

Curriculum Vitae

DEBORAH A. KOSLOVER

University of Texas, Tyler
Department of Mathematics
3900 University Blvd.
Tyler, TX 75799
dkoslover@uttyler.edu

Research Interests

Mathematical Physics and Engineering, emphasis in spectral theory of Schrödinger operators and acousto-optics.

Professional Experience

Assistant Professor, Mathematics-University of Texas, Tyler (August 2005-present)

Research Assistant-University of California, Irvine (July 2001-June 2005): Investigated spectral properties of quasiperiodic Jacobi matrices. Modeled electrons subjected to perpendicular magnetic fields and two dimensional periodic potentials with anisotropic nearest and next nearest neighbor coupling. This work was supported by NSF and BSF grants.

Teaching Associate-University of California, Irvine (June 2002-December 2003)

Teaching Assistant-University of California, Irvine (July 1999-March 2004)

Adjunct-Christ's College (now Concordia University), Irvine, CA (September 1985-June 1987)

Adjunct-Southern California College (now Vanguard University), Costa Mesa, CA (September 1984-June 1985)

Education –University of California, Irvine

Ph.D. Mathematics:	June 2005	
Thesis Title:	Quasiperiodic Jacobi Matrices of Magnetic Origin	
Thesis Advisor:	Professor Svetlana Jitomirskaya	
Master's Degree	Mathematics	2002
Teaching Credential	Mathematics and the Physical Sciences	1984
Bachelor's Degree	Physics (Cum Laude)	1982

Professional Society Memberships

American Mathematical Society (AMS)
Mathematical Association of America (MAA)

Publications in Refereed Journals

(with) S. Jitomirskaya, M.S. Schulteis, Continuity of the Lyapunov exponent for quasiperiodic cocycles, *Ergodic Theory and Dynam. Systems* **29**, Issue 6, 1881-1905, (2009). Publish online by Cambridge University Press, (September 2009).

(with R. Pieper and H. Ndwata) Combining phased array and Hamming sound apodization techniques to improve the acousto-optic diffraction bandwidth, *Proceedings of the 41st Southeastern Conference on System Theory*, (2009)

(with R. Pieper and T.-C. Poon) Exact solution for four-order acousto optic Bragg diffraction with arbitrary initial conditions, *Applied Optics* **48**, Issue 7, C141-C150 (2009)

(with) S. Jitomirskaya, M.S. Schulteis, Localization for a family of one dimensional quasiperiodic operators of magnetic origin, *Annales Henri Poincaré* **6** 103-124 (2005).

Jacobi Operators with singular continuous spectrum, *Lett. Math. Phys.* **71** 123-134 (2005).

Editor

(with K. Mahdavi) Advances in Quantum Computation, AMS Contemporary Mathematics, Vol 482 (2009)

(with K. Mahdavi) Advances in Quantum Computation II, AMS Contemporary Mathematics. The AMS has agreed to publish the proceedings of the Fall 2009 conference.

Presentations (recent)

MAA Section Meeting, Stephenville, TX, April 4, 2009.

Joint AMS/MAA Mathematics Meeting, AMS Session on Mathematical Physics, January 5, 2009.

Joint AMS/MAA Mathematics Meeting, MAA General Contributed Papers Session, January 5, 2009.

(With J. Lamb) National Council of Teachers of Mathematics Regional Conference, November 6, 2008.

Faculty Research Day UTT, September 26, 2008

(with J. Lamb) National Council of Teachers of Mathematics Regional Conference November 30, 2007

Conference Organization

(General Chair R. Pieper) Publication Chair, 42th IEEE Southeastern Symposium on System Theory (SSST 2010), University of Texas at Tyler, March 7-9, 2010.

(with K. Mahdavi, L. Kauffman, S. Lomanaco, L. Brown) NSF funded Conference on Representational Theory, Quantum Field Theory, Category Theory, Mathematical Physics and Quantum Information Theory, University of Texas at Tyler, October 1-4, 2009.

(with K. Mahdavi, L. Kauffman, S. Lomanaco) NSF funded Conference on Representational Theory, Quantum Field Theory, Category Theory, Mathematical Physics and Quantum Information Theory, University of Texas at Tyler, September 20-23, 2007.

Sections Chaired

Joint AMS/MAA Mathematics Meeting, AMS Session on Mathematical Physics, January 5, 2009.

Joint AMS/MAA Mathematics Meeting, MAA General Contributed Papers Session, January 5, 2009.

Honors and Awards

Nominated 2010 Texas Section Award for Distinguished College or University Teaching of Mathematics

Nominated 2009 Chancellor's Council Outstanding Teaching Award.

Nominated 2008 White Fellowship Award.

UCI Medal Fellowship, 2005 (Highest award given to a graduate student at UCI. Award for contributions to UCI's mission, spirit and vision.)

Outstanding Contributions to the Department of Mathematics Award, UCI, 2003-2004
(Award for research, teaching and service to the mathematics department)

T.A. Dissertation Fellowship (Fall 2004)

Phi Beta Kappa

Sigma Pi Sigma (Physics Honor Society)

Earl P. Anthony Fellowship

Courses Taught

- MATH 5383 – Topics in Applied Mathematics (Spring 2008)
- MATH 5381 – Applied Mathematics I (Fall 2007)
- MATH 5311 – Advanced Engineering Math (Fall 2006, Spring 2009, Spring 2010)
- MATH 4342 – Introduction to Complex Variables (Fall 2009)
- MATH 4341 – Introduction to Real Analysis (Fall 2005)
- MATH 4160 – Senior Seminar
- MATH 3425 – Foundations of Mathematics (Spring 2008)
- MATH 3380 – Algorithms in Applied Mathematics (Fall 2006)
- MATH 3345 – Introduction to Analysis (Fall 2005)
- MATH 3315 – Linear Algebra and Matrix Theory (Summer 2007)
- MATH 3305 – Ordinary Differential Equations (Fall 2008)
- MATH 3203 – Matrix Methods in Science and Engineering (Spring 2007, Fall 2007, Spring 2010)
- MATH 2414 – Calculus II (Spring 2005, Fall 2006, Fall 2007, Spring 2008, Fall 2008,)
- MATH 2413 – Calculus I (Fall 2005, Spring 2009, Fall 2009)
- MATH 2330 – Discrete Structures (Spring 2007)
- MATH 2114 – Calculus II Lab (Fall 2007)
- MATH 1332 – Contemporary Math I (Fall 2005)
- College Algebra (1985-1987)
- Physics I and II (1984-1985)

Course Development

- MATH 3373 – Applied Mathematics I (with Regan Beckham)
- MATH 4373 – Applied Mathematics II (with Regan Beckham)
- MATH 5311 – Advanced Engineering Math
- MATH 5381 – Applied Mathematics I (with Rebecca Culshaw)
- MATH 5383 – Topics in Applied Mathematics (with Rebecca Culshaw)
- MATH 4160 – Senior Seminar (with Rebecca Culshaw, Nathan Smith)

Graduate Thesis Committee

Hamisi Ndwata, Combining phased array and Hamming sound apodization techniques to improve the acousto-optic diffraction bandwidth, (committee chair, R. Pieper) (May 2009)

Mentoring

- Byong “Frank” Kim, MATH 4160 – Senior Seminar, “The Cantor set and fractals”. (Fall 2009)
- Idongesit Isong, MATH 4160 – Senior Seminar, “Math and Origami” (Spring 2009)
- David Mora, MATH 4160 – Senior Seminar, “Actuarial Science,” (Spring 2008).
- Jaema Krier, MATH 4160 – Senior Seminar, “Origami and Mathematics,” (Spring 2007).
- Errica Rodriguez, MATH 4160 – Senior Seminar, “The Mathematics of Special Relativity,” (Spring 2006).

Grants and Proposals

Internal

- Faculty Research Grant, “Cantor Spectrum for the Generalized Almost Mathieu Operator,” awarded 2006-2007.
- Junior Faculty Summer Research Stipend, awarded Summer 2006.

External

- (with K. Mahdavi, J. Pearce, D. Hoe, Y.J. Lin) NSF Proposal to fund a Quantum Computation Course, Quantum Mechanics Course and Laboratory, May 2009 pending.
- (with Kazem Mahdavi) “Four day Mathematical Physics Conference,” NSF, awarded 2009.
- (with J. McCloud, C. Mann, N. Smith) applied for NSF funding to establish UTT as a REU site. (not funded)
- “Academic Year Mini-REU”, Center for Undergraduate Research in Mathematics (Funded by NSF), 2008. Not funded
- (18 member interdisciplinary group from Physics, Engineering, Economics, Chemistry, Mathematics, Sociology, Criminal Justice, Computer Sciences, and Psychology, chaired by Nary Subramanian) Exploratory team to bid “Emerging Frontiers in Research and Innovation – Resilient and Sustainable Infrastructures,” 2008.
- (with Kazem Mahdavi) “Four day Mathematical Physics Conference,” NSF, awarded 2007.
- (with Kazem Mahdavi, Rebecca Culshaw, Casey Mann) “Two Week Intensive Mathematics Refresher Course for Entering Graduated Students,” NSF, 2005-2006 not funded.
- (with Kazem Mahdavi, Rebecca Culshaw) “Mathematical Colloquium Series,” NSF, 2005-2006, not funded.
- “Travel funds for American Woman in Mathematics Seminar,” AWM, 2005 not funded.

Papers Reviewed

- W.S. Gray, M. Thitsa, On the Convergence of Self-Excited Feedback Connected Analytic Nonlinear Systems with Non-negative Generating Series, *Proceedings of the 42nd IEEE Southeastern Symposium on System Theory (SSST 2010)* (January 2010)
- S.S. Delshad, A. Abolmasoumi, M.H. Beheshti, Synchronization of fractional-order hyperchaotic systems via novel nonlinear control method, *Proceedings of the 42nd IEEE Southeastern Symposium on System Theory (SSST 2010)* (January 2010)
- D.R. Isenberg, Y.P. Kakad, Quaternion Based Computer-Torque and Feed-Forward Tracking Controllers for a Space Robot, *Proceedings of the 42nd IEEE Southeastern Symposium on System Theory (SSST 2010)* (January 2010)
- W. Liao, Y. Yan, Singly Diagonally Implicit Runge-Kutta Method for Time-Dependent Reaction-Diffusion Equation, *Numerical Methods for Partial Differential Equations*. (August 2009)
- L.A.D. Espinosa, W.S. Gray, O. Gonzalez, Growth Bounds for Iterated Integrals of L2-Ito Random Processes, *Proceedings of the 41st IEEE Southeastern Symposium on System Theory (SSST 2009)* (December 2008)
- Erik Blomme, Acousto-optic light chopper, *Acousto-Optics* (August 2008)

Committees

- University, Student Affairs Advisory Committee (2008-2010)
- College of Arts and Sciences, Governance Committee (2008-2010) chair (2009-2010)
- Curriculum Committee (2008-2010) chair (2009-2010)
- Education Committee (2006-2010) Chair (2009-2010)
- Sonya Kovalevsky Day Committee (2005-2010)
- Student Workers Committee (2008-2010)
- Contemporary Math Book Review Committee (2009)
- Search Committee for Chair of Mathematics Department (2007-2008)
- Graduate Committee (2006-2008)
- Student Lounge Committee (2008)
- Search Committee for Chair of Mathematics Department (2006-2007)
- Engineering Liaison Committee (2005-2007)
- Undergraduate Committee (2005-2006)

Other Non-Committee University Service

- Mathematics Department Academic Advisor (2006-2010)
- Mathematics Club Advisor (2007-2010)
- Coordinator Calculus I (2009-2010)

- Presented talks at Sonya Kovalevsky Day, assisted in planning and supervision of the events. (Spring 2006, Spring 2007, Spring 2008, Spring 2009)
- Patriots Day Booth (2007, 2008, 2009)
- Coordinator Calculus II and Calculus II Lab (2008-2009)
- Ran Information Booth for Freshman Orientation (Summer 2009)
- Establishment of Graduate Teaching Award (2008)
- College of Arts and Sciences Graduation Corder (Spring 2008)
- Faculty Mentor (2007-2008)
- Coordinator Matrix Methods, Calculus II and Calculus II Lab (2007-2008)
- Promotion of Mathematics Minor (2007 – 2008)
- Coordinator Calculus II (2006-2007)
- Math Club Presentations (Fall 2005, Spring 2007)
- Attended a meeting of the Texas Space Grant Consortium at Southwest Research Institute in San Antonio to get information on scholarships for students (November 2-3, 2006)
- Escorted students to the Senior Etiquette Dinner (November 2005)
- Toured Palestine NASA Balloon Facility to get information on opportunities for students (Fall 2005)
- Assisted in student preparation and administration of Putnam Exam (Fall 2005)

Community Service

- Presentation at the Expanding Your Horizons conference for middle school girls. Tyler Junior College, March 2009
- Judge MathCounts Regional Competition, UTT, (February 2009).
- Judge and Grader, MathCounts Regional Competition, UTT, (February 2008).
- Conducted a workshop for teachers at the National Council of Teachers of Mathematics Regional Conference (with John Lamb), “Patterns in our World: Activities to Help Guide Students’ Understanding,” Houston (November 2007)
- Conducted a seminar for gifted children (with John Lamb) “Patterns in our World” (March 2006)
- Judge, MathCounts Regional Competition, UTT, (February, 2006)
- Grader, MathCounts Regional and State Competitions, Southern California (Spring 2003, Spring 2004)
- Established and coached a MathCounts group for home schooled students, Albuquerque, NM (1994-1997)
- Served as registrar and member of the planning committee for the 1996 New Mexico Family Educators Conference (over 500 attendees).
- Cub Scout Leader, Albuquerque, NM (1990-1995)