Anirvan Nandy

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Education

Ph.D.   2004-2010

Department of Psychology (Brain & Cognitive Sciences), University of Southern California.
Thesis: Crowding and Form Vision Deficits in Peripheral Vision

M.S. (Electrical Engineering, Signal Processing)   2000-2002

National Technological University

B. Tech Honors (Electronics & Communications Engineering)   1990-1994

Indian Institute of Technology, Kharagpur, India
B. Tech thesis: Defect Recognition in Textile Images

Publications

In preparation/In review

Optogenetically induced low-frequency correlations impair perception.
Nandy, A. S., Nassi, J. J. & Reynolds, J. H. (in review at *Neuron*)

Laminar correlates of attentive performance.
Jadi*, M. P., **Nandy***, A. S., Sejnowski, T. J. & Reynolds, J. H. (in preparation, *=equal contribution)

Published (+ = corresponding author)

Laminar organization of attentional modulation in macaque visual Area V4.
Nandy+, A. S., Nassi, J. J. & Reynolds, J. H. (2017)
Neuron, 93, 1-12

Neurons in macaque Area V4 are tuned for complex spatio-temporal patterns.
Nandy+, A. S., Mitchell, J. F., Jadi, M. P. & Reynolds, J. H. (2016)
Neuron, 91, 920-30

Rapid adaptability of human oculomotor control in response to simulated central vision loss.
Kwon, M. Y., **Nandy**+, A. S., & Tjan, B. S. (2013).
Current Biology, 23(17), 1663–9

The fine structure of shape tuning in area V4.
Nandy+, A. S., Sharpee, T. O., Reynolds, J. H. & Mitchell, J. F. (2013).
Neuron, 78, 1102–1115

Crowding during restricted and free viewing.
Wallace, J. M., Chiu, M. K., **Nandy**, A. S. & Tjan, B. S. (2013).
Vision Research, 84, 50–59

Saccade-confounded image statistics explain visual crowding.
Nandy+, A. S. & Tjan, B. S. (2012).
Nature Neuroscience, 15, 463-469

Efficient integration across spatial frequencies for letter identification in foveal and peripheral vision.
Nandy, A. S. & Tjan, B. S. (2008).
Journal of Vision, 8(13), 3.1–20

The angry brain: Neural correlates of anger, angry rumination, and aggressive personality.
Denson, T. F., Pedersen, W. C., Ronquillo, J. & **Nandy**, A. S. (2008).
Journal of Cognitive Neuroscience, 21(4), 734–744

The nature of letter crowding as revealed by first- and second-order classification images.
Nandy, A. S. & Tjan, B. S. (2007).
Journal of Vision, 7(2), 5.1–26.

The effects of skin tone on race-related amygdala activity: an fMRI investigation.
Ronquillo, J., Denson, T. F., Lickel, B., Lu, Z-L., **Nandy**, A. S. & Maddox, K. B. (2007).
Social Cognitive and Affective Neuroscience, 2(1), 39–44.

Classification images with uncertainty.
Tjan, B. S. & **Nandy**, A. S. (2006).
Journal of Vision, 6(4), 387–413.

Invited Talks	Department of Neuroscience, Yale University, New Haven, CT	2017
	Sloan-Swartz Annual Meeting, Caltech, Pasadena, CA	2016
	Department of Physiology, McGill University, Montreal, Quebec	2016
	Zhejiang University Interdisciplinary Institute of Neuroscience & Technology, Hangzhou, China	2015
	Sloan-Swartz Annual Meeting, Janelia Research Campus, Ashburn, VA	2015
	Joint Symposium on Neural Computation, University of Southern California, Los Angeles, CA	2015
	Neuronal Response Variability and Correlation, Banbury Conference Center, CSHL, NY	2015
	Department of Neurobiology & Anatomy, University of Rochester, Rochester, NY	2015
	Laboratory of Sensorimotor Research, National Eye Institute, Bethesda, MD	2014
	Institute for Neuroscience, University of Newcastle upon Tyne, UK	2014
	Systems Neurobiology Laboratories, Salk Institute for Biological Studies, La Jolla, CA	2010
	Smith-Kettlewell Eye Research Institute, San Francisco, CA	2010
	Departments of Ophthalmology & Psychology, University of California, Berkeley, CA	2010

Conference Proceedings

Nandy, A. S., Nassi, J. J. & Reynolds, J. H. (2016). Optogenetically induced low-frequency correlations impair perception. *Talk presented at Waitt Advanced Biophotonics Center 4th Annual Meeting, Salk Institute.*

Nandy, A. S., Nassi, J. J. & Reynolds, J. H. (2016). Laminar organization of attentional modulation in visual area V4. *Poster presented at CoSyNe 2016 Annual Meeting.*

Jadi*, M. P., **Nandy***, A. S., Sejnowski, T. J., Navlakha, S. & Reynolds, J. H. (2016). Laminar and spatial predictors of attentive behavior. *Poster presented at CoSyNe 2016 Annual Meeting.* *=equal contribution.

Nandy, A. S., Nassi, J. J. & Reynolds, J. H. (2015). Optogenetically induced low-frequency correlations impair perception. *Talk presented at Society for Neuroscience 2015 Annual Meeting.*

Nandy, A. S., Nassi, J. J. & Reynolds, J. H. (2015). Laminar organization of attentional modulation in area V4. *Poster presented at Society for Neuroscience 2015 Annual Meeting.*

Jadi, M. P., **Nandy**, A. S., Sejnowski, T. J. & Reynolds, J. H. (2015). Laminar organization of visually evoked gamma rhythm in area V4. *Poster presented at Society for Neuroscience 2015 Annual Meeting.*

Nandy, A. S., Nassi, J. J. & Reynolds, J. H. (2015). Probing the causal role of area V4 neurons in attentional selection. *Poster presented at CoSyNe 2015 Annual Meeting.*

Reynolds, J. H., **Nandy**, A. S. & Nassi, J. J. (2014). Using optogenetics to probe neural circuit mechanisms underlying biased competition and decorrelation with attention. *Poster presented at Society for Neuroscience 2014 Annual Meeting.*

Nandy, A. S., Reynolds, J. H. & Mitchell, J. F. (2014). Spatio-temporal structure of shape-tuning in V4 receptive fields. *Poster presented at Society for Neuroscience 2014 Annual Meeting.*

Chung, S. T. L., Bernard, J. B., Kumar, G., **Nandy**, A. S. & Tjan, B. S. (2014). The two-dimensional shape of the crowding zone following macular lesions. *Poster presented at Vision Sciences Society 2014 Annual Meeting.*

Nandy, A. S., Sharpee, T. O., Reynolds, J. H. & Mitchell, J. F. (2013). Toward a mechanistic description of shape processing in area V4. *Poster presented at CoSyNe 2013 Annual Meeting.*

Nandy, A. S., Sharpee, T. O., Reynolds, J. H. & Mitchell, J. F. (2012). The fine structure of V4 receptive fields. *Poster presented at Society for Neuroscience 2012 Annual Meeting.*

Nandy, A. S., Sharpee, T. O., Reynolds, J. H. & Mitchell, J. F. (2012). Position-specific heterogeneity of orientation pooling in curvature tuned neurons of macaque area V4. *Poster presented at CoSyNe 2012 Annual Meeting.*

Sharpee, T. O., **Nandy**, A. S. & Reynolds, J. H. (2012). Scale dependence of orientation statistics in natural scenes. *Poster presented at CoSyNe 2012 Annual Meeting.*

Tjan, B. S. & **Nandy**, A. S. (2012). Saccade-confounded image statistics explain visual crowding. *Poster presented at CoSyNe 2012 Annual Meeting.*

Nandy, A. S., Sharpee, T. O., Reynolds, J. H. & Mitchell, J. F. (2011). Position-specific heterogeneity of orientation pooling in curvature tuned neurons of macaque area V4. *Poster presented at Society for Neuroscience 2011 Annual Meeting.*

Chung, S. T. L., Bernard, J. B., Kumar, G., **Nandy**, A. S. & Tjan, B. S. (2011). Re-referencing of saccadic eye-movements and modifications of spatial properties at and around the PRL in people with AMD. *Poster presented at Society for Neuroscience 2011 Annual Meeting.*

Nandy, A. S., Reynolds, J. H. & Sharpee, T. O. (2011). Orientation statistics of natural scenes: spatial-scale & temporal aspects. *Poster presented at Vision Sciences Society 2011 Annual Meeting.*

Kwon, M. Y., **Nandy**, A. S. & Tjan, B. S. (2011). Changes in crowding zone at the eccentric retinal loci of subjects with simulated central scotoma. *Talk presented at Vision Sciences Society 2011 Annual Meeting.*

Tjan, B. S., Kwon, M. Y., & **Nandy**, A. S. (2011). Changes in oculomotor behavior induced by a simulated central scotoma. *Poster presented at Vision Sciences Society 2011 Annual Meeting.*

Chiu, M. K., Wallace, J. W., **Nandy**, A. S. & Tjan, B. S. (2011). Peripheral crowding with unlimited viewing time. *Poster presented at Vision Sciences Society 2011 Annual Meeting.*

Tjan, B. S., & **Nandy**, A. S. (2010). Recognizing objects in clutter. *Talk presented at European Conference on Computer Vision 2010.*

Nandy, A. S., & Tjan, B. S. (2010). Crowding and cortical reorganization at and around the PRL: model and predictions. *Talk presented at Vision Sciences Society 2010 Annual Meeting.*

Tjan, B. S., & **Nandy**, A. S. (2010). Saccade-distorted image statistics explain target-flanker and flanker-flanker interactions in crowding. *Talk presented at Vision Sciences Society 2010 Annual Meeting.*

Nandy, A. S., & Tjan, B. S. (2009). Attention-gated image statistics and the development of lateral interactions in central and peripheral vision. *Poster presented at Society for Neuroscience 2009 Annual Meeting.*

Nandy, A. S., & Tjan, B. S. (2009). The fine spatial structure of crowding zones. *Poster presented at Vision Sciences Society 2009 Annual Meeting.*

Nandy, A. S., & Tjan, B. S. (2008). A computation model of visual crowding. *Talk presented at Society for Neuroscience 2008 Annual Meeting.*

Nandy, A. S., & Tjan, B. S. (2008). The origin of crowding zones. *Talk presented at Vision Sciences*

Society 2008 Annual Meeting.

Tjan, B. S., **Nandy**, A. S. & Chung, S. T. L. (2008). Crowding in the amblyopic fovea can be unlike crowding in the normal periphery. *Poster presented at Vision Sciences Society 2008 Annual Meeting.*

Nandy, A. S., & Tjan, B. S. (2007). Optimal feature integration across spatial frequencies in central and peripheral vision. *Talk presented at Vision Sciences Society 2007 Annual Meeting.*

Nandy, A. S., & Tjan, B. S. (2007). "Signal-clamped" classification images. *Talk presented at Vision Sciences Society 2007 Annual Meeting.*

Tjan, B. S., & **Nandy**, A. S. (2006). First- and second-order classification image analysis of crowding. *Talk presented at European Conference on Visual Perception 2006.*

Nandy, A. S., & Tjan, B. S. (2006). Feature Integration Maps during crowding as revealed from covariance analysis of classification images. *Talk presented at Vision Sciences Society 2006 Annual Meeting.*

Tjan, B. S., & **Nandy**, A. S. (2006). Hold it there and let's have a look: Extracting shift-invariance templates and sub-template features from signal-clamped classification images. *Talk presented at Vision Sciences Society 2006 Annual Meeting.*

Nandy, A. S., & Tjan, B. S. (2005). Recovering the template of a system with position uncertainty. *Poster presented at Society for Neuroscience 2005 Annual Meeting*

Honors and Awards	NEI Training Fellowship	2013-2015
	Salk Institute Pioneer Post-doctoral Fellowship	2012
	Salk Society of Research Fellows Travel Award	2011
	McGuigan Award (USC Department of Psychology)	2009
	Elsevier/Vision Research Travel Award	2008
	Society for Neuroscience: Childcare Supplement Award	2008
	Joint Initiative Fellowship (USC College of Letters, Arts and Sciences)	2004-2009
Grants	NARSAD Young Investigator Award	2017-2019
Service	Ad hoc reviewer for Journal of Vision, Neural Computation and Scientific Reports.	

Teaching Experience

Teaching Assistant	2005 (Fall)

Department of Psychology, University of Southern California.
Course title: An Introduction to Psychological Statistics

Teaching Assistant	2007 (Spring)

Department of Psychology, University of Southern California.
Course title: An Introduction to Psychological Statistics

Affiliations	Society for Neuroscience, Member	2005-Present
	Vision Sciences Society, Member	2006-Present
	Cognitive Science Society, Member	2002-2004

Professional Experience

Senior Post-doctoral Research Associate	2015-present

The Salk Institute for Biological Studies, La Jolla, CA.
Investigating the cortical circuits of shape selectivity and attention in the visual cortex using optogenetics, electrophysiology and computational modeling.

Post-doctoral Research Associate 2010-2015

The Salk Institute for Biological Studies, La Jolla, CA.
Investigating the cortical circuits of shape selectivity and attention in the visual cortex using optogenetics, electrophysiology and computational modeling.

Principal Staff Engineer 1997-2004

Motorola Inc., Ft. Worth, TX.
Responsible for system architecture, design and communication protocol implementation for Motorola's 3rd generation cellular base-stations (UMTS, cdma2000). Also worked in Motorola's 2-Way Paging infrastructure division.

Software Consultant 1996-1997

Omron Systems Inc., Schaumburg, IL.
Responsible for the development of a generic protocol driver for serial devices used in Omron's products.

Software Engineer 1994-1996

Hughes Software Systems (subsidiary of Hughes Network Systems, MD), New Delhi, India.
Responsible for sub-system design and development for components of a Frame Relay/X.25 backbone network.

References

Dr. John Reynolds,
Professor and Fiona & Sanjay Jha Chair,
Systems Neurobiology Laboratories,
The Salk Institute for Biological Studies,
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Dr. Bosco Tjan,
Professor,
Department of Psychology,
University of Southern California,
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Assistant Professor,
Department of Brain & Cognitive Sciences,
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jmitchell@bcs.rochester.edu