

# CURRICULUM VITAE

Prepared January 27, 2015

**R. Clark Robinson**

## **Professional Address:**

Department of Mathematics  
Northwestern University  
Evanston, IL 60208  
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## **Home Address:**

1431 Noyes St.  
Evanston, IL 60201

## **Education:**

1966 BS University of Washington  
1969 PhD University of California at Berkeley

## **Employment:**

1969–1973 Assistant Professor, Northwestern University  
1973–1978 Associate Professor, Northwestern University  
1978–2013 Professor, Northwestern University

## **Visiting Positions:**

1970–71 Visiting Researcher, Instituto de Matemática Pura e Aplicada, Rio de Janeiro  
1984, Spring Visiting Researcher, Mathematical Sciences Research Institute, Berkeley

## **Research Interests:**

Dynamical Systems

## Publications:

1. A global approximation theorem for Hamiltonian systems, Proceedings of the Symposium in Pure Mathematics 14, Global Analysis, A.M.S. (1970), 233–244.
2. Generic properties of conservative systems, Amer. J. Math. 92 (1970), 562–603.
3. Generic properties of conservative systems II, Amer. J. Math 92 (1970), 897–906.
4. Generic one parameter families of symplectic matrices, Amer. J. Math. 93 (1971), 116–122.
5. Generic properties of conservative systems, Proceedings of the Symposium on Differential Equations and Dynamical Systems 1969, Lecture Notes in Math. 206, Springer-Verlag (1971), 35–36 (research announcement).
6. Differentiable conjugacy near compact invariant manifolds, Boletim de Sociedade Brasileira de Matematica 2 (1971), 33–44.
7. *Lectures on Hamiltonian Systems*, Monografias de Matematica 7, Instituto de Matematica Pura e Aplicada, Rio de Janeiro, Brazil (1971).
8. (with A. Verjovsky) Stability of Anosov Diffeomorphisms, in *Seminario de Sistemas Dinamicos*, ed. J. Palis, Monografias de Matematica 4, Instituto de Matematica Pura e Aplicada, Rio de Janeiro, Brazil (1971), Chapter 9.
9.  $C^r$  structural stability implies Kupka-Smale, in *Dynamical Systems*, ed. M. Peixoto, Academic Press (1973), 443–449.
10. (with R.F. Williams) Finite stability is not generic, in *Dynamical Systems*, ed. M. Peixoto, Academic Press (1973), 451–462.
11. Closing stable and unstable manifolds on the two sphere, Proceedings A.M.S. 41 (1973), 299–303.
12. Structural stability of vector fields, Annals of Math. 99 (1974), 154–175.
13. Fixing the center of mass in the  $n$ -body problem by means of a group action, Geometrie Symplectique et Physique Mathematique Colloques Internationaux du Centre National de la Recherche Scientifique 237 (1975), 147–154.
14. Structural stability of  $C^1$  flows, in *Dynamical Systems*, Warwick 1974, Lecture Notes in Math. 468, Springer-Verlag (1975), 262–277.

15. Structural stability for  $C^1$  diffeomorphisms, in *Dynamical Systems*, Warwick 1974, Lecture Notes in Math. 468, Springer-Verlag (1975), 21–23 (research announcement).
16. (with J. Palis and C. Pugh) Nondifferentiability of invariant foliations, in *Dynamical Systems*, Warwick 1974, Lecture Notes in Math. 468, Springer-Verlag (1975), 234–240.
17. The geometry of the structural stability proof using unstable disks, *Bol. Soc. Brasil. de Matematica* 6 (1975), 129–144 (survey).
18. Structural stability of a  $C^1$  diffeomorphism, *J. Diff. Eqs.* 22 (1976), 28–73.
19. Structural stability theorems, in *Dynamical Systems: An International Symposium II*, eds. L. Cesari, J. Hale and J. LaSalle, Academic Press, N.Y. (1976), 33–36.
20. A quasi-Anosov flow that is not Anosov, *Ind. Univ. Math. J.* 25 (1976), 763–767.
21. (with R.F. Williams) Classification of expanding attractors: an example, *Topology* 15 (1976), 321–323.
22. (with J. Franks) A quasi-Anosov diffeomorphism that is not Anosov, *Transactions A.M.S.* 223 (1976), 267–278.
23. Stability, measure zero, and dimension two implies hyperbolicity, Technical Report, Northwestern University (1976).
24. Stability theorems and hyperbolicity in dynamical systems, *Rocky Mountain J. Math.* 7 (1977), 425–437.
25. Global structural stability of a saddle node bifurcation, *Trans. A.M.S.* 236 (1978), 155–171.
26. Introduction to the Closing Lemma, in *The structure of attractors in dynamical systems*, eds. Markley, Martin, and Perrizo, Springer-Verlag, Lecture Notes in Math. 668 (1978), 225–230.
27. (with J. Murdock) Qualitative dynamics from asymptotic expansions: local theory, *J. Differential Equations* 36 (1980), 425–441.
28. Structural stability on manifolds with boundary, *J. Differential Equations* 37 (1980), 1–11.
29. (with J. Murdock) A note on the asymptotic expansions of eigenvalues, *SIAM J. Math. Analysis* 11 (1980), 458–459.

30. (with L.-S. Young) Nonabsolutely continuous foliations for an Anosov diffeomorphism, *Inventiones Math.* 61 (1980), 159–176.
31. (with J. Murdock) Some mathematical aspects of spin/orbit resonance II, *Celestial Mechanics* 24 (1981), 83–107.
32. Stability of periodic solutions from asymptotic expansions, in *Classical Mechanics and Dynamical Systems/Tufts University 1979*, eds. R. Devaney and Z. Nitecki, Marcel Dekker (1981), 173–185
33. Differentiability of the stable foliation of the model Lorenz equations, *Dynamical Systems and Turbulence/Warwick 1980*, Lecture Notes in Math. 898 (1981), 302–315.
34. (with D. Saari)  $N$  body spatial parabolic orbits asymptotic to colinear central configurations, *J. Diff. Equations* 48 (1983), 434–459.
35. Second order averaging of forced and coupled nonlinear oscillators, *IEEE Transactions on Circuits and Systems*, CAS-30 (1983), 591–598.
36. Sustained resonance for a nonlinear system with slowly varying coefficients, *SIAM J. Math. Anal.* 14 (1983), 847–860.
37. Bifurcation to infinitely many sinks, *Communications Math Phys.* 90 (1983), 433–459.
38. (with C. Pugh) The  $C^1$  closing lemma including Hamiltonians, *Ergodic Theory and Dynamical Systems* 3 (1983), 261–313.
39. Capture in resonance: opening a homoclinic orbit through slowly varying coefficients, in *Geometric Dynamics*, Lecture Notes in Math. 1007, Springer-Verlag (1983), 651–662.
40. Homoclinic orbits and oscillation for the planar three body problem, *J. Differential Equations* 52 (1984), 356–377.
41. Transitivity and invariant measures for geometric model of the Lorenz equations, *Ergodic Theory and Dynamical Systems* 4 (1984), 605–611.
42. Cascade of sinks, *Transactions A.M.S.* 288 (1985), 841–849.
43. Phase plane analysis using derivative of Poincare map, *J. Non-linear Analysis*, 9(1985), 1159–1164.
44. (with G. Suchanek) On the design of optimal mechanisms for the Arrow-Hahn-McKenzie Economy, *Public Choice* 47 (1985), 313–335.

45. (with S. Patterson) The basins of sinks near homoclinic tangencies, *Dynamical Systems and bifurcation theory*, edited by M. I. Camacho, M. J. Pacifico and F. Takens, Pitman Research Notes in Math. Series 160 (1987), pp. 347–376.
46. (with S. Patterson) Basins for general nonlinear Hénon attracting sets, Proc. Amer. Math. Soc. 103(1988), pp. 615–632.
47. Horseshoes for autonomous Hamiltonian systems using the Melnikov integral, Ergodic Theory and Dynamical Systems 8\*(1988), pp. 395–409.
48. Stable manifolds in Hamiltonian systems, *Hamiltonian Systems*, edited by K. Meyer and D. Saari, Contemporary Mathematics, Amer. Math. Soc. 81(1988), pp. 77-97.
49. Homoclinic bifurcation to a transitive attractor of Lorenz type, Nonlinearity 2(1989), pp. 495–518.
50. Homoclinic bifurcation to a transitive attractor of Lorenz type, II, SIAM J. Math. Anal. 23(1992), pp. 1255–1268.
51. *Dynamical Systems: Stability, Symbolic Dynamics, and Chaos*, CRC Press, Boca Raton Florida, 1995.
52. Melnikov Method for Autonomous Hamiltonians, Contemporary Mathematics, volume 198 (1996), pages 45–53.
53. The Subharmonic Melnikov Method, preprint 1995.
54. Nonsymmetric Lorenz Attractors from a homoclinic bifurcation, SIAM J. Math. Analysis, volume 32 (2000), pages 119–141.
55. *Dynamical Systems: Stability, Symbolic Dynamics, and Chaos, Second Edition*, CRC Press, Boca Raton Florida, 1999.
56. Symbolic Dynamics for Transition Tori, *Celestial Mechanics*, edited by A. Chenciner, R. Cushman, C. Robinson, and Z. Xia, Contemporary Mathematics, Amer. Math. Soc., vol. 292 (2002), pp. 199-208.
57. (with M. Gidea), Symbolic Dynamics for Transition Tori II, *New Advances in Celestial Mechanics and Hamiltonian Systems, HAMSYS-2001*, edited by J. Delgado, E.A. Lacomba, J. Llibre, and E. Pérez-Chavela, Kluwer Academic/Plenum Publ., 2004.
58. (with M. Gidea), Topologically Crossing Heteroclinic Connections to Invariant Tori, J. Diff. Equat., 193 (2003), pp. 49–74.

59. *An Introduction to Dynamical Systems: Continuous and Discrete*, Pearson Prentice Hall, 2004.
60. (with M. Gidea), Shadowing orbits for transition chains of invariant tori alternating with Birkhoff zones of instability, *Nonlinearity*, 20 (2007), pp. 1115–1043.
61. What is a chaotic attractor, *Qualitative Theory of Dynamical Systems*, 7 (2008), pp. 227–236.
62. Uniform Subharmonic Orbits for Sitnikov Problem, *Discrete and Continuous Dynamical Systems, Series S* 1 (2008), pp. 647-652.
63. (with M. Gidea), Obstruction argument for transition chains of tori interspersed with gaps, *Discrete and Continuous Dynamical Systems, Series S* 2 (2009), pp. 393-416.
64. (with M. Gidea), Diffusion along transition chains of invariant Tori and Aubry-Mather sets, *Ergodic Theory and Dynamical Systems*, Available on CJO 2012 doi:10.1017/S0143385712000363, pp. 1-49.
65. *An Introduction to Dynamical Systems: Continuous and Discrete 2nd edition*, American Mathematical Society, 2012.
66. *Introduction to Mathematical Programming*, Northwestern University Lecture Notes, 2013.
67. Topological decoupling near planar parabolic orbits, *Qualitative Theory of Dynamical Systems* 130 (2015).  
doi 10.1007/s12346-015-0130-7

## Proceedings Editor:

1. (edited with Z. Nitecki) *Global theory of Dynamical Systems*, Lecture Notes in Math. 819 (1980), Springer-Verlag, Berlin/Heidelberg/New York.
2. (edited with A. Chenciner, R. Cushman, and Z. Xia), *Celestial Mechanics: Dedicated to Donald Saari for his 60th birthday*, Contemporary Mathematics, Amer. Math. Soc., 292 (2002).
3. (edited with M. Gidea and Ernesto Pérez-Chavela), *Special issue of Discrete and Continuous Dynamical Systems Series S*, volume 1 number 4 (2008).

## Book Reviews:

1. Review of *Chaotic Dynamics of Nonlinear Systems*, by N. Rasband, Book Reviews in SIAM Review, volume 33 (1991), pages 334–335.
2. Review of *Chaotic Behavior of Deterministic Dissipative Systems*, by M. Marek and I. Schreiber, Book Reviews in SIAM Review, volume 34 (1992), pages 680–681.
3. Review of *Topological Theory of Dynamical Systems*, by N. Aoki and K. Hiraide, Book Reviews in the Bulletin of the AM, volume 33 (1996), pages 497–499.
4. Featured Review in Mathematical Reviews of *Connecting invariant manifolds and the solution of the  $C^1$  stability and  $\Omega$ -stability conjectures for flows* by S. Hayashi, 98b:58096 (1998).

## Lectures:

- 1982: Colloquium at Boston University, February 8  
Sustained roll resonance for a reentry vehicle
- Applied Mathematics Seminar, Boston University  
February 16  
Applications of the Melnikov method
- Dynamical Systems Seminar, CUNY Graduate Center  
February 10  
Homoclinic orbits and oscillation for the three body problem
- Colloquium, Brown University  
March 15  
Sustained roll resonance for a reentry vehicle
- Midwest Dynamical Systems Seminar, Case Western Reserve  
May 13  
Oscillation for the planar three body problem
- Midwest Dynamical Systems Seminar, University of Minnesota  
October 8  
Bifurcation to infinitely many sinks

- 1983: Midwest Dynamical Systems Conference, University of Colorado  
April 8  
Phase plane analysis via Poincare map
- A.M.S. Summer Meeting Special Session  
August 11  
Cascade of sinks
- Mathematical Association of America, Ohio Section  
Featured Speaker  
In search of stability in a complex world
- Colloquium, Case Western Reserve University  
November 3  
Bifurcations of dynamics for maps of the plane
- Colloquium, DePaul University  
November 16  
Dynamics for maps of the plane
- Colloquium, University of Florida at Gainesville  
February 14  
Dynamics of maps of the plane
- 1984: Colloquium, University of Florida at Gainesville  
February 14  
Dynamics of maps of the plane
- Dynamical Systems Seminar, University of California at Berkeley  
May 1,3  
Structural stability theorem
- Mathematical Science Research Institute (M.S.R.I.) Berkeley  
May 11  
Homoclinic bifurcation to sinks
- Mathematical Science Research Institute (M.S.R.I.) Berkeley  
May 11–13  
Organize Dynamical Systems Lecture Series



- 1984: Montana State University  
 October 5,6  
 Dynamics of maps of the plane: bifurcation, chaos, attractors,  
 Melnikov method for Hamiltonian systems  
 Colloquium
- 1985: Federal University at Rio de Janeiro/August 30  
 Basins of Attraction
- I.M.P.A. in Rio de Janeiro/September 2  
 Melnikov method for autonomous Hamiltonian systems
- University of Michigan: Midwest Dynamical Systems/October 19  
 Melnikov method for autonomous Hamiltonian systems
- Fermilab/October 25  
 Perturbations of Hamiltonian systems: capture and nonintegrability
- 1986: Cornell University/September 9  
 Basins for Partially Formed Horseshoes  
 Workshop on Computers and Dynamical Systems
- 1987: University of Colorado/June 23  
 Uses of stable manifolds in Hamiltonian systems  
 AMS Summer Research Conference
- Boston University/September 2  
 Basins for partially formed horseshoes  
 DARPA Conference
- 1988: University of Cincinnati/February 2  
 Lorenz/Rychlik bifurcation to an attractor
- Institute for Advanced Study in Princeton/February 15  
 Lorenz/Rychlik bifurcation to an attractor
- London Math Society Symposium on Dynamical Systems at Durham/July 7  
 Bifurcation to a transitive attractor of Lorenz type

- 1989: Mathematical Science Research Institute at Berkeley California/ February 22  
Melnikov integral for autonomous Hamiltonian systems in higher dimensions
- Midwest Dynamical Systems Conference at Northwestern University April 21  
Homoclinic bifurcation to an attractor of Lorenz type
- Midwest Dynamical Systems Conference at Northwestern University April 21–23  
One of Organizers of conference  
University of Illinois at Chicago/May 3  
Chaotic attractors in Dynamical Systems
- International Conference on Dynamical Systems  
at Instituto Matematica Pura e Aplicada in Rio de Janeiro Brazil /August 8  
Homoclinic bifurcations to an attractor of Lorenz type
- Midwest Dynamical Systems Conference at Northwestern University  
November 10–12  
One of Organizers of conference
- 1990: Dynamics Days at the University of Texas, January 4  
Homoclinic bifurcation to an attractor of Lorenz type  
Institute for Mathematics and Its Applications at the University of Minnesota
- Winter 1990  
One of organizers and participant in quarter on Hamiltonian Dynamics  
Institute for Mathematics and its Applications at the University of Minnesota
- March 6  
Homoclinic bifurcation to an Attractor and Poincaré map past a saddle point.
- 1991: International Dynamical Systems Conference at Northwestern University  
March 24–28  
One of Organizers of conference
- 1992: Southeast Dynamical Systems Conference at North Carolina State  
April 4  
Bifurcation in the formation of a horseshoe

- 1993: Midwest Dynamical Systems Conference at Boulder Colorado  
March 28  
Hyperbolicity, Attractors, and Chaos
- Amer. Math. Soc. Regional Meeting: Invited Hour Address  
May 21  
Chaos in Dynamical Systems
- International Conference on Dynamical Systems  
at IMPA in Rio de Janeiro, Brazil  
August 12  
 $C^0$  linearization in degenerate cases arising in parabolic 3-body  
problem
- 1995: Summer school at the Federal University in Recife Brasil (five lectures)  
January 10–20  
Melnikov method: verifying horseshoes for Hamiltonian systems
- Conference on Noninvertible Maps at the Geometry Center,  
University of Minnesota,  
March 17  
Stable manifold theory for noninvertible maps
- AMS-SIAM Joint Summer Research Conference in Mathematical  
Sciences: Hamiltonian Systems and Celestial Mechanics,  
June 26  
Melnikov method for autonomous Hamiltonian systems
- 1996: Beijing (China) Dynamical Systems Conference  
June 21  
Structural stability theorems and numerical integration
- Special Session on Dynamical Systems  
at AMS Regional Meeting of American Mathematics Society  
Columbia Missouri  
November 1  
Bifurcation to a Lorenz Attractor: Semi-oriented Case

- 1997: International Conference on Dynamical Systems  
at IMPA in Rio de Janeiro  
August 4  
“Homoclinic bifurcation to a semi-orientable Lorenz attractor”
- 1998: Special Session at the annual American Mathematical Society  
Baltimore  
January 9  
“Nonsymmetric Lorenz Attractors from a Homoclinic Bifurcation”
- International Conference on Local Differentiable Dynamics  
at LUCC, Diepenbeek, Belgium  
June 15  
“Homoclinic Bifurcations to Nonsymmetric Lorenz Attractors”
- Midwest Dynamical Systems Seminar  
University of Cincinnati  
March 25  
Symbolic Dynamics and Arnold Diffusion for Hamiltonian Systems
- Department Chairs Colloquium  
Sponsored by the Board on Mathematical Sciences of the  
National Research Council, Washington DC  
November 14  
“Innovative Mathematics Programs at Northwestern  
(ISP, MMSS, MENU)”
- Colloquium at Instituto de Matematicas, Universidad Cuernavaca  
December 4  
“Nonsymmetric Lorenz Attractors from Homoclinic Bifurcations”
- III International Symposium on Hamiltonian Systems  
Pátzcuaro, Mexico  
December 10  
“Homoclinic Bifurcations to Nonsymmetric Lorenz Attractors”

- 1999: Joint AMS Mexican Conference  
Denton Texas  
May 21  
“Symbolic Dynamics from Transverse Homoclinic Intersections for Whiskered Tori”
- Celestial Mechanics Seminar  
Universidad Autonoma Metropolitana  
Mexico City, Mexico  
November 10  
“Symbolic Dynamics in Celestial Mechanics without a Hyperbolic Horseshoe”
- Celestial Mechanics Seminar  
Universidad Autonoma Metropolitana  
Mexico City, Mexico  
November 17  
“Stable Manifolds and Continuous Linearization for Parabolic Orbits”
- Seminar for Graduate Students  
Universidad Autonoma Metropolitana  
Mexico City, Mexico  
November 18  
“Dynamica Symbolica”
- International Conference on Celestial Mechanics  
Northwestern University  
Evanston, IL  
December  
“Topological Decoupling near Planar Parabolic Orbits”
- 2000: 2000 Annual Spring Topology and Dynamics Conference, Plenary Talk  
San Antonio Texas  
March 18  
“Interval maps and nonsymmetric Lorenz attractors”
- International Conference on Dynamical Systems  
at IMPA in Rio de Janeiro, Brazil  
July 27  
“Nonsymmetric Lorenz-like attractors”

- 2001: Hamsys-2001: International Symposium and Workshop on Hamiltonian  
Systems and Celestial Mechanics  
CIMAT, Guanajuato MEXICO  
March 21  
“Periodic Orbits from Melnikov and Subharmonic Melnikov functions”
- Conference on Partial Hyperbolicity  
Northwestern University  
June 2  
“The Work of Charles Pugh”
- Seminar  
Universidad Autonoma Metropolitana  
Mexico City, Mexico  
July 25  
“Complicated Dynamics in Celestial Mechanics  
via Symbolic Dynamics ”
- 2004: First Colloquium on Dynamical Systems, Control, and Applications  
Mexico City  
December 3  
“What is a chaotic attractor?”
- 2005: Saarifest: International Conference in the Honor of Don Saari’s 65th Anniversary  
Guanajuato Mexico, April 6  
“Subharmonic Melnikov functions and the Sitnikov example”
- Workshop on Hamiltonian Systems  
Universidad Autonoma Metropolitana, Mexico City  
December 1  
“Topological crossing and Arnold drift”

- 2006: Distinguished Visitor Series  
Oberlin College  
March 8  
“Complicated dynamics from simple deterministic systems:  
theory and computer computations”
- Seminar at Northeastern Illinois University  
October 20  
“Complicated dynamics from simple deterministic equations:  
Theory and Computer Simulation”
- 2007: Special Section at Sectional Amer. Math. Soc. Meeting  
October 5  
“Shadowing orbits for transition chains of invariant tori”
- 2008: Special Section at AIMS Conference on Dynamical Systems  
May 22  
“Shadowing orbits for transition chains of invariant tori”
- Hamsys-2008: International Symposium and Workshop on Hamiltonian  
Systems and Celestial Mechanics  
CIMAT, Guanajuato Mexico  
July 7  
“Shadowing orbits for transition chains of invariant tori”
- Workshop on Stability and Instability in Mechanical Systems  
University of Barcelona SPAIN  
December 5  
“Shadowing orbits for transition chains of invariant tori”
- 2010: Invited talk  
Hammsys-2010: International Symposium on Hamiltonian Systems  
Mexico City, Mexico  
November 29  
“Shadowing orbits for transition chains of invariant tori”
- 2011: Invited talk  
International Conference on Hamiltonian Dynamics and Celestial Mechanics  
Castro Urdiales, Spain  
May 31  
“Topological decoupling near planar partially parabolic orbits”

2012: Seminar  
Universidad Autónoma Metropolitana  
May 31  
“Topological decoupling near planar partially parabolic orbits”

## **Membership:**

American Mathematics Society

American Association of Mathematics

## **Research Support:**

1970–95 National Science Foundation Research Grants

1985–87 DARPA Research Grant (Department of Defense)

1989–94 National Science Foundation, Program Group in Dynamical Systems

## **Professional Activities:**

1975–97 Reviewer, N.S.F. research proposals

1971–80 Reviewer, Math. Reviews

1980–94 Secretary for group organizing Midwest Dynamical Systems

1980– Maintain mailing list and website for the Midwest Dynamical Systems

1986–89 Associate Editor, SIAM Journal of Mathematical Analysis

1989–96 Board of Editors of Dynamics Reported

1989–97 Board of Editors of Nonlinear Science

1992–97 Board of Editors of Contemporary Mathematics



## **University and College Committees:**

1982–83	CAS Promotions and Tenure Committee
1982–83	Conciliation Board of University Hearing and Appeals System
1983–84	Freshman Adviser
1984–85	CAS Promotions and Tenure Committee
1989–90	CAS Promotion Ad hoc committee
1990–93	General Faculty Committee
1990–93	Graduate School University Fellowship Committee
1990–92	Northwestern University Budget and Finance Committee
1990–91	CAS Promotion Ad hoc committee
1991–93	Member of Executive Committee of General Faculty Committee
1991–92	Chair University Committee on Cause
1991–92	Chair CAS Promotion Ad hoc committee
1992–93	Chair Research Affair Committee
1992–93	Member University Committee on Cause
1992–95	ISP Committee
1993–94	Freshman Adviser for ISP
1995	NUCOMM: NU Communications Services Task Force
1995–98	Member of UFRPTDAP
2001–05	Member of Committee on Admission and Financial Aid (COAFA)
2004–06	Freshman adviser for WCAS
2007–08	Chair a WCAS ad hoc promotion committee
2008–09	Member of a WCAS ad hoc tenure committee
2009–10	Member of a WCAS ad hoc promotion committee

## **Department Committees:**

- 1984–87      Department Chairperson  
1996–99      Department Chairperson  
1999–2013   Chair of Computer Committee  
2002–2013   Associate Chairperson  
2009–10      Budget Committee

## **Senior Thesis Adviser**

- 1990          Evelyn Sander   “One Dimensional Chaotic Dynamical Systems”  
1992          Ken Jarman     “A Three Species Predator-Prey Model”

## **Doctoral Dissertation Adviser:**

- 1980          Michael Hurley   Ph.D., Northwestern University  
1987          Greg Davis     Ph.D., Northwestern University  
1988          David Closky   Ph.D., Northwestern University  
1990          Roger Kraft    Ph.D., Northwestern University  
1993          Tom Morrisey   Ph.D., Northwestern University  
1994          Jody Sorensen   Ph.D., Northwestern University  
1995          Miriam Byers   Ph.D., Northwestern University  
1997          Ming-Chia Li   Ph.D., Northwestern University  
1998          Youngna Choi   Ph.D., Northwestern University  
1998          Antonio Garcia   Ph.D., Northwestern University