

CURRICULUM VITAE

Kwang C. Shin

FIELDS OF INTEREST:

Differential Equations, Spectral Theory, Complex Analysis, Mathematical Physics

ACADEMIC POSITIONS:

- 2006– Assistant Professor, University of West Georgia, Carrollton, Georgia.
- 2002–2006 Post Doctoral Fellow, University of Missouri, Columbia, Missouri.
- 1998–2001 Teaching/Research Assistant, University of Illinois.
- 1997–1998 Teaching Assistant, Wayne State University.

EDUCATION:

- 1998–2002 Ph.D., Mathematics, University of Illinois, Urbana-Champaign.
Thesis: On some Schrödinger eigenvalue problems from mathematical physics.
- 1996–1998 Graduate program, Mathematics, Wayne State University, Detroit.
- 1995–1996 Language Training, Language Center International, Southfield, Michigan.
- 1993–1995 M.S., Mathematics, Chonnam National University, South Korea.
Thesis: Submanifolds with constant mean curvature vector fields.
- 1985–1992 B.S., Mathematics, Chonnam National University, South Korea.
Interrupted by 32 month mandatory military service, Nov. 1987 to Jun. 1990.

TEACHING EXPERIENCE:

- 2006–present, Assistant Professor, University of West Georgia, Carrollton, Georgia.
 - Fall 2007
 - * MATH 1634, Calculus I, Sections 01 and 03
 - * MATH 1113, Precalculus, Section 06
 - Summer 2007
 - * MATH 4253/5253, Real Analysis, Section 01
 - * MATH 1111, College Algebra, Section 03
 - Spring 2007
 - * MATH 3303, Ordinary Differential Equations, Section 01
 - * MATH 1111, College Algebra, Sections 10ABC and 14

- Fall 2006
 - * MATH 3303, Ordinary Differential Equations, Section 01
 - * MATH 1413, Survey of Calculus, Sections 04 and 05
- I have guided 7 students in their independent studies for Ordinary Differential Equations (6 students in Summer 2007) and Partial Differential Equations (1 student in Spring 2007).
- 2002–2006, Postdoctoral Fellow, Department of Mathematics, University of Missouri, Columbia, Missouri.
 - I have had full responsibility for teaching 2 courses per semester, which include Elementary Differential Equations, Calculus I, II, and III, Discrete Mathematics.
- 1998–2001, Teaching Assistant, Department of Mathematics, University of Illinois, Urbana-Champaign, Illinois.
 - I have had full responsibility for teaching Calculus for Social Scientists, Small Group Learning Calculus, Calculus II.
- 1997–1998, Teaching Assistant, Department of Mathematics, Wayne State University, Detroit, Michigan.
 - I have had full responsibility for teaching Beginning and Intermediate Algebra.

AWARDS and HONORS:

- May 2006 Travel Award for attending "Workshop on Low eigenvalues of Laplace and Schrodinger operators", American Institute of Mathematics, Palo Alto, CA.
- Mar 2006 Travel Award for attending "Spectral Theory and Mathematical Physics" Conference in Honor of Barry Simon's 60th Birthday, Pasadena, California."
- July 2004 Travel Award for attending "Workshop on Spectral Theory of Schrödinger Operators," Montréal, Canada.
- 2002 University Fellowship, University of Illinois.
- 2001 Hohn-Nash Award in Mathematics, University of Illinois, which is given "in recognition of outstanding scholarship in applied mathematics."
- 1999–2001 Summer Research Assistantship, University of Illinois.
- 1997 Paul Catlin Endowed Mathematics Scholarship, Wayne State University.

PUBLICATIONS and PREPRINTS:

- [1] S. H. Ahn, D. S. Kim and K. C. Shin, *Submanifolds with constant mean curvature vector fields*, Honam Mathematical Journal, 17: 49–55, 1995.
- [2] K. C. Shin, *On the eigenproblems of \mathcal{PT} -symmetric oscillators*, Journal of Mathematical Physics, 42: 2513–2530, 2001.
- [3] K. C. Shin, *On the reality of the eigenvalues for a class of \mathcal{PT} -symmetric oscillators*, Communications in Mathematical Physics, 229: 543–564, 2002.
- [4] K. C. Shin, *New polynomials P for which $f'' + P(z)f = 0$ has a solution with almost all real zeros*, Annales Academiæ Scientiarum Fennicæ Mathematica, 27: 491–498, 2002.
- [5] K. C. Shin, *On Half-Line Spectra for a Class of Non-Self-Adjoint Hill Operators*, Mathematische Nachrichten, 261-262: 171–175, 2003.

- [6] K. C. Shin, *Trace Formulas for Non-Self-Adjoint Periodic Schrödinger Operators and some Applications*, Journal of Mathematical Analysis and Applications, 299: 19–39, 2004.
- [7] K. C. Shin, *On the shape of spectra for non-self-adjoint periodic Schrödinger operators*, Journal of Physics A: Mathematical and General, 37: 8287–8291, 2004.
- [8] K. C. Shin, *Eigenvalues of \mathcal{PT} -symmetric oscillators with polynomial potentials*, Journal of Physics A: Mathematical and General, 38: 6147–6166, 2005.
- [9] K. C. Shin, *The potential $(iz)^m$ generates real eigenvalues only, under symmetric rapid decay boundary conditions*, Journal of Mathematical Physics, 46(8): 082110, 17 pages 2005.
- [10] K. C. Shin, *Schrödinger type eigenvalue problems with polynomial potentials: Asymptotics of eigenvalues*, Preprint, 32 pages.
- [11] K. C. Shin, *Half-line non-self-adjoint Schrödinger operators with polynomial potentials: Asymptotics of eigenvalues*, Preprint, 15 pages.

INVITED CONFERENCE TALKS:

- Jan. 2006, Special Session on Value Distribution Theory in Classical and p-Adic Function Theory, AMS and MAA Joint Meeting, San Antonio, Texas, *Eigenvalues of non-self-adjoint Schrödinger operators with polynomial potentials*.
- Oct. 2004, Special Session on Spectral Problems of Differential Operators, AMS Sectional Meeting, Evanston, Illinois, *Asymptotic expansions of the eigenvalues of anharmonic oscillators*.
- Jan. 2004, Special Session on Value Distribution Theory in Classical and p-Adic Function Theory, AMS and MAA Joint Meeting, Phoenix, Arizona, *Trace formulas for non-self-adjoint periodic Schrödinger operators and some applications*.
- Jan. 2001, Special Session on Functional Equations, AMS and MAA Joint Meeting, New Orleans, Louisiana, *On the eigenproblems of \mathcal{PT} -symmetric oscillators*.

SEMINAR TALKS:

- Sep. 2006–present, Applied Mathematics Seminar, University of West Georgia.
- Feb. 2006, University of West Georgia, *Eigenvalues of Schrödinger operators with a polynomial potential: Asymptotics of eigenvalues*.
- Jan. 2006, PDE Seminar, University of Missouri, *Eigenvalues of Schrödinger operators with a polynomial potential: Asymptotics of eigenvalues*.
- Jun. 2005, Georgia State University, *The Schrödinger type eigenvalue problem in the complex plane with a polynomial potential: Asymptotics of eigenvalues*.
- Oct. 2004, PDE Seminar, University of Missouri, *The Schrödinger type eigenvalue problem in the complex plane with a polynomial potential: Asymptotics of eigenvalues*.
- Oct. 2004, Analysis Seminar, University of Illinois, *The Schrödinger equations in the complex plane with polynomial potentials: Asymptotics of eigenvalues*.
- Jun. 2004, Chonnam National University, South Korea, *Some Schrödinger eigenvalue problems from mathematical physics*.
- Jun. 2004, Yonsei University, South Korea, *Reality of eigenvalues of some “non-standard” Schrödinger operators*.

- Mar. 2004, Analysis Seminar, Washington University, St. Louis, Missouri, *Reality of eigenvalues for certain non-self-adjoint \mathcal{PT} -symmetric oscillators.*
- Sep. 2003, PDE Seminar, University of Missouri, *On half-line spectra for a class of non-self-adjoint Hill operators.*
- May 2003, Applied Mathematics Seminar (Math 488), University of Missouri, *Floquet and spectral theory for periodic Schrödinger operators.*
- Sep. 2002, Analysis Seminar, University of Missouri, *On the reality of the eigenvalues for a class of \mathcal{PT} -symmetric oscillators.*
- Nov. 2000, Analysis Seminar, University of Illinois, *On the eigenproblems of \mathcal{PT} -symmetric oscillators.*

MEMBERSHIP:

American Mathematical Society (1997-2007)

Mathematical Association of America (2004-2007)