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### EDUCATION

**Ph.D.**, Physics, University of Notre Dame, May 1999.

**M.Sc. (Hons.)** in Physics and **B.E. (Hons.)** in Electrical Engineering,  
Birla Institute of Technology and Science, Pilani, India. 1992 (summer).

Workshop in Neural Data Analysis, Marine Biological Laboratory, Woods Hole, MA 1999 (summer).

NATO Advanced Study Institute Summer School, Les Houches, France, 1996 (summer).

Methods in Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA 1995 (summer).

Complex Systems Summer School, Santa Fe Institute, Santa Fe, NM 1995 (summer).

### EXPERIENCE

Postdoctoral Fellow, Brandeis University, laboratory of John Lisman 1999-present.

Graduate Research Assistant, University of Notre Dame, laboratory of James Glazier 1992-1998.

Teaching Assistant, Department of Physics, University of Notre Dame 1992-1994.

Reviewer for *Physical Review E*, *Physical Review Letters*, *Journal of Physics A*, *Cerebral Cortex*,  
*Journal of Neuroscience*, *Journal of Neurophysiology*

### FELLOWSHIPS AND AWARDS

NARSAD Young Investigator, (2003-2004)

Alfred P. Sloan Postdoctoral Fellowship for Theoretical Neuroscience, Brandeis University (1999-2001).

NATO Fellowship to attend Advanced Study Institute Summer School (1996).

Zahm Fellowship for Biophysics, Biochemistry and Molecular Biology, University of Notre Dame (1993).

National Talent Search Fellowship, National Council for Education, Research and Training, India (1985-1992).

### PUBLICATIONS

C. Berthelsen, J.A. Glazier and S. Raghavachari, "Effective Multifractal Spectrum of a Random Walk", *Physical Review E* **49**, 1860 (1994).

J.A. Glazier, S. Raghavachari, C.L. Berthelsen and M.H. Skolnick, "Reconstructing Phylogeny From Multifractal Spectrum of Mitochondrial DNA", *Physical Review E* **51**, 2665 (1995).

S. Raghavachari and J.A. Glazier, "Spatially Coherent States in Fractal Coupled Map Lattices", *Physical Review Letters* **74**, 3297 (1995).

S. Raghavachari and J.A. Glazier, “Waves in Diffusively Coupled Bursters”, *Physical Review Letters* **82**, 2991 (1999).

J. Caplan, M. Kahana, S. Raghavachari and J. R. Madsen, “Distinct Patterns of Brain Oscillations Underlie Two Basic Parameters of Human Maze Learning”, *Journal of Neurophysiology* **86**, 368 (2001).

S. Raghavachari *et al.*, “Gating of Human Theta Oscillations in a Working Memory Task”, *Journal of Neuroscience* **21** 3175 (2001).

A. Kepecs and S. Raghavachari, “3-state Neurons for Contextual Processing”, *Advances in Neural Information Processing Systems 14*, edited by T. G. Dietterich and S. Becker and Z. Ghahramani (MIT Press, Cambridge, MA) 2002.

J.E. Lisman, E.A. Richard, S. Raghavachari and R. Payne, “Simultaneous Roles for Ca<sup>2+</sup> in Excitation and Adaptation of Limulus Ventral Photoreceptors” in *Photoreceptors and Calcium*, edited by Wolfgang Baehr and Krzysztof Palczewski. Landes Bioscience (2002).

A.A. Koulakov, S. Raghavachari, A. Kepecs and J.E. Lisman, “Robust Model of a Neural Integrator”, *Nature Neuroscience* **5**, 775 (2002).

A. Compte, C. Constantinidis, S. Raghavachari, J. Tegner, M. Chafee, P.S. Goldman-Rakic and X-J. Wang, “Spectral Properties of Mnemonic Persistent Activity in Prefrontal Cortex of Monkeys During a Delayed Response Task”, (*J. Neurophysol.*, 2003 in press).

S. Raghavachari and J.E. Lisman, “Properties of Quantal and Multiquantal Transmission at CA1 Mushroom Spines”, (submitted to *Journal of Neuroscience*, 2003).

S. Raghavachari and A. Kepecs, “Computing in Context: Membrane Potential Fluctuations and Neuronal Gating” (preprint, 2003).

## REFERENCES

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