta, Seizure prediction for epilepsy using a multi-stage phase synchrony based system, IEEE Engineering in Medicine and Biology Society, USA (2009).
- D. Gupta, C.J. James, W.P. Gray, Phase Synchronization with ICA for Epileptic Seizure Onset Prediction in the Long Term EEG, IET 4th International Conference on Advances in Medical and Signal Processing MEDSIP, Italy, (2008).
- 8. D. Gupta, C.J. James, Narrowband vs. Broadband Phase Synchronization Analysis Applied to Independent Components of Ictal and Interictal EEG, The 29th IEEE Annual International Conference of Engineering in Medicine and Biology Society, (2007), Lyon, France, Student Paper Competition Finalist.
- C. J. James, D. Ab'asolo, D. Gupta, Space-Time ICA versus Ensemble ICA for Ictal EEG Analysis with Component Differentiation Via Lempel-Ziv Complexity, The 29th IEEE Annual International Conference of Engineering in Medicine and Biology Society, (August 2007), Lyon, France.
- D. Gupta, C.J. James and W. Gray., De-noising Epileptic EEG using ICA and Phase synchrony, Proceedings of MEDSIP2006 - The 3rd International Conference on Advances in Medical Signal and Information Processing (July 2006). (Awarded William James Memorial Biomedical Engineering Student Award)
- 11. D. Gupta, C.J. James and W. Gray., Seizure Onset Prediction through EEG using ICA and Phase Synchrony, International League Against Epilepsy (ILAE UK Chapter), Newcastle upon-Tyne, UK (Sept. 2006).

- 12. D. Gupta, C.J. James and W. Gray., Seizure onset prediction in epilepsy through EEG using ICA, SET for Britain 2006. Early-Stage Research Engineers at the UK Parliament House of Commons, London, UK (Dec 2006).
- 13. M. Pal, D. Gupta, M.G. Edwards, and C.J. James, Flux-continuous schemes for solving EEG source localization problem, ACME07, April 2007, Scotland-UK.
- 14. D. Gupta, C. J James and W. Gray, Seizure Onset Prediction in Epilepsy, 2nd Life Sciences Interface Conference, Southampton, UK (2005)