

# Krešimir Josić

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## Education

PENNSYLVANIA STATE UNIVERSITY, Ph.D., Mathematics August 1999  
(Dissertation: “Synchronization of Chaotic Systems”, C.E. Wayne, advisor)  
UNIVERSITY OF TEXAS AT AUSTIN, B.Sc., Mathematics and B.Sc., Physics May 1994  
(Summa cum laude and departmental honors)

## Research Interests

Synchronization and coherent behavior in networks of complex systems with applications to neuroscience, genomics, and evolutionary biology, justification and extensions of formal perturbation methods.

## Professional Experience

*Associate Professor* Fall 2007 – present  
*Assistant Professor* Fall 2002 – Spring 2007  
Department of Mathematics, University of Houston  
*Visiting Assistant Professor in Dynamical Systems* Fall 1999 – Summer 2002  
Department of Mathematics and Center for BioDynamics,  
Boston University  
*Visitor* Spring 1998 – Summer 1999  
Department of Mathematics, Boston University  
*Graduate Assistant* Spring 1994 – Fall 1998  
Department of Mathematics, Pennsylvania State University

## Adjunct Appointments

University of Texas at Houston, School of Public Health and Graduate School of Biological Sciences Fall 2007 – present

## Book

K. Josić, J. Rubin, M. Matías and R. Romo, eds. *Coherent Behavior in Neuronal Networks*. Springer Verlag. To appear in 2009.

## Publications

*Publications in which authors appear in alphabetical order are marked with a \*.*

1. Y. Sun, B. Danila, K. Josić and K. E. Bassler. “Improved community structure detection using a modified fine tuning strategy.” To appear in *Europhysics Letters*.
2. K. Josić, E. Shea-Brown, B. Doiron, and J. de la Rocha. “Stimulus-dependent correlations and population codes.” To appear in *Neural Computation*.
3. D. Nevozhay, R. Adams, K. Murphy, K. Josić and G. Balazsi, “Negative autoregulation linearizes the dose response and suppresses the heterogeneity of gene expression.” *PNAS* **106**, 5123-5128 (2009).

4. F. Marpeau, A. Barua and K. Josić. “A finite volume method for stochastic integrate-and-fire models.” *Journal of Computational Neuroscience* **26** 445-57 (2009).
5. (\*) K. Josić and R. Rosenbaum. “Instability in non-autonomous linear ODEs.” *SIAM Review* **50** 570–584 (2008).
6. K. Kelleher, V. Hajdik, K. Josić and C. Colbert. “Learning by structural remodeling in a class of single cell models.” *Journal of Computational Neuroscience* **25**:2, 282–295(2008).
7. Y. Timofeeva, S.J. Cox, S. Coombes and K. Josić. “Democratization in a passive dendritic tree: an analytical investigation.” To appear in the *Journal of Computational Neuroscience* **25**:2, 228–244 (2008).
8. E. Shea-Brown, K. Josić, B. Doiron, and J. de la Rocha. “Universal properties of correlation transfer in integrate-and-fire neurons.” *Physical Review Letters* **100**, 108102 (2008).
9. (\*) Ž. Bajzer, T. Carr, K. Josić, S.J. Russell, and D. Dingli. “Modeling of cancer virotherapy with recombinant measles viruses.” *Journal of Theoretical Biology* **252**:1, 109–122 (2008).
10. (\*) R.E.L. DeVille, A. Harkin, M. Holzer, K. Josić, and T. Kaper. “Analysis of a Renormalization Group Method for Solving Perturbed Ordinary Differential Equations.” *Physica D* **237**: 8, 1029–1052 (2008).
11. E. Elhaik, D. Graur, and K. Josić. “Is there a nucleotide composition constraint on genome sequences?” *Computational Biology and Chemistry*, **32**, 147 (2008).
12. J. de la Rocha, B. Doiron, E. Shea-Brown, K. Josić, and A. Reyes. “Correlation between neural spike trains increases with firing rate,” *Nature* **448**, 802–806 (2007).
13. (\*) N. Barlas, K. Josić, S. Lapin and I. Timofeyev. “Non-uniform decay of predictability and return of skill in stochastic oscillatory models.” *Physica D* **232**(2), 116–127(2007).
14. S. Coombes, Y. Timofeeva, C.-M. Svensson, G.J. Lord, K. Josić, S.J. Cox and C.M. Colbert. “Branching Dendrites with Resonant Membrane: A ”sum-over-trips” approach.” *Biological Cybernetics* **93**, 91–108 (2007).
15. J. Rubin and K. Josić. “Neuronal firing in the presence of stochastic trains of strong synaptic inputs,” *Neural Computation* **19**, 1251–1294 (2007).
16. (\*) S. Coombes, B. Doiron, K. Josić, and E. Shea-Brown. “Toward blueprints for network architecture, biophysical dynamics, and signal transduction,” *Proceedings of the Royal Society A* **364**, 3301–3318 (2006).
17. K. Josić and A. Török. “Network structure and spatiotemporally symmetric dynamics,” *Physica D* **224**(1–2), 52–68 (2006).
18. K. Parwani and K. Josić, “The effect of architecture on the structure of rotation sets in coupled circle maps,” *Chaos*. **16**(1), 015115 (2006).
19. D. Dingli, M.D. Cascino, K. Josić, S.J. Russell, and Ž. Bajzer, “Mathematical modeling of cancer radiovirotherapy,” *Mathematical Biosciences* **199**(1), 55–78 (2006). (Epublished Dec 22, 2005).
20. (\*) M. Golubitsky, K. Josić, and E. Shea-Brown, “Rotation, oscillation and spike numbers in phase oscillator networks,” *Journal of Nonlinear Science* **16**(4) 201-231 (2006).

21. K. Josić and J. Rubin. “Deriving information about architecture from activity patterns in coupled cell systems” *SIAM Journal on Applied Dynamical Systems* **4**(1), 53-77 (2005).
22. K. Josić and S. Peleš. “Synchronization in Networks of General, Weakly non-linear oscillators” *Journal of Physics A: Mathematical and General* **37**(49), 11801-11818 (2004).
23. M.S. Baptista, S. Boccaletti, K. Josić, and I. Leyva. “Irrational Phase Synchronization” *Physical Review E* **69**, 056228 (2004).
24. K. Josić and E. Sander “The Structure of Synchronization Sets for Noninvertible Systems” *Chaos* **14**(2), 249-262 (2004).
25. (\*) R. L. Devaney, K. Josić, M. Moreno Rocha, P. Seal, Y. Shapiro, and A. T. Frumosu. “Playing catchup with iterated exponentials”, *American Mathematical Monthly* **111**(8), 704-709 (2004).
26. (\*) R.L. Devaney, K. Josić, and Y. Shapiro “Singular perturbations of quadratic maps”, *International Journal of Bifurcations and Chaos* **14:1**, 161-171 (2004).
27. (\*) E. Barreto, K. Josić, C. Morales, E. Sander, and P. So “The geometry of chaos synchronization”, *Chaos*, **13**, 151–164 (2003).
28. K. Josić and M. Beck. “A geometric theory of chaotic phase synchronization”, *Chaos* **13** 247–258 (2003).
29. P. So, E. Barreto, K. Josić, E. Sander, and S. J. Schiff “Limits on the experimental detection of nonlinear synchronization”, *Physical Review E*, **65** 046225 (2002).
30. K. Josić and D.J. Mar, “Phase synchronization of chaotic systems with small phase diffusion”, *Physical Review E*, **64**, 056234-1–056234-10, (2001).
31. (\*) R. Bhattacharjee, R. L. Devaney, R. E. L. Deville, K. Josić, and M. Moreno-Rocha “Accessible Points in the Julia Set of Stable Exponentials”, *Discrete and Continuous Dynamical Systems B*, **1**(3), 299–318 (2001).
32. K. Josić and R.W. Hall, “The Mathematics of Musical Instruments”, *American Mathematical Monthly*, **108**(4), 347–357 (2001).
33. K. Josić “Synchronization of Chaotic Systems and Invariant Manifolds”, *Nonlinearity*, **13**(4), 1321–1336 (2000).
34. K. Josić and C.E. Wayne, “Dynamics of a Ring of Diffusively Coupled Lorenz Oscillators,” *Journal of Statistical Physics*, **98**(1), 1 – 30 (2000).
35. (\*) K. Josić and R.W. Hall, “Planetary Motion and the Duality of Force Laws” *SIAM Review*, **42**(1), 114 – 125 (2000).
36. K. Josić “Invariant manifolds and synchronization of coupled dynamical systems”. *Physical Review Letters*, **80**(14) 3053 – 3056 (1998).
37. K. Josić “Local Bifurcations in the Symmetric Model of Selection with Fertility Differences”, *Journal of Theoretical Biology*, **189**, 291–295 (1997).

### **Book Chapters**

*Publications in which authors appear in alphabetical order are marked with a \*. Refereed entries are marked with a #.*

38. (\*) Ž. Bajzer, D. Dingli, K. Josić, and T. Carr. “Optimization of tumor virotherapy with recombinant measles viruses.” To appear in *Optimization in Medicine and Biology* (2007). Editors are Gino J. Lim and Eva K Lee
39. (#) K. Josić, E. Shea-Brown, and J. Moehlis. “Isochrons.” In *Scholarpedia: The Free, Peer-Reviewed Encyclopedia* (2006).
40. (#) J. Moehlis, K. Josić, and E. Shea-Brown. “Periodic Orbits.” In *Scholarpedia: The Free, Peer-Reviewed Encyclopedia* (2006).
41. (\*) M. Golubitsky, K. Josić, and L.J. Shiau, “Bursting in Coupled Systems” in *Bursting: The Genesis of Rhythm in the Nervous System*, edited by S. Coombes and P. Bressloff (2005).
42. (\*) Golubitsky, K. Josić, and T.J. Kaper, “An Unfolding Theory Approach to Bursting in Fast-Slow Systems,” in *Global Analysis of Dynamical Systems*, dedicated to Floris Takens (2001).

#### **Other peer reviewed papers to which I have contributed**

43. D. Dingli, C. Offord, R. Myers, K–W. Peng, T. W. Carr, K. Josić, S. J. Russell and Ž Bajzer. “Dynamics of Multiple Myeloma Tumor Therapy with a Recombinant Measles Virus,” To appear in *Cancer Gene Therapy* (2009).
44. M. Scott-Pandorf, D. P. O’Connor, C.S. Layne, K. Josić, and M. J. Kurz. “Walking in Simulated Martian Gravity: Influence of the Portable Life Support System’s Design on Dynamic Stability,” To appear in *Journal of Biomechanical Engineering* (2009).

#### **Book Reviews**

- Review of *Normal Forms and Unfoldings for Local Dynamical Systems* by James Murdock. *SIAM Review* **46**(4) 751-752 (2004).

#### **Preprints Submitted for Publication**

- E. Elhaik, D. Graur and K. Josić. “Comparative testing of DNA segmentation algorithms using benchmark simulations,” submitted to *Molecular Biology and Evolution*.
- E. Elhaik, D. Graur and K. Josić. “Identifying compositionally homogeneous domains within the human genome using a novel segmentation algorithm,” submitted to *Bioinformatics*.

#### **Honors and Awards**

Bellman Prize for best article in the journal *Mathematical Biosciences*  
between 2006 and 2008.

Undergraduate Research Award for work with Y. Shapiro (Boston University) Summer 2001

Pritchard Dissertation Fellowship (Pennsylvania State University) 1999

ZZRQ Award for Outstanding Achievement by a Doctoral Candidate 1999  
(Pennsylvania State University)

Curry Fellow at Pennsylvania State University 1994–1996

## Grants Awarded

*If applicable, the percentage of credit for the grant is given.*

NSF: Correlations in neural dynamics and coding (2008-11) <i>with B. Doiron (Pitt) and E. Shea-Brown (U.W., Seattle)</i>	\$151,134
ARP/ATP: Dynamics and Function of Feed Forward Networks (2008-10) <i>PI: Josic (50%), Co-PI: M. Golubitsky (50%)</i>	\$148,000
NSF: Applications of Coupled Cell Systems (2006-09) <i>PI: Golubitsky (50%), Co-PI: Josic (50%)</i>	\$420,000
REU Supplement to above NSF grant (2008–09) <i>M. Golubitsky, K. Josic and M. Tomforde</i>	\$44,000
ARP–ATP: Theory and Applications of Coupled Systems (2006-08) <i>PI: Golubitsky (50%), Co-PI: Josic (50%)</i>	\$79,000
UK-Texas Biosciences Initiative (2005-06) <i>Award made to S. Coombes research group in England for visits to Houston.</i>	£9,000
NSF: CMG Collaborative Research: Predictability and Dynamics of Models of Quasigeostrophic Turbulence and Their Low-Dimensional Truncations (2004-07) <i>PI: Glowinski (34%), with Co-PIs: Josic (33%) and Timofeyev (33%).</i>	\$422,964
NSF: REU Program in Mathematical Biology (2003-05) <i>PI: S. Canic.</i>	\$100,000
NSF: Focused Research Group: Synchrony and Structure in Coupled Cell Systems (2003-06). <i>2005–2006 PI: Josic (25%), Co-PIs: Golubitsky (25%), Field (25%), and Torok (25%). 2003–2005 PI: Golubitsky (25%), Co-PIs: Field (25%), Josic (25%) and Torok (25%).</i>	\$960,758

## Internal grants and workshop support

UH Quality Enhancement Program: Mathematical Biology (2009) <i>PI: Josic, Co-PIs: R. Azevedo, K. Bassler, B. Bodmann, T. Cooper, C. Peters</i>	\$19,954
NSF: International Workshop on Coherent behavior in neuronal networks (2007) <i>PI: Josic (50%), Co-PI: J. Rubin (U. Pittsburgh) (50%)</i> Additional funding by ONR, Spanish and EU governments (~ \$18,000)	\$14,410
UH GEAR Grant: The Structure and Dynamics of Networks (2005-06) <i>PI: Josic.</i>	\$20,562

## Center grants

*The following are larger grants awarded to the GCC for Theoretical and Computational Neuroscience during my tenure on the steering committee. I appear as co-PI or senior personnel, and am also part of the training personnel.*

NIH–NIBIB: Training in Theoretical and Computational Neuroscience (2007-12)	\$727,000
NSF: REU Site for Theoretical and Computational Neuroscience (2008–11)	\$214,019

## Invited Lectures and Presentations at Conferences

SIAM Annual Meeting, Denver, CO	2009
FACM – 2009, NJIT, Newark, NJ	2009
SIAM Dynamical Systems, Snowbird, CO	2009

SIAM Life Sciences, Montreal, Canada	2008
SIAM Annual Meeting, San Diego, CA	2008
AMS regional meeting, Baton Rouge, LA	2008
SIAM Dynamical Systems, Snowbird, CO	2007
Dynamics Days, Boston, MA	2007
Theoretical Neuroscience Network, Bristol, UK	2006
Neuromath, San Julia de Lorria, Andorra.	2006
SIAM Life Sciences, Raleigh, NC.	2006
International Workshop on the Dynamics on Complex Networks, Dresden, Germany	2006
Theory and Application of Coupled Cell Networks, Cambridge, UK	2005
SIAM Conference on Applications of Dynamical Systems, Snowbird, CO	2005
Workshop on Mathematical Neuroscience, Edinburgh, Scotland	2005
Houston Society for Engineering in Biology and Medicine Annual Meeting, Houston, TX	2005
Coupled 60 Workshop, Houston, TX	2005
5th International Conference on Dynamical Systems and Diff. Equations, Pomona, CA	2004
6th Joint Meeting of the AMS and SMM, Houston, TX	2004
2nd Texas Dynamical Systems Workshop, Houston, TX	2004
5th International Congress on Industrial and Applied Mathematics, Sydney, Australia	2003
SIAM Conference on Applications of Dynamical Systems, Snowbird, CO	2003
AMS Sectional Meeting 982, Orlando, FL	2002
SIAM Conference on Life Sciences (minisymposium organizer and speaker) Boston, MA.	2002
Dynamics Days 2002, Baltimore, MD (poster presentation)	2002
4th International Conference on Dynamical Systems and Diff. Equations, Willmington, NC	2002
Workshop on the Control and Synchronization of Dynamical Systems Max Planck Institute, Dresden, Germany.	2001
SIAM Conference on Applications of Dynamical Systems, Snowbird, CO	2001
Gordon Conference on Nonlinear Science (discussion leader) Mount Holyoke College, South Hadley, MA	2001
Semi-annual Workshop on Dynamical Systems and Related Topics University of Maryland, College Park, MD	2001
Pacific Rim Dynamical Systems Conference (minisymposium organizer and speaker) Maui, Hawaii	2000
Symposium on the Synchronization of Chaotic Systems, The Abdus Salam ICTP, Trieste, Italy	2000
Nonlinear Science 2000 →, Courant Institute, New York, NY (poster presentation)	2000
Complex Synchrony in Neuroscience Krasnow Institute for Advanced Study, GMU, Fairfax, VA	2000
953rd AMS meeting, Session on Applications of Invariant manifolds University of Notre Dame, Notre Dame, IN	2000
SIAM Conference on Applications of Dynamical Systems, Snowbird, CO	1999
Midwest Dynamical Systems Conference Northwestern University, Evanston, IL	1998
Semi-annual Workshop on Dynamical Systems and Related Topics Pennsylvania State University, State College, PA	1997
Annual Meeting of the Society for Mathematical Biology University of North Carolina, Chapel Hill, NC	1997

### Invited Lectures at Universities and Colleges

Brown University, Dynamical Systems Seminar	2009
University of Oklahoma, Colloquium and Undergraduate Seminar	2008
Baylor College of Medicine, Neuroscience Seminar	2006
University of Texas, School of Public Health, Biostats Colloquium	2005
Southern Methodist University, Department of Mathematics Colloquium	2005
Trinity University, Department of Mathematics Colloquium	2005
New York University, Computational Neuroscience Seminar	2004
University of Texas at Arlington, Applied Mathematics Seminar	2004
Georgia Institute of Technology, Center for Nonlinear Science Colloquium	2004
University of Texas at San Antonio, Mathematics Colloquium	2003
Rice University, Mathematics Colloquium	2003
College of the Holy Cross, Colloquium	2003
Worcester Polytechnic Institute, Colloquium	2003
Georgia Institute of Technology, Nonlinear Dynamics Seminar	2003
University of Texas at Austin, Dynamical Systems Seminar	2002
Boston University, Dynamical Systems Seminar	2002
Georgetown University, Department of Mathematics	2002
University of Houston, Department of Mathematics	2002
University of Texas at Austin, Mathematical Physics Seminar	2002
Tufts University, Department of Mathematics Colloquium	2001
Boston University Academy, Masterclass (talented high school students)	2001
Rensselaer Polytechnic Institute, Department of Mathematics Colloquium	2001
SUNY, Stony Brook, Dynamical Systems Seminar	2000
Universitat Autònoma de Barcelona, Department of Mathematics Colloquium	2000
University of Houston, Nonlinear Dynamics Seminar	2000
New Jersey Institute of Technology, Department of Applied Mathematics Colloquium	2000
Institute for Physical Sciences Seminar, University of Maryland	2000
George Mason University, Department of Physics Colloquium	2000
Dartmouth College, Department of Mathematics Colloquium	1999
Trinity College, Department of Mathematics Colloquium	1999
George Mason University, Department of Mathematics Colloquium	1999
Boston University, Center for BioDynamics Seminar	1998
Boston University, Dynamical Systems Seminar	1998, 2000
Pennsylvania State University, Dynamical Systems Seminar	1996
Pennsylvania State University, Slow Pitch Graduate Student Seminar	1996
University of Texas at Austin, Dynamical Systems Seminar	1994

### Students Supervised

Robert Rosenbaum, Ph.D. candidate	current
Aditya Barua, Ph.D. candidate	current
Ajit Kumar, Ph.D. candidate	current
Keith Kelleher, Ph.D. candidate (Biology, with P. Saggau and M. Rea)	current
Huy Loi, M.Sc. Stochastic processes in biology	graduated spring 2005.

Aerie Brown, M.Sc.	graduated spring 2005.
Information theoretic methods in DNA sequence analysis.	
Christy Jew, M.Sc.	graduated spring 2005.
Plasticity in neuronal networks	
Matthew Stone, M.Sc.	graduated spring 2004.
Reliable response of a model subthalamopallidal neuron.	
Yakov Shapiro, undergraduate student	Summer 2001- Summer 2002
Singularly perturbed quadratic maps, this work initiated a series of papers available at <a href="http://math.bu.edu/people/bob/papers.html">http://math.bu.edu/people/bob/papers.html</a>	
Melanie Palma, M.A.	Fall 2001
Phase response curves for nonperiodic oscillators	

### Outreach Activities

Contributor to “Engines of Our Ingenuity”	2009–
<a href="http://www.uh.edu/engines/">http://www.uh.edu/engines/</a>	
Seminar leader, Houston Teachers Institute (HTI)	Spring 2008
<a href="http://hti.math.uh.edu/">http://hti.math.uh.edu/</a>	

### Course and program development

Lead the development of the program leading to a degree in Mathematical Biology offered jointly by the Departments of Mathematics and Biology and Biochemistry.

Participated in the development of three new undergraduate courses: Biostatistics, Mathematics of Evolution, and Mathematical Biology that are offered as part of the degree.

Developed graduate courses in Mathematical Neuroscience, Information Theory and Stochastic Processes.

### Courses Taught

*Graduate courses are marked with a \**

Mathematics of Evolutionary Theory (10 students)	Spring 2009
Probability and Statistics (*) (26 students)	Fall 2008 – Spring 2009
Engineering Mathematics (online course)	Spring 2008
Introduction to Information Theory (*) (8 students)	Fall 2007
Complex Analysis (12 students)	Fall 2007
Nonlinear Dynamics (18 students)	Spring 2007
Introduction to Mathematical Neuroscience (*) (8 students)	Spring 2007
Ordinary Differential Equations (58 students)	Fall 2006
Stochastic Processes (15 students)	Fall 2006
Dynamical Systems II (*) (7 students)	Spring 2006
Concepts in Algebra (82 students)	Fall 2006
Dynamical Systems I (*) (7 students)	Fall 2006
Stochastic Processes (14 students)	Spring 2005
Calculus III (115 students)	Fall 2004
Mathematical and Computational Neuroscience (*) (17/11 students) a graduate, two semester course	Fall 2003/Spring 2004
Nonlinear Dynamics 2 (4 students)	Spring 2003
Introduction to Statistics and Probability (80 students)	Fall 2002

Graduate Seminar on Invariant Manifolds (*) (8 students)	Spring 2002
Calculus for Life Sciences I (60 students)	Spring 2002
Differential Equations (*) (6 students)	Fall 2001
Methods of Applied Mathematics (undergraduate/graduate, 20 students)	Fall 2001
Differential Equations (126 students)	Spring 2001
Calculus II (60 students)	Spring 2001
Differential Equations (*) (3 students)	Fall 2000
Calculus for Life Sciences I (60 students)	Fall 2000
Calculus for Life Sciences II (40 students)	Spring 2000
Discrete Mathematics (14 students)	Spring 2000
Calculus for Life Sciences (190 students)	Fall 1999
Calculus I (42 students)	Spring 1998
Calculus III (39 students)	Fall 1997
Differential Equations and Boundary Value Problems (graduate, 8 students)	Summer 1997
Linear Algebra (60 students)	Spring 1997
Differential Equations (40 students)	Fall 1996
Calculus I (30 students)	Summer 1995

### Reviewer for

Automatica, Chaos, Discrete and Continuous Dynamical Systems, IEEE Journals,  
 J. of Computational Neuroscience, J. of Neuroscience, J. of Physics A, NSF  
 Nonlinearity, Physica D, Physics Letters A, Physical Review E, Physical Review Letters  
 Proceedings of the Royal Society A, Journal of Mathematical Analysis and Applications  
 SIAM Journal on Dynamical Systems, SIAM Journal on Mathematical Analysis.

### Related Experience and Service

NSF Panel	2008
Organizer of the UH Networks Seminar <a href="http://wwworm.bio.uh.edu/networks">http://wwworm.bio.uh.edu/networks</a>	Fall '07 – present
Organizer of conference “Coherent Behavior in Neuronal Networks.”	October 2007
Organizer of minisymposia on synchrony in neuroscience SIAM Conference on Applications of Dynamical Systems, Snowbird, CO	May 2003, 2005
Local Organizer of the Coupled 60 Workshop	February 2005
Local Organizer of the Joint AMS/SMM Meeting	May 2004.
Houston Mathematics Department Colloquium Organizer	Fall 2003/Spring 2004
Organizer of the Nonlinear Dynamics / Neurodynamics Seminar <a href="http://www.math.uh.edu/~josic/seminars/">http://www.math.uh.edu/~josic/seminars/</a>	Fall 2002 - 2003
Organizer of the 1st Texas Dynamics Workshop, UT Austin <a href="http://www.ma.utexas.edu/~martense/dynamics/">http://www.ma.utexas.edu/~martense/dynamics/</a>	Spring 2003
Organizer of symposium entitled “Invariant Manifolds and Applications” at the 4th International Conference on DE in Wilmington, NC.	Spring 2002
Organizer of Minisymposium on bursting at SIAM Life Sciences Conference	Spring 2002
Organizer of the Boston University Dynamical Systems Seminar <a href="http://math.bu.edu/dynamics/seminar.html">http://math.bu.edu/dynamics/seminar.html</a>	Fall 1999 – Spring 2002
Organizer of minisymposium on phase locking in chaotic systems SIAM Pacific Rim Conference, Hawaii	Summer 2000
Co-organizer of seminar on phase locking analysis and applications	Summer 2001 – Spring 2002

Organizer of seminar on noise in dynamical models of neurons	Spring 2001
Organizer of a seminar on invariant manifolds and applications	Spring 1999
Member of Center for BioDynamics	Spring 1998 – Spring 2002

**Experience in Working with Undergraduates, and High School Students**

Supervised research of Paloma Valenzuela	2009 -
Supervised research of Manuel Lopez	2008 -
Supervising research of Melody Lin, Sarah Kazzaz	2007 - 2008
Supervising summer research of N. Laurie and R. Rosenbaum	2006
Co-supervised research of 5 undergraduates with C. Colbert (Biology)	2003 - 2005
Supervised research of two undergraduate students	Summer 2001 - Summer 2002
Guest lecturer in PROMYS program (talented high school students)	Summer 2000
Guest lecturer and co-organizer of BU Academy Seminars (high school)	Spring 2000, 2002
Putnam team trainer at Boston University	Fall 1999 - Spring 2001
Collaborator in the Honors Calculus Project	Fall 1996 – Fall 1997

Sample of work is available at <http://www.math.psu.edu/hall/newton>