

# CURRICULUM VITAE

## Qiudong (Don) Wang

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### Chronology of Education:

- B.S., Nanjing University, China, 1982
- Ph.D., University of Cincinnati, 1994
  - Thesis advisor: Kenneth Meyer
  - Thesis title: The global phase structure of the restricted isosceles three-body problem with positive energy.
  - Major fields: Dynamical Systems
    - Chaos in differential equations
    - Strange attractors
    - The N-body problem

### Chronology of Employment:

- Associate Professor, University of Arizona, 2004-current
- Assistant Professor, University of Arizona, 2000-2004
- Hedrick Assistant Professor, UCLA, 1996-2000
- Assistant Professor, Vanderbilt University 1994-96

### Honors and Awards

- Outstanding Faculty Award, Honor College, University of Arizona, 2009
- NSF Postdoctoral Research Fellowship, 1996-1999
- Charles Phelps Taft Graduate Fellow, 1993

### Service

- Mathematics Department Committee:  
Undergraduate Committee (2005-2006);  
Graduate Committee in Applied Mathematics IDP (2001-2008);  
Graduate Committee (2007-2008);  
Library Committee (2003-2007).

### **Publications/Creative Activity (Published or Accepted)**

1. Q.D. Wang, "The Global Solution of N-body Problem", *Celest. Mech.* 50, (1991) 73-88.
- \*2. K.R.Meyer and Q.D. Wang, "The global phase structure of the restricted isosceles three-body problem with positive energy", *Trans. Amer. Math. Soc.* 338(1), (1993), 311-336.
3. Q.D. Wang, "The Horseshoe Map in The Collinear Three-body Problem", *Hamiltonian dynamics and celestial mechanics*, The proceeding for the second international conference in dynamical systems and celestial mechanics, Cocoyoc Mexico. Edited by L. Lacombe and J Libre. (1995).
4. Q.D. Wang, "More on the heteroclinic orbits for the monotone twist maps", *Hamiltonian dynamics and celestial mechanics. Contemporary Mathematics*, Vol 198 (1995) 197-205 Edited by Saari, D. and Xia Z.
5. K.R.Meyer and Q.D. Wang, "The global phase structure for the three-dimensional isosceles three-body problem with zero energy", *Hamiltonian Dynamical Systems II*, edited by K.R. Meyer, H.S. Dumas, D.S. Schmidt, (1995), 265-282.
6. K.R. Meyer and Q.D. Wang, "The collinear three-body problem with negative energy", *J. Diff. Eq.* 119(2), (1995). 284-309.
7. C. McCord, K.R. Meyer and Q.D. Wang, "The Integral manifold of the three-body problem", with C. McCord and K.R. Meyer. *Memoirs of AMS* Vol 132 #628. (1998).
8. Q.D. Wang, "The diffusion time of the connecting orbit around rotation number zero for the monotone twist maps", *Discrete and Continuous Dynamical Systems*, 6(2), (2000). 255-274.
9. Q.D. Wang and L.-S. Young, "Strange Attractors with one Direction of Instability", *Commun. Math. Physics.* 218(1), (2001), 1-97
10. Q.D. Wang and L.-S. Young, "From invariant curves to strange attractors", *Commun. Math. Physics* 225, (2002) 275-304
11. Q.D. Wang, "The Hill's region of the four-body problem", *Contemporary Math.* 292, (2002), 239-265 edited by Z.-H. Xia

12. Q.D. Wang and L.-S. Young, “Strange Attractors in Periodically-kicked Limit Cycles and Hopf Bifurcations”, *Commun. Math. Physics* 240, (2002), 509-529
13. Q.D. Wang and Ali Oksasoglu, “Strange Attractors in Periodically-kicked Chua’s Circuit”, *Int. J. Bifur. Chaos* 16(1) (2005), 83-98
14. Ali Oksasoglu, D.S. Ma and Q.D. Wang, “Rank One Chaos in Switch-Controlled Murali-Lakshmanan-Chua Circuit”, *Int. J. Bifurc. Chaos* 16(11) (2006), 3207-3234
15. Q.D. Wang and L.-S. Young, “Nonuniformly Expanding 1D Maps”, *Commun. Math. Physics* 264(1) (2006), 225-282
16. Q.D. Wang and Ali Oksasoglu, “Rank One Chaos in Switch-Controlled Piecewise Linear Chua’s Circuit”, *J. Circ. Sys. and Comp.* 16(5) (2007), 769-789
17. Q.D. Wang and Ali Oksasoglu, “Rank One Chaos: Theory and Applications”, *Int. J. Bifurc. Chaos* 18(5) (2008), 1-59
18. Q.D. Wang and L.-S. Young, “Toward a Theory of Rank One Attractors”, *Annals. Math.* 167 (2008), 349-480
19. A. Oksasoglu, A.S Demirkol, S. Ozoguz, T. Akgul and Q.D. Wang, “Experimental verification of rank one chaos in switch-controlled smooth Chua’s circuit”, *Chaos* (19)(1) (2009)

## Submitted

- 1 Q.D. Wang and W. Ott, “Dissipative homoclinic loops and rank one chaos”, Submitted (2008)
- 2 K. Lu, Q.D. Wang and L.-S. Young, “Strange attractors for periodically forced parabolic equations”, Submitted (2008)
- 3 Q.D. Wang and Ali Oksasoglu, “Dynamics of Homoclinic Tangles in Periodically Perturbed Second Order Equations”, Submitted (2008)
- 4 K. Lu and Q.D. Wang, “Chaotic Behavior in Nonautonomous Equations Without any Time Periodicity”, Submitted (2009)

## Scholarly Presentations

*Colloquia*

*Symposia*

*Seminar*

- (April, 2009) *Chaos in non-autonomously forced equations* Courant Institute, NYU (2 hours)
- (Nov, 2007) *Rank one attractors in periodically perturbed Duffing equation* Dept. of Math., USC

### Conferences

- (July, 2009) *Dynamics of dissipative homoclinic tangles* Dynamical Systems Session, 7th Isaac Congress, Imperial College, London, England, Invited.
- (June, 2009) *Dynamics of dissipative homoclinic tangles* International Conference on Dynamic and Stochastic Systems, Sichua University, Chengdu, China, Invited.
- (April, 2009) *Dynamics of periodically perturbed homoclinic solutions* Maryland-Penn State Dynamical Systems Workshop, University of Maryland, Invited.
- (May, 2008) *Dynamics of dissipative homoclinic tangles* Conference in Dynamical Systems, Park City, Utah, Invited.
- (Nov, 2007) *Global dynamics of homoclinic tangles* International Conference on Dynamical Systems and Differential Equations, Mexico City, Mexico, Invited.
- (May, 2007) *Rank one maps: Theory and Applications* Workshop on Dynamical Systems, Peking, China, Series Lectures (10 hours).

### Grants and Contracts

NSF Grant: #0196035 (2000-2002) Sole PI, \$31,664;  
 NSF Grant: #0204725 (2003-2005) Sole PI, \$78,072;  
 NSF Grant: #0505594 (2006-2008) Sole PI, \$91,219;  
 NSF Grant: #0758661 (2009-2011) Sole PI, \$150,000.

*This is a true and accurate statement of my activities and accomplishments. I understand that misrepresentation in securing continuing status and promotion may lead to dismissal or suspension under ABOR Policy 6-301 I.2.b*

Qiudong Wang