

Curriculum Vitae

ERXIAO WANG

Email: ewang@math.utexas.edu Homepage: <http://www.math.utexas.edu/~ewang>

Mail: *Math Dept, National Univ of Singapore, 2 Science Drive 2, Singapore 117543*

Education

- *Ph.D.*, 08/2003, Mathematics, Northeastern University, Boston, USA.
- *B.Sc.*, 06/1997, Mathematics (**Honors**), Nankai University, Tianjin, China.

Research Areas Differential geometry, integrable systems, spectral curves.

Academic Appointments

- *Visiting Assistant Professor*, National University of Singapore, 08/2007-present.
- *Instructor*, University of Texas at Austin, 08/2004-08/2007.
- *Postdoctoral Fellow*, Mathematical Sciences Research Institute (**MSRI**), 08/2003-06/2004.
- *Teaching Assistant*, Northeastern University, 09/1998-08/2003.
- *Teaching Assistant*, Hong Kong University of Science & Technology, 09/1997-06/1998.

Visiting Member

- Institute of Pure & Applied Mathematics (**IPAM**), University of California, Los Angeles, 03/2003-06/2003.

Publications, Preprints and Work in progress

1. *Submanifold geometries and integrable systems*, Ph.D. Thesis, Northeastern University Library, 2003. (Advisor: Chuu-Lian Terng.)
2. *Curved flats, exterior differential systems, and conservation laws*, Complex, contact and symmetric manifolds, 235–254, Progr. Math., 234, Birkhauser Boston, Boston, MA, 2005. (with C.-L. Terng)
3. *Associative cones and integrable systems*, Chin. Ann. Math 27B(2), 2006, 153-168, a special issue in memory of S. S. Chern. (with C.-L. Terng and S. Kong)
4. *Tzitzéica transformation is a dressing action*, J. Math. Phys. 47(2006), no. 5, 053502, 13 pp.

5. *Transformations of flat Lagrangian immersions and Egoroff nets*, **accepted**, to appear in Asian Journal of Mathematics. (with C.-L. Terng)
6. *The Spectral Data of Finite Type Associative Cones*, **submitted**.
7. *A New Transformation of Indefinite Affine Spheres*, preprint, submit soon. (with K. Uhlenbeck)
8. *Constructing Associative Cones from G_2 Spectral Data and the Parameter Count for Double-Periodicity*, work in progress with E. Carberry.
9. *There exist almost complex tori of general type in S^6* , work in progress with E. Carberry.
10. *Constructing generalized KdV hierarchy by restriction of ZS-AKNS*, work in progress with C.-L. Terng and K. Uhlenbeck.
11. *Deformations of flat Lagrangian immersions and Egoroff nets via Higher Order Flows*, work in progress with C.-L. Terng.
12. *On conformal types of minimal surfaces in 3-space*, work in progress with X.-W. Xu.

Invited Talks (Not including many talks in the department seminars)

- Geometry Seminar, Sun Yat-sen University, January 2008
Title: *From Hitchin's G_2 Spectral Curves to Finite Type Associative Cones*
- Geometry Seminar, Sichuan University, December 2007
Title: *New transformations of affine spheres (with Uhlenbeck)*
- Geometry & Analysis Seminar, Wuhan University, December 2007
Title: *New transformations of flat Lagrangian immersions and Egoroff nets (with Terng)*
- Geometry Seminar, Hong Kong University of Science & Technology, November 2007
Title: *From Hitchin's G_2 Spectral Curves to Finite Type Associative Cones*
- Geometry & Topology Seminar, National University of Singapore, October 2007
Title: *From Hitchin's G_2 Spectral Curves to Finite Type Associative Cones*
- Univ. of Texas at Brownsville, July 2007
Title: *Spectral data of finite type almost complex tori in 6-sphere*
- Oberwolfach workshop: Progress in Surface Theory, Germany, May 2007
Invited by Prof Dorfmeister, but trip cancelled due to visa problems. Please visit the workshop website for my planned talk.
- Geometry Seminar, Texas A&M, October 2006
Title: *G_2 spectral curves and associative cones over tori*
- 2006 Strings Satellite Workshop, Center of Mathematical Science, Zhejiang University, June 2006
Title: *3 Lectures on integrable systems*

- Geometry Seminar, Univ. of Texas at Austin, October 2005
Title: *Ribaucour Transformations of flat Lagrangian immersions*
- AMS Sectional Meeting, Texas Tech University, April 2005
Title: *Transformations of indefinite affine spheres*
- Geometry Seminar, Univ. of California at Irvine, March 2004
Title: *On harmonic maps from Riemann surfaces to spheres*
- PDE Seminar, Univ. of California at Berkeley, October 2003
Title: *Introduction to Sine-Gordon equation*
- Von Neumann Symposium, MSRI, Berkeley, August 2003
Title: *Flat Lagrangian submanifolds in \mathbb{C}^n and $\mathbb{C}P^n$*

Awards and Honors (I will be a co-PI of an NUS Tier-1 Research Grant in next June.)

- *Phi Kappa Phi Honor Member*, Northeastern University, 2003.
- *Teaching Excellence Award for Best Progress*, Northeastern University, 2002.
- *Honor Graduate*, Nankai University, 1997.
- *Jiu-Zhang Math Award*, twice 1995, 1996.
- *First Prize of Chinese Math Olympic*, 1992.

Teaching I've taught 35 courses as lecturers for nearly 10 years, with **excellent** teaching record:

- All levels of (Multivariable) Calculus (including Pre-Calculus)
- Linear Algebra (for math majors on proofs and abstraction)
- Linear Algebra (for engineering majors on computations and applications)
- College Algebra
- Linear Programming
- Discrete Mathematics (for computer science majors)
- Differential Equations
- Probability
- Structure of Modern Geometry (designed for high school teachers)
- Real Analysis
- Complex Analysis
- Partial Differential Equations (January 2008)

Services

- *the administrator* of the department Linux server, Northeastern University, 2000-2003;
- *a volunteer and website designer* for the XVIth Annual Geometry Festival, Boston, 2001;
- *the website designer* for the summer school of quantum computing, Boston, 2001;
- *a committee member* for a Ph.D. Oral Exam, University of Texas at Austin, 2005;
- *a mentor* in Faculty and Staff Mentor Program for freshmen, Austin, 2005-2007;
- *referees* for 9 research papers of different journals, 2003-present;
- *a reviewer* for Math Review of American Mathematics Society, 2006-present.

Academic Programs and Conferences attended

- International Congress of Mathematicians, Madrid, Spain, August 2006
- Calibrations, American Institute of Mathematics, June 2006
- Satellite conference on string theory, CMS, Hangzhou, China, May 2006
- Texas Geometry and Topology Conference, University of Houston, February 2006
- Harvey-Polking Conference, Rice University, November 2005
- AMS Sectional Meeting, Texas Tech University, April 2005
- Southern California Geometry Conference, UC Irvine, February 2004
- Von Neumann Symposium, MSRI, August 2003
- Symplectic Geometry and Physics Program, IPAM-UCLA, March-June 2003
- AMS Sectional Meeting, Northeastern University, October 2002
- JDG Conference, Harvard University, May 1999-2002
- XVIth Annual Geometry Festival, Northeastern University, April 2001