Mukesh Dhamala
Curriculum Vitae

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Personal

Born on: 10/18/1968, Nepal
Citizenship: Nepal
Visa status: US Resident

Education

- Ph.D. in Physics, April 2000, University of Kansas, Lawrence
  Thesis: "Transient Chaos" (Advisors: Prof. Ying-Cheng Lai, Prof. E. J. Kostelich, & R. H. Holt)
- M.S. in Physics and Applied Mathematics (Honors), June 1999, University of Kansas, Lawrence
  Thesis: "Controlling transient chaos in deterministic flows with applications to electrical power systems and ecology" (Advisor: Prof. Ying-Cheng Lai)
- M.S. in Physics, 1994, Tribhuvan University, Nepal
  Thesis: "Optimizing the detection of brain tumors by using magnetic resonance imaging techniques" (Advisor: Prof. Shesh Kant Aryal)
- B.S. in Physics, 1991, Tribhuvan University, Nepal

Academic Experience

- Postdoctoral Fellow, August 2002 - present, Center for Complex Systems & Brain Sciences, Florida Atlantic University, Boca Raton, Florida (Supervisors: Dr. V. K. Jirsa, Prof. J. A. S. Kelso, & Prof. Mingzhou Ding)
- Postdoctoral Fellow, May 2000 - July 2002, Georgia Institute of Technology School of Physics & Emory University School of Medicine, Atlanta (Supervisors: Prof. K. Wiesenfeld & Dr. G. S. Berns)
- Visiting Research Assistant, August 1999 - May 2000, Department of Mathematics and Center for Systems Science and Engineering, Arizona State University, Tempe
- Research Assistant, January 1998 - July 1999, Department of Physics and Astronomy, University of Kansas, Lawrence
- Research Assistant, Summer 1997, Department of Physics and Astronomy, University of Kansas, Lawrence
- Head Teaching Assistant, August 1997 - 1998, Department of Physics and Astronomy, University of Kansas, Lawrence
- Teaching Assistant, August 1996 - 1997, Department of Physics and Astronomy, University of Kansas, Lawrence
- Lecturer, July 1994 - July 1996, Physics Department, Institute of Engineering, Nepal

Honor and Achievement

- Member, Physics Honor Society ΣΠΣ, inducted 1998
- M.S. in Physics and Applied Mathematics with Honors, 1999

Computer Skills

- Unix/Linux, FreeBSD, Microsoft Windows 00/XP, C++, FORTRAN, Matlab/Maple, Mathematica, Latex, HTML, imaging softwares (SPM, AFNI, Presentation, and FreeSurfer).

Professional Membership

- Society for Neuroscience, American Physical Society & Nepal Physical Society

Manuscript Reviewer

- Physica D, Chaos

Personal Interests

- Reading books, playing chess, playing tennis, bicycling, running & swimming

Publications

- M. Dhamala, C. G. Assisi, V. K. Jirsa, and J. A. S. Kelso, "Multisensory integration in the human brain," in preparation (2003).
- M. Dhamala, V. K. Jirsa, and M. Ding, "Transitions to synchrony in bursting neurons," submitted to Physical Review Letters (2003).
- M. Dhamala, V. K. Jirsa, and M. Ding, "Enhancement of neural synchrony by time delay," submitted to Physical Review Letters (2003).
- M. Dhamala, G. Pagnoni, K. Wiesenfeld, C. F. Zink, M. Martin, and G. S. Berns "Neural of the complexity of rhythmic finger-tapping,", NeuroImage **20**, 918 (2003).
- C. Zink, G. Pagnoni, M. Martin, M. Dhamala, and G. S. Berns, "Human striatal response to salient non-rewarding stimuli," J. Neuroscience **23**, 8092 (2003) (**Featured in the Editorial**).
- M. Dhamala and Y.-C. Lai, "The natural measure of nonattracting chaotic sets and its representation by unstable periodic orbits," Int. J. Bifurcat. Chaos **12**, 2991-3006 ((2002).
- P. R. Montague, G. S. Berns, S. M. McClure, G. Pagnoni, M. Dhamala, et. al., "Hyperscan: simultaneous fMRI of human interaction," NeuroImage **16**, 1159 - 1164 (2002).
- M. Dhamala, G. Pagnoni, K. Wiesenfeld, and G. S. Berns, "Measurements of brain activity complexity for varying mental loads," Physical Review E **65**, 041917 1 - 7 (2002). (**Selected for the Virtual Journal of Biological Physics April, 2002**).
- M. Dhamala and K. Wiesenfeld, "Generalized stability law for Josephson series arrays," Physics Letters A **292**, 269-274 (2002).
- M. Dhamala, Y.-C. Lai, and E. J. Kostelich, "Analyses of transient chaotic time series," Physical Review E **64**, 056207 1-9 (2001).
- M. Dhamala, Y.-C. Lai, and R. Holt, "How often are chaotic transients in spatially extended ecological systems ?, " Physics Letters A **280**, 297 - 302 (2001).
- M. Dhamala, Y.-C. Lai, and E. J. Kostelich, "Detecting unstable periodic orbits from transient chaotic time series, " Physical Review E **61**, 6485-6489 (2000).
- R. Davidchack, Y.-C. Lai, E. Bollt, and M. Dhamala, "Estimating generating partitions of chaotic systems by unstable periodic orbits," Physical Review E **61**, 1353-1356 (2000).
- M. Dhamala and Y.-C. Lai, "Unstable periodic orbits and the natural measure of nonhyperbolic chaotic saddles," Physical Review E **60**, 6176-6179 (1999).
- M. Dhamala and Y.-C. Lai, "Controlling transient chaos in deterministic flows with applications to electrical power systems and ecology," Physical Review E **59**, 1646-1655 (1999).

Conferences

- Dynamics Days 2003, Arizona, January 8-11, 2003 (one presentation).
- Dynamical Neuroscience, Orlando, November 1-2, 2002 (one presentation).
- Coordination dynamics 2002, Florida, May 9-13, 2002 (one presentation).
- Dynamical Neuroscience, San Diego, November 9-10, 2001 (one presentation).
- International conference on nanobiology, Emory University, October 25 -28, 2001.
- Dynamics Days 2001, North Carolina, January 3 - 6, 2001 (one presentation).
- 2000 Annual Meeting in New Orleans by Society for Neuroscience, November 4-9, 2000.
- The Fifth SIAM Conference on Dynamical Systems, Snowbird, Utah, May 22-27, 1999 (two presentations).
- Stanford/UCLA/UCSD Winter School in Chaotic Communications, San Diego, January 24-27, 1999.
- D0 Preshower Detector Software Meeting, Fermi Lab, Chicago, June, 1997 (one presentation)

List of Referees

1. Ying-Cheng Lai
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   Department of Electrical Engineering
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3. Gregory S. Berns
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4. Kurt Wiesenfeld
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5. Eric J. Kostelich
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   Tempe, AZ 85287
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6. Erik M. Bollt
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