
CONTACT INFORMATION	Dept. of Mathematical Sciences University of Delaware 311 Ewing Hall Newark, DE 19716, USA	<i>Phone:</i> (302) 831-2694 liaw@udel.edu http://sites.udel.edu/liaw/
APPOINTMENTS	University of Delaware , Newark, Delaware, USA Assistant Professor, Department of Mathematical Sciences since August 2017. Baylor University , Waco, Texas, USA Assistant Professor, Department of Mathematics, 2012 - 2017. Texas A&M University , College Station, Texas, USA Visiting Assistant Professor, Department of Mathematics, 2009 - 2012. <i>'Mentors': Professor Alex Poltoratski, Dist. Professor Ronald G. Douglas</i>	
EDUCATION	Brown University , Providence, Rhode Island, USA Ph.D., Department of Mathematics, May 2009. <i>Advisor: Professor Sergei Treil</i> <i>Thesis title: Singular integral operators and rank one perturbations</i> Sc.M., Division of Applied Mathematics, May 2006. Universität Stuttgart , Stuttgart, GERMANY Dipl. Math., Fakultät Mathematik und Physik, July 2004. <i>Advisor: Professor TeknD Timo Weidl</i> <i>Thesis title: Weak Coupling Limits for Higher Order Operators</i> Vordiplom, Fakultät Mathematik und Physik, July 2001. University of Limerick , Limerick, IRELAND ERASMUS Exchange Student, 2001 - 2002.	
RESEARCH INTERESTS	Spectral Theory , especially rank one and finite rank perturbations, Schrödinger operators and Anderson-type Hamiltonians, some Sturm–Liouville operators & orthogonal polynomials Function Theoretic Operator Theory (functional models, lattice structures) Hilbert Spaces of Analytic Functions (includes the Hardy space), especially cyclicity properties Harmonic and complex analysis , in particular, two weight estimates of singular integral operators and problems in non-homogeneous harmonic analysis related to spectral theory (some interest in PDE applications)	
RESEARCH AWARDS	NSF DMS-1700204 Analysis grant as sole PI: <i>Finite Rank Perturbations and Model Theory</i> , July 2017 - June 2020, \$129,000 (in two installments, moved to Delaware under DMS-1802682).	

Simons Foundation Collaboration Grant for Mathematicians #426258 as sole PI: *Rank One Perturbations, Anderson-type Hamiltonians and Cyclic Vectors*, September 2016 - August 2021, \$35,000 (returned in August 2017, due to receipt of the NSF grant).

Baylor URSA (Undergraduate Research and Scholarship Award) as PI with co-PI Lorin Matthews for *Extended states conjecture and graphene*, June 2015 - May 2016, \$4,385.

Baylor University research leave, *Analysis of exceptional orthogonal polynomials. Cyclic vector approach to the extended states conjecture*, Spring 2016.

Baylor University summer sabbatical supporting two-month research visit to work with Timo Weidl and his research group at the Universität Stuttgart, Germany, Summer 2014. Two months summer salary.

NSF DMS-1101477 Analysis grant as sole PI: *Complex and Harmonic Analysis; Cyclic and Subcyclic vectors of Rank One Perturbations and Anderson-type Hamiltonians*, 2011 - 2014, \$103,564 (moved to Baylor under DMS-1261687).

OTHER AWARDS External travel support to attend conferences, at least 20-fold over the years.

AWM to promote advancement of math. knowledge, Summer 2018, \$500.

NSF DMS-1500675 conference grant as sole PI, *Completeness Problems, Carleson Measures, and Spaces of Analytic Functions*, February 2015 - November 2015, \$16,078.

AWM travel grant sponsored by NSF to attend workshop in Oberwolfach, Germany, April 2014, \$1,600.

NSF DMS-1241272 CBMS conference grant as Co-PI, *Uncertainty Principle in Harmonic Analysis: Gap and Type Problems* featuring Alexei Poltoratski at Clemson University, September 2012 - November 2013, \$35,000.

NSF DMS-1101551 conference grant as Co-PI was extended for organizing *Recent Advances in Harmonic Analysis and Spectral Theory*, 2011 - 2012.

NSF for pre-REU as paid postdoc, Summer 2011, \$6,000.

NSF DMS-1101551 conference grant as Co-PI for organizing *Waves and Spectra*, January 2011, \$29,000.

IMA conference grant for *Waves and Spectra*, January 2011, \$2,000.

AMS travel grant supported by NSF to attend ICM 2010, Hyderabad, India, August 2010, \$3,050.

Department of Mathematics Outstanding Teaching Award, Brown University, May 2009.

Graduate Fellowship, Brown University, 2004 - 2005, one semester funding.

REFEREED
PUBLICATIONS

Graduate student collaborators bear superscript ‘ g ’, undergraduates have ‘ s ’, and otherwise junior collaborators have ‘ j ’.

30. C. Liaw, *Rank one perturbations and Anderson-type Hamiltonians*, accepted by **Banach J. Math.** in January 2019. See arXiv:1009.1353v3.

29. C. Liaw, S. Treil, *Matrix Measures and Finite Rank Perturbations of Self-adjoint Operators*, accepted by the **J. Spectral Th.** in January 2019. See arXiv:1806.08856.

28. E.G. Kostadinova ^{j} , C.D. Liaw, A. Hering, A. Cameron ^{s} , F. Guyton ^{s} , L.S. Matthews, T.W. Hyde, *Spectral approach to transport in a two-dimensional honeycomb lattice with substitutional disorder*, accepted by **Phys. Rev. B** in January 2019. Also see arXiv:1711.09381.

27. C. Bénéteau, D. Khavinson, C. Liaw, D. Seco ^{j} , B. Simanek ^{j} , *Zeros of optimal polynomial approximants: Jacobi matrices and Jentzsch-type theorems*. 32 pages. Accepted by **Rev. Mat. Iberoam.** in Dec 2017, see arXiv:1606.08615v1.

26. M. Fleeman ^{j} , C. Liaw, *Hyponormal Toeplitz operators with non-harmonic symbol acting on the Bergman space*, **Operators and Matrices** **13**, no. 1 (2019), 61–83. DOI:10.7153/oam-2019-13-04.

25. M. Fleeman ^{j} , D. Frymark ^{g} , C. Liaw, *Boundary Conditions associated with the General Left-Definite Theory for Differential Operators*, **J. Approx. Th.** **239** (2019) 1–28. DOI:10.1016/j.jat.2018.10.005.

24. C. Liaw, S. Treil, *General Clark model for finite rank perturbations*, **Analysis and PDE** **12-2** (2019) 449–492. DOI: 10.2140/apde.2019.12.449.

23. E.G. Kostadinova ^{g} , A. Cameron ^{s} , F. Guyton ^{s} , C.D. Liaw, L.S. Matthews, T.W. Hyde, *Transport properties of disordered 2D complex plasma crystal*. **Contrib. to Plasma Phys.** (2018). DOI: 10.1002/ctpp.201700111. 13 pages.

22. E.G. Kostadinova ^{g} , K. Busse ^{s} , N. Ellis ^{s} , J. Padgett ^{g} , C. Liaw, L.S. Matthews, T.W. Hyde, *Delocalization in infinite disordered 2D lattices of different geometry*. **Phys. Rev. B** **96**, 235408 (2017), 18 pp.

21. C. Liaw, J.S. Kelly ^{j} , J. Osborn ^{g} , *Moment Representations of Exceptional X_1 Orthogonal Polynomials*. **J. Math. Anal. Appl.** **455**, Issue 2 (2017) 1848–1869.

20. C. Liaw, J. Osborn^g, *Moment Representations of the Exceptional X_1 -Laguerre Orthogonal Polynomials*. **Math. Nachr.** **290**, Issue 11-12, (2017) 1716–1731.
19. K. Bickel^j, C. Liaw, *Properties of vector-valued submodules on the bidisk*. **Contemp. Math.** **679** (2017) 1–12.
18. C. Bénéteau, A.A. Condori^j, C. Liaw, W.T. Ross, A.A. Sola^j, *Some open problems in complex and harmonic analysis: Report on problem session held during the conference Completeness problems, Carleson measures, and spaces of analytic functions*. **Contemp. Math.** **679** (2017) 207–219. (Not refereed, not a research contribution.)
17. C. Liaw, S. Treil, *Singular integrals, rank one perturbations and Clark model in general situation*. 48 pages. **Harmonic Analysis, Partial Differential Equations, Complex Analysis, Banach Spaces, and Operator Theory (Volume 2). Celebrating Cora Sadosky's life. AWM-Springer Series vol. 5**, Springer (2017). Editors: M.C. Pereyra, S. Marcantognini, A. Stokolos, W. Urbina. See [arXiv:1506.00072](https://arxiv.org/abs/1506.00072) and [Springer link](#).
16. K. Bickel^j, C. Liaw, *Properties of Submodules on the Bidisk via Agler Decompositions*. **J. Funct. Anal.** **272** (2017) 83–111.
15. E.G. Kostadinova^g, C. Liaw, L.S. Matthews, T.W. Hyde, *Physical interpretation of the spectral approach to delocalization in infinite disordered systems*. **Mater. Res. Express** **3** (2016) no. 12, 12 pp.
14. C. Bénéteau, D. Khavinson, C. Liaw, D. Seco^j, A. Sola^j, *Orthogonal polynomials, reproducing kernels, and zeros of optimal approximants*. **J. Lond. Math. Soc.** **94** (2016) 726–746.
13. C. Liaw, S. Treil, *Clark model in the general situation*. **J. Anal. Math.** **130** (2016) 287–328.
12. C. Bénéteau, G. Knese^j, L. Kosinski^j, C. Liaw, D. Seco^j, A. Sola^j, *Cyclic polynomials in two variables*. **Trans. Amer. Soc.** **368**, no. 12 (2016) 8737–8754.
11. C. Liaw, L. Littlejohn, R. Milson, J. Stewart^g, *The spectral analysis of three families of exceptional Laguerre polynomials*. **J. Approx. Th.** **202** (2016) 5–41.
10. C. Liaw, L.L. Littlejohn, J. Stewart^g, Q. Wicks^g, *A Spectral Study of the Second-Order Exceptional X_1 -Jacobi Differential Expression and a Related Non-classical Jacobi Differential Expression*. **J. Math. Anal. Appl.** **422** (2015) no. 1, 212–239.
9. C. Liaw, L.L. Littlejohn, J.S. Kelly^g, *Spectral Analysis of the X_m -Jacobi operator*. **Electron. J. Differential Equations** **2015** (2015), no. 194, 1–10.
8. C. Bénéteau, A. Condori^j, C. Liaw, D. Seco^g, A. Sola^j, *Cyclicity in the Dirichlet type spaces and extremal polynomials II: Functions on the bidisk*. 21 pages.

Pacific J. Math. **276** (2015) no. 1, 35–58.

7. C. Bénéteau, A. Condori^j, C. Liaw, D. Seco^g, A. Sola^j, *Cyclicity in the Dirichlet type spaces and extremal polynomials.* **J. Anal. Math.** **126** (2015) no. 1, 259–286.

6. C. Liaw, W. King^s, R.C. Kirby, *Delocalization for the 3-D discrete random Schrödinger operators at weak disorder.* **J. Phys. A: Math. Theor.** **47** (2014) 305202, DOI:10.1088/1751-8113/47/30/305202.

5. C. Liaw, *Approach to the extended states conjecture.* **J. Stat. Phys.** **153** (2013) p. 1022–1038, DOI: 10.1007/s10955-013-0879-5.

4. E. Abakumov, C. Liaw, A. Poltoratski, *Cyclic vectors in rank one perturbations and Anderson-type Hamiltonians.* **J. Lond. Math. Soc.** **88** (2013) no. 2, 523–537, DOI: 10.1112/jlms/jdt028.

3. R. Douglas, C. Liaw, *A geometric approach to finite rank perturbations via the theory of dilations.* **Indiana Univ. Math. J.** **62** (2013) no. 1, 333–354.

2. C. Liaw, S. Treil, *Regularizations of general singular integral operators.* **Revista Matemática Iberoamericana** **29**, no. 1 (2013) 53–74.

1. C. Liaw, S. Treil, *Rank one perturbations and singular integral operators.* **J. Funct. Anal.** **257** (2009) 1947–1975.

SUBMITTED

D. Frymark^j, C. Liaw, *Characterizations and Decompositions of Domains for Powers of Classical Sturm–Liouville Operators*, submitted. See arXiv:1901.06271.

C. Liaw, J.S. Kelly^j, J. Osborn^g, *Moment Representations of Type I X_2 Exceptional Laguerre Polynomials*, submitted. See arXiv:1705.07851.

DISTINGUISHED
INVITATIONS

Multivariable Spectral Theory & Representation Theory, BIRS Workshop 19w5137 (invited participant) Banff, Canada, April 2019.

Analysis of operators on function spaces: a conference dedicated to the mathematics of Serguei Shimorin, Mittag–Leffler Institute (invited presentation) Stockholm, Sweden, June 2018.

Brazos Analysis Seminar, Houston, TX, October 2017.

50-minute plenary talk: Complex functions, operators, partial differential equations, and applications in mathematical physics, Institut Mittag–Leffler, Djursholm, Sweden, June 2017.

Hilbert modules, Sanya, China, May 2017.

Connections for Women: Harmonic Analysis, MSRI, Berkley, CA, January 2017.

Lecture notes for conference proceedings for the New Mexico Analysis Seminar.

Random and other ergodic problems, Isaac Newton Institute, Cambridge University, Cambridge, UK, June 2015.

Completeness problems, Carleson measures and spaces of analytic functions, Mittag-Leffler Institute (organizer and participant) Stockholm, Sweden, June 2015.

Multivariate Operator Theory, BIRS Workshop 15w5020, Banff, Canada, April 2015.

Distinguished Visitor at Bucknell University, Lewisburg, PA, April 2015.

Baylor Rising Stars trip to Washington DC, March 2015.

CASPER membership Baylor VPR's research group, since March 2015.

Research visit to collaborate with Timo Weidl and the DGF Research Training Group 1838 "Spectral Theory and Dynamics of Quantum Systems," Universität Stuttgart, Germany, Summer 2014.

Hilbert modules & complex geometry, MFO, Oberwolfach, Germany, April 2014.

INVITED TALKS **Stockholm Universitet**, Analysis seminar, Stockholm, Sweden, May 2019.

University of California Berkley, Analysis seminar, Berkley, CA, April 2019.

OTOA (Recent advances in Operator Theory and Operator Algebras), Indian Statistical Institute, Bangalore, India, December 2018.

WINRS Symposium session on Analysis and Probability, University of Virginia, September 2018.

IWOTA (International Workshop on Operator Theory and Analysis), Shanghai, China, July 2018.

CAFT (New Developments in Complex Analysis and Function Theory; contributed) Heraklion, Greece, July 2018.

Universität Stuttgart, Institutsseminar, Stuttgart, Germany, June 2018.

Analysis of operators on function spaces: a conference dedicated to the mathematics of Serguei Shimorin, Mittag–Leffler Institute Stockholm, Sweden, June 2018.

Brown University Analysis Seminar, Providence, RI, April 2018.

Washington University, St. Louis, MO, April 2018.

Baylor University Analysis Seminar, Waco, TX, January 2018.

Complex functions, operators, partial differential equations, and applications in mathematical physics, Institut Mittag–Leffler, Djursholm, Sweden, June 2017.

Hilbert modules, Sanya, China, May 2017.

UD seminar, Newark, DE, Spring 2017.

Connections for Women: Harmonic Analysis, MSRI, Berkley, CA, January 2017.

JMM, Special session on Complex Function Theory and Multivariable Operator Theory, Atlanta, GA, January 2017.

TAMU, Linear Analysis Seminar, College Station, TX, April 2016.

SEAM (contributed) conference, Tampa, FL, March 2016.

USF colloquium, Tampa, FL, March 2016.

Wabash seminar, Wabash, IN, March 2016.

IU Bloomington, Complex Analysis Seminar, Bloomington, IN, March 2016.

Baylor University, Analysis Seminar, Waco, TX, Spring 2016.

MTU, Colloquium, Houghton, MI, February 2016.

APSDPP (contributed), Savannah, GA, November 2015.

Brown University, Analysis Seminar, Providence, RI, October 2015.

University of Rhode Island, Seminar, South Kingston, RI, October 2015.

University of Minnesota, Analysis Seminar, Minneapolis, MN, September 2015.

TCU Colloquium, Dallas, TX, September 2015.

Lunch Bunch Seminar for REU students, Baylor University, July 2015.

Summer Science Research Program, Baylor University, July 2015.

13th International Symposium on Orthogonal Polynomials, Special Functions and Applications, Gaithersburg, MD, June 2015.

Bucknell Univeristy Colloquium series, April 2015.

Multivariate Operator Theory, BIRS Workshop 15w5020, Banff, Canada, April 2015.

CRM-ICMAT Workshop on Exceptional Orthogonal polynomials and exact solutions in Mathematical Physics (contributed talk), Segovia, Spain, September 2014.

Institutskolloquium, IADM (Institute of Analysis, Dynamics and Modelling) Universität Stuttgart, Germany, June 2014.

13th New Mexico Analysis Seminar, 1-hour talk within mini-course, Albuquerque, NM, April 2014.

AMS sectional meeting, Special session “Mathematical Physics”, Albuquerque, NM, April 2014.

AMS sectional meeting, Special session “Analysis”, Albuquerque, NM, April 2014.

SEAM, South Eastern Analysis Meeting, Clemson, SC, March 2014.

Georgia Technological University, Analysis seminar, Atlanta, GA, March 2014.

JMM - Joint Mathematics Meetings, Special session, January 2014.

Texas Analysis and Mathematical Physics seminar (contributed talk), Rice University, Houston, TX, October 2013.

Workshop for Analysis and Probability seminar Texas A&M University, TX, July 2013.

Hilbert Function Spaces (contributed talk) Gargnano, Italy, May 2013.

Universidad National Autonoma de Mexico, Mexico City, May 2013.

Texas A&M University, Banach Spaces seminar, March 2013.

JMM - Joint Mathematics Meetings, Special session, January 2013.

University of Louisiana, Lafayette, Colloquium, November 2012.

Michigan State University, Analysis and Mathematical Physics seminar, October 2012.

SEAM - Southeastern Analysis Meeting XXV, March 2012.

AMS Regional Meeting, Tampa, FL, March 2012.

Colgate University, Colloquium, February 2012.

Western States Mathematical Physics Meeting, California Institute of Technology, February 2012.

Sam Houston State University, Colloquium, February 2012.

Baylor University, Colloquium, February 2012.

University of Houston, Analysis seminar, January 2012.

University of Alabama, Analysis seminar, January 2012.

JMM - Joint Mathematics Meetings, AMS Special Session on Several Complex Variables and Multivariable Operator Theory, Boston, MA, January 2012.

Prairie Analysis Seminar, Kansas State University, Manhattan, KS, October 2011.

Mathematical physics seminar, Baylor University, Waco, TX, October 2011.

Analysis seminar, UT Austin, October 2011.

SUMIRFAS, Texas A&M University, July 2011.

SEAM - Southeastern Analysis Meeting XXVII, March 2011.

Karcher Special Lecture, University of Oklahoma, Norman, March 2011.

Waves and Spectra, Texas A&M University, January 2011.

Séminaire d'Analyse Fonctionnelle, Paris VI, January 2011.

AMS Sectional Meeting, Analysis session, Richmond, VA, November 2010.

Stulken Geometry-Analysis Seminar, Rice University, TX, October 2010.

SEAM - Southeastern Analysis Meeting XXV, March 2009.

Analysis seminar, Michigan State University, Lansing, October 2008.

SUMIRFAS, Texas A&M University, August 2008.

OTHER LOCAL
INVITED TALKS

Analysis reading seminar (2x), University of Delaware, Fall 2018.

Undergrad seminar, University of Delaware, Spring 2018.

IP&A seminar, University of Delaware, Spring 2018.

Grad student seminar, University of Delaware, Fall 2017.

Analysis seminar, Baylor University, Spring 2016.

Linear Analysis seminar, Texas A&M University, Spring 2010, Spring 2011.

Mathematical Physics seminar, Texas A&M University, Fall 2009, Fall 2010.

Analysis reading seminar, Texas A&M University, five talks 2009 - 2011.

Analysis Seminar, Brown University, Spring 2008.

Transatlantic Seminar, Brown University, Division of Applied Mathematics, Spring 2007.

Colloquium at the Institute of Analysis, Dynamics and Modeling, Universität Stuttgart, Spring 2004.

POSTDOC

Matthew Fleeman

STUDENTS

Graduate students:

Michael Bush (advisor), Dale Frymark (Ph.D. 2018 advisor), Eva Kostadinova (Ph.D. 2017 co-advisor), John Osborn (Ph.D. 2018 advisor), Quinn Wicks (Ph.D. 2016 co-advisor), Jessica Stewart (Ph.D. 2014 co-advisor)

Undergraduate students: Westin King (co-author), Amanda Hoisington, Kyle Busse (co-author).

ORGANIZING
EXPERIENCE

Co-initiated Analysis reading seminar, Delaware, PA, Fall 2018.

TexAMP (Texas Analysis and Math Physics) conference, Waco, TX, October 2018.

Special session at AMS regional meeting, Delaware, September 2018.

WINRS Symposium session on Analysis and Probability, University of Virginia, September 2018.

Special session at JMM, San Diego, January 2018.

Special session at AMS regional meeting, Bloomington, April 2017.

Founding faculty mentor AWM Chapter and Baylor Club, since June 2015.

Conference at Mittag-Leffler Institutue, Stockholm, Sweden, June 2015.

Special session at the Joint Math. Meetings, San Antonio, January 2015.

Special session at AMS regional meeting, Knoxville, March 2014.

CBMS conference, featuring Alexei Poltoratski, August 2013.

Recent advances in Harmonic Analysis and Spectral Theory, a concentration week within the Analysis and Probability workshop, Department of Mathematics, Texas A&M University, August 2012.

Informal Postdoctoral meetings, Department of Mathematics, Texas A&M University, June 2011 - July 1012.

Waves and Spectra research conference, Department of Mathematics, Texas A&M University, January 2011.

Analysis/PDE Reading Seminar, Department of Mathematics, Texas A&M University, Fall 2010.

Analysis Reading Seminar, Department of Mathematics, Brown University, Fall 2008, Spring 2009. (I had initiated the seminar.)

Math Resource Center, Brown University, Fall 2007 - Spring 2009.

MAJOR SERVICE **NSF–DMS panel**, three times.

Advisory Committee 2018-2019. Dept. of Mathematical Sciences at UD.

Referee for Acta Math. (other refereeing see below).

Adhoc temp hiring committtee, winter-spring 2018. Hiring of 5 adjunct lecturers.

Faculty mentor AWM Chapter at University of Delaware, since 2017.

- **Two semester launch events (once with rockets).**
- **Two end of semester luncheons.**
- **Two luncheons featuring UD visitors Evita Nestoridi and Christine Bachoc.**
- **Coffee with Cara Maki.**
- **Prelim prep sessions in the fall 2017.**
- **New faculty speaker series.**

- **Bi-weekly AWM teas** with topics including Maryam Mirzakhani, Unconscious Bias Guide to difficult conversations, Gendered language in teaching reviews, funny topics from “Feminist Fight Club”, and Strategy of rock-paper-scissors.
- **“Math Careers”**: 1-hour panel discussion.
- **“Time Management”**: 1-hour panel discussion.
- **“How to choose an advisor”**: 1-hour panel discussion.

Co-Organized 13 conferences/special sessions, see “Organizing Experience” above.

Referee for many research journals including London Mathematical Society, Journal of Mathematical Analysis and Applications, Proceedings of the London Mathematical Society, Transactions of the American Mathematical Society, Studies in Applied Mathematics, SIGMA, Journal of Mathematical Physics, Linear and Multilinear Algebra, Complex Analysis and Operator Theory, Punjab University Journal of Mathematics.

Co-Editor AMS Contemporary Mathematics Conference Proceedings, December 2016.

Founding faculty mentor BU-AWM Chapter, 2015 - 2017.

- **Organized Inaugural “BU-AWM Lecture series”** featuring Sue Geller. 200+ attendees.
- **Weekly AWM teas.**
- **“Time Management”**: 1-hour panel discussion.
- **“Academic Job Interviews”**: 1-hour panel discussion.
- **“Academic Job Applications”**: 1-hour panel discussion.
- **“Communication dilemmas”**: 1-hour panel discussion.
- **“Careers in academia”**: 1.5-hour panel discussion.

NSF travel grant to cover US junior participants’ expenses to the Mittag-Leffler Institute, 2015.

Advised undergraduate student Kyle Busse on **physics REU (UNPAID)**, summer 2015.

Departmental search committee for two post-doctoral, one tenure-track and one tenured position 2014 - 2015.

Departmental search committee for one post-doctoral and two tenure-track positions 2013 - 2014.

Employed and advised two math graduates (they are now math graduate students at Texas A&M University), Westin King and Amanda Hoisington to work on a research project with me in the summer of 2013.

OTHER SERVICE **Tier II Analysis Exam**, winter 2019.

Discussion facilitator departmental retreat 2018.

External reviewer on thesis committee of Meredith Sargent, St. Louis, MO, April 2018.

Tier II Analysis Exam, spring 2018.

Tier II Analysis Exam, winter 2018.

Baylor University honorary degree committee, 2016 - 2017.

Special topics course (which is not part of the designated teaching load) with undergraduate math major Kyle Busse, Spring 2017.

Graduate student poster session mentor at the AWM poster session at the Joint Mathematics Meetings, January 2017.

Poster judge graduate student showcase, March 2016.

Newcomers support team **Baylor Round Table**, 2015 - 2016.

Lunch Bunch **Seminar** for REU students, Baylor University, July 2015.

Presentation Summer Science Research Program, Baylor, July 2015.

Departmental “Beth Wilson Award Committee”, spring 2015.

Departmental **Distinguished Scholar Day committee**, 2014 - 2015.

Host a table at the **I2E** every year 2012-2016. Baylor-wise recruitment dinner for gifted high school students.

Co-organizing NSF supported research conference as co-PI of DMS-1101551, January 2011.

Special topics course (which is not part of the designated teaching load) with undergraduate math major Westin King, Spring 2013.

Interviewed three possible post-doc candidates at the JMM 2013.

Hosted three month visit of graduate student Daniel Seco from Spain, Fall 2012.

Participated in R. Morgan’s undergraduate advising meetings, Fall 2012.

Organizer of Math Resource Center, Fall 2007 - Spring 2009.

Tutor at Math Resource Center, Fall 2004, Spring 2005.

PROFESSIONAL
DEVELOPMENT

For teaching see next item.

ADVANCE Women's Leadership@UD program, 2 days, spring 2018.

ADVANCE networking lunch spring 2018.

Baylor VPR Rising Stars program. Many panel discussions. Visit to funding agencies at Washington DC, March 2015.

TEACHING
CREDENTIALS

Participation in 10+ teaching seminars, Baylor University, 2012 - 2017.

Department of Mathematics Outstanding Teaching Award, Brown University, May 2009.

Sheridan Center for Teaching and Learning, Brown University.

TEACHING
EXPERIENCE

University of Delaware

- Measure and Integration, Complex Analysis (graduate level), Spring 2019.
- Analytical Geometry and Calculus C (two sections), Fall 2018.
- Measure and Integration, Complex Analysis (graduate level), Spring 2018.
- Elementary Linear Algebra, Fall 2017.

Baylor University

- Complex Analysis I (graduate level), Spring 2017.
- Localization Phenomena (reading: undergraduate level), Fall 2016.
- Matrix theory (graduate/undergraduate level), Fall 2016.
- Linear Algebra, Spring, Fall 2013, Fall 2014, Fall 2015, Summer, Fall 2016.
- Topics related to rank-1 perturbations (topics: grad. level), Summer 2016.
- Introduction to Analysis, Fall 2015.
- The Uncertainty Principle (reading: graduate level), Fall 2015.
- Exceptional Orthogonal Poly. (reading: graduate level), Fall 2014, Fall 2015.
- **REU** summer program, Summer 2015.
- Orthogonal Polynomials (reading: graduate level), Spring 2015.
- The Cauchy Transform (reading: graduate level), Spring 2015.
- Advanced Calculus II, Spring 2015.
- Advanced Calculus I, Fall 2014.
- Functions of Real Variables II (graduate level), Spring 2014.
- Functions of Real Variables I (graduate level), Fall 2013.
- Discrete Random Operators (topics: undergraduate level), Fall 2013.
- Business Calculus (two sections), Fall 2012.

Visiting Assistant Professor, Texas A&M University

- Linear Algebra, Spring 2012.
- Calculus I (two sections), Fall 2011.
- pre-**REU**, Summer 2011.
- Differential Equations with a matlab component (two sections), Spring 2011.
- Calculus III (two sections), Fall 2010.
- Calculus II, Fall 2009.
- Structure of Mathematics, Fall 2009.

Brown University Teaching Fellow (Instructor of record)

Calculus I, Summer 2009.

Honors Linear Algebra, Spring 2009.
Linear Algebra, Spring 2008.
Calculus III, Fall 2007.
Analytic Geometry and Calculus, Spring 2007.

Brown University and Universität Stuttgart Teaching Assistant

Advanced Placement Calculus, Fall 2006.
Calculus III, Spring 2006.
Calculus I, Fall 2005.
Real Analysis III, Fall 2003.
Real Analysis II, Spring 2003.
Calculus I, Fall 2002.