S. SHUSHRUTH
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Education

Ph.D. in Neuroscience (2005 - 2011)
Thesis: The contribution of extra-striate feedback to contextual computations in the primate primary visual cortex.
University of Utah, Salt Lake City, UT, USA 84112.
Advisor: Dr. Alessandra Angelucci, M.D., Ph.D.

M.B.B.S. (1997 - 2003)
Bangalore Medical College, Bangalore, India 560002.
Graduated First Class

Research and Clinical Experience

- Post-doctoral Research Associate, Shadlen Lab, Howard Hughes Medical Institute, Columbia University, New York NY. *Dec 2012-Present*
- Post-doctoral Research Associate, Shadlen Lab, Howard Hughes Medical Institute, University of Washington, Seattle WA. *May 2011-Nov 2012*
- Graduate Research Assistant, John Moran Eye Center, University of Utah, Salt Lake City UT. *Aug 2005-May 2011*
- Fellow, Department of Neurophysiology, National Institute of Mental Health and Neurosciences, Bangalore, India. *Apr 2004-Jun 2005*
- Research assistant, Dept. of Molecular Biology, Bangalore University. Bangalore, India. *Jul 2003-Feb 2004*
- Medical & Surgical Intern, Bangalore Medical College, Bangalore, India *Jul 2002-Jul 2003*

Research Grants (as PI/Co-I)

- National Institute on Aging R21 Developmental Grant (2020 - 2022)
- Taub Institute for Alzheimer's Disease Research Grant (2018 - 2019)
- NARSAD Young Investigator Grant (2016 - 2018)

Publications

Peer-reviewed publications (***** primary author)

- **Shushruth S***, Mazurek M*, Shadlen MN. Comparison of decision-related signals in sensory and motor preparatory responses of neurons in Area LIP. *Journal of Neuroscience. 2018; 38(28) : 6350-65*
- Seyedhosseini M*, **Shushruth S***, Davis T, Ichida JM, House PA, Greger B, Angelucci A, Tasdizen T. Informative features of local field potential signals in primary visual cortex during natural image stimulation. *Journal of Neurophysiology. 2015; 113(5):1520-32.*

- **Shushruth S***, Nurminen L*, Bijanzadeh M, Ichida JM, Vanni S, Angelucci A. Different orientation-tuning of near and far surround suppression in Macaque primary visual cortex mirrors their tuning in human perception. *Journal of Neuroscience. 2013; 33(1):106-19.*
- **Shushruth S,** Mangapathy P, Ichida JM, Bressloff PC, Schwabe L, Angelucci A. Strong recurrent networks compute the orientation tuning of surround modulation in the primate primary visual cortex. *Journal of Neuroscience. 2012; 32(1):308-21*
- Schwabe L, Ichida JM, **Shushruth S**, Mangapathy P, Angelucci A. Contrast-dependence of surround suppression in Macaque V1: Experimental testing of a recurrent network model. *Neuroimage. 2010; 52(3):777-92.*
- **Shushruth S***, Ichida JM*, Levitt JB, Angelucci A. Comparison of spatial summation properties of neurons in macaque V1 and V2. *Journal of Neurophysiology. 2009; 102(4):2069-83.*

Reviews and Book Chapters

- Angelucci A, **Shushruth S**. Beyond the classical receptive field: Surround modulation in primary visual cortex. In: *The New Visual Neurosciences. (Chalupa LM, Werner JS, eds), 2013. Cambridge: MIT press.*
- **Shushruth S**. Exploring the neural basis of consciousness through anesthesia. *Journal of Neuroscience. 2013 Jan; 33(5):1757-8*

Manuscripts under review

- **Shushruth S**, Shadlen MN. Sequential sampling from memory underlies action selection during abstract decision making. *bioRxiv* doi: 10.1101/2021.04.30.442176 (2021)
- Jeurissen D*, **Shushruth S***, El-Shamayleh Y, Horwitz, GD, Shadlen MN. Deficits in decision-making induced by parietal cortex inactivation are compensated at two time scales. *bioRxiv* doi: 10.1101/2021.09.10.459856 (2021)

Invited Talks

- "Developing macaque models of human cognitive impairments." At the Department of Neuroscience, University of Pittsburgh (2018).
- "Building primate models of cognitive deficits." At the Department of Neuroscience, University of Montreal (2018).
- "Postponement of evidence accumulation in area LIP until action-selection is possible." At Computational and Systems Neuroscience, Salt Lake City (2016).

Conference Abstracts (Presenting author only)

- Jeurissen D*, **Shushruth S***, El-Shamayleh Y, Horwitz, GD, Shadlen MN (2019). Deficits in decision making after pharmacological and chemogenetic inactivation of Area LIP. *Soc. Neurosci. Abstr. Online*: 061.16.
- **Shushruth S**, Shadlen MN (2016). A diffusion process underlies action selection in an abstract decision-making task. *Soc. Neurosci. Abstr. Online*: 717.28
- **Shushruth S**, Shadlen MN (2016). A diffusion process underlies action selection when contingent on an abstract decision. *Gordon Research Conference on the Neurobiology of Cognition*
- **Shushruth S,** Mazurek M, Shadlen MN (2013). A comparison of categorization signals and decision related signals in Area LIP. *Soc. Neurosci. Abstr. Online*: 668.07
- **Shushruth S**, Davis TS, Tasdizen T, Ichida JM, House P, Greger B, Angelucci A (2011). LFP signals evoked by natural image stimulation of the far-surround of V1 neurons carry contrast-independent, image- specific information. *Soc. Neurosci. Abstr. Online*: 483.11

- **Shushruth S**, Tasdizen T, Ichida JM, Angelucci A (2011). Surround signals in V1 evoked by natural images carry image specific information. *Grand Challenges in Neural Computation, Santa Fe*
- **Shushruth S**, Ichida JM, Levitt JB, Angelucci A (2009). Comparison of spatial summation properties in macaque V1 and V2. *Soc. Neurosci. Abstr. Online*: 453.15
- **Shushruth S**, Ichida JM, Angelucci A (2008). Orientation tuning of facilitatory and suppressive signals from the far-surround of primary visual cortex neurons. *Computational and Systems Neurosci Abstr Online*
- **Shushruth S**, Ichida JM, Angelucci A (2007). Far-surround facilitation of sub-optimally oriented stimuli in the classical receptive field. *Soc. Neurosci. Abstr. Online*: 279.4

Awards

- Fellowship of the Italian Academy for Advanced Studies (2020)
- Utah Brain Institute Training Grant for attending Methods in Computational Neuroscience course at the Marine Biological Laboratories (2010).
- University of Utah Graduate Student travel award to the Society for Neuroscience (2007, 2009)
- University of Utah Dept. of Ophthalmology Training grant for attending the Cold Spring Harbor Course in Structure and Development of the Visual System (2006).
- Fellowship of Council of Scientific & Industrial Research, India. (2004)

Mentorship Experience

- Maryam Bijanzadeh, Graduate Student. Guidance on electrophysiology in anesthetized primates (2010-11)
- Ashkan Vafai, Undergraduate Research Assistant. Guidance on collection and analysis of electrophysiological data (2019).
- Prayshita Sharma, Undergraduate Research Assistant. Guidance on designing and performing human psychophysics experiments (2020-21).

Scientific reviews

Reviewing editor: Frontiers in Systems Neuroscience

***Ad hoc* reviewer:** Neuron, Journal of Neuroscience, Cerebral Cortex, Journal of Neurophysiology, Journal of Vision, Vision Research, Frontiers in Neuroscience, ENeuro, Cosyne.

Science Outreach and Service

- Visual Illusions section leader for the annual University of Utah Brain Awareness Week outreach program for three years (2008-2010).
- Member, Organizing committee, Zuckerman Institute Postdoctoral Seminar Series. (2018-2019)

Professional Affiliations

- Society for Neuroscience (from 2006)
- Indian Medical Association (Life Member)
- Indian Academy of Neurosciences (Life Member)

Languages

- English (Full professional proficiency); French (CEFR: Written B1, Spoken A2); Hindi: Full professional proficiency; Kannada: Native language