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EMPLOYMENT & INTERNSHIPS MASSACHUSETTS INSTITUTE OF TECHNOLOGY Cambridge, MA NSF Postdoctoral Fellow & Pure Math Instructor August 2017 -UNIVERSITY OF ILLINOIS Urbana-Champaign, IL Graduate Fellow and Teaching Assistant August 2012 – May 2017 SOFTWARE ENGINEERING INSTITUTE: CERT DIVISION Pittsburgh, PA **Mathematics Research Intern** Summer 2016 COMMUNICATIONS CONSULTING La Jolla, CA **Mathematics Research Intern** Summer 2015 DEPARTMENT OF DEFENSE Washington, D.C. **Graduate Mathematics Program Intern** Summer 2014 EDUCATION

UNIVERSITY OF ILLINOIS Urbana-Champaign, IL PhD. Mathematics May 2017 Advisor: Nikolaos Tzirakis Thesis: Smoothing Properties of Nonlinear Dispersive PDEs • National Physical Science Consortium Fellow • GPA: 4.00/4.00 MS, Mathematics May 2013 • GAANN Fellow • GPA: 4.00/4.00 UNIVERSITY OF NORTH FLORIDA Jacksonville, FL **BS**, Mathematics; Minor, Art History April 2012 • Outstanding Undergraduate in Mathematics • GPA: 4.00/4.00, *Summa cum laude*

JOURNAL PUBLICATIONS

- (1) A note on global existence for the Zakharov system on \mathbb{T} , submitted.
- (2) With N. Tzirakis. Global well-posedness for the Klein-Gordon-Schrödinger system on the half-line, submitted.
- (3) With N. Tzirakis. Low-regularity well-posedness for the "good" Boussinesq equation on the half-line, J. Differential Equations 262(12), 5824–5859.
- (4) Smoothing for the Klein-Gordon Schrodinger & Zakharov Equations on Euclidean Spaces, SIAM J. Math. Anal. 49(5), 4206–4231.
- (5) Smoothing and Global Attractors for the Majda-Biello System on the Torus. Differential Integral Equations 29 no. 3/4 (2016), p. 269-308.

Conference Proceedings & Other Publications

MATHEMATICAL MODELLING EXPERIENCE

- (1) With collaborators. *Network Behavioral Analytics*. Department of Defense internal publication, August 2014.
- (2) A Smoothing Estimate for the Nonlinear Schrödinger Equation. UIUC Research Experience for Graduate Students report, August 2013.
- (3) With M. Bayeh, T. Lindsey, S. Melczer, N. Orlow, and Z. Voller. *Ink Constrained Halftoning with Application to QR Codes*, Color Imaging XIX, IS&T/SPIE Electronic Imaging Symposium, San Francisco, CA. February 2014.

| Software Engineering Institute: CERT Division Mathematics Research Internship | Pittsburgh, PA Summer 2016 |
|---|--|
| Used Python and R to explore characteristics of large data setPerformed self-directed research on vulnerabilities in complex ne | etworks |
| Communications Consulting Mathematics Research Internship | La Jolla, CA Summer 2015 |
| Used Python and C to analyze and classify data Collaborated with senior researchers as well as fellow interns Contributed to internal publications supporting future research | |
| DEPARTMENT OF DEFENSE Graduate Mathematics Program | Washington, D.C. Summer 2014 |
| Addressed complex problem with situation-dependent success cr Collaborated daily with analysts, researchers, and other interns Used Python and R to implement machine learning algorithms | iteria |
| INSTITUTE FOR MATHEMATICS AND ITS APPLICATIONS Mathematical Modeling in Industry XVII | Minneapolis, MN August 2013 |
| • Collaborated with team to optimize image quality under ink con | straints |
| TEACHING EXPERIENCE | |
| MASSACHUSETTS INSTITUTE OF TECHNOLOGY Pure Mathematics Instructor | Cambridge, MA |
| • Differential Equations (TA) | Fall 2018 |
| INDAM-MSRI-SMI-GSSI SUMMER GRADUATE SCHOOL Nonlinear Dispersive PDE & Quantum Many Particle Syste | Cortona, Italy |
| • Teaching assistant | July 2017 |
| UNIVERSITY OF ILLINOIS U Graduate Teaching Certificate • Completed teacher training program • Certificate granted by Center for Innovation in Teaching and Lea | Urbana-Champaign, IL April 2017 arning |
| Graduate Teaching Assistant • Calculus II, III, Business Calculus | Fall 2012-2016 |

OUTREACH ACTIVITIES

- Organizer for Graduate Student Analysis Seminar.
- Association for Women in Mathematics mentor to junior graduate students.
- Volunteer in departmental outreach programs to middle and high school students.
- Volunteer tutor in Urbana High School.

Selected Presentations

- Low regularity global existence for the periodic Zakharov system. SIAM Annual Meeting, Portland, OR, July 2018.
- Global existence for the Zakharov system on T. FRG Conference, UMass, Amherst, MA, March 2018.
- Well-posedness for dispersive PDEs on the half-line. MIT Analysis Seminar, MIT, Cambridge, MA, November 2017.
- Dynamics of a periodic coupled KdV system. Boston University Dynamics Seminar, BU, Boston, MA, November 2017.
- Well-posedness and smoothing for the "good" Boussinesq on ℝ⁺. FRG Conference, Princeton University, Princeton, NJ, October 2017,
- Well-posedness and smoothing for the "good" Boussinesq on a half-line. INDAM-MSRI-SMI-GSSI Summer Graduate School, Cortona, Italy, July 2017.
- Well-posedness and smoothing for the "good Boussinesq" equation on the half-line. Ohio River Analysis Meeting, UC, Cincinnati, OH, March 2017.
- Smoothing for the Zakharov system on higher-dimensional Euclidean spaces. FRG conference, MIT, Cambridge, MA, September 2016.
- Smoothing estimates for dispersive partial differential equations. Harmonic Analysis and Differential Equations Seminar, UIUC, Urbana, IL, March 2016.
- Dynamics of the periodic Majda-Biello system. New Mexico Analysis Seminar, UNM, Albuquerque, NM, February 2016.
- Smoothing and Global Attractors for the Periodic Majda-Biello System. AMS Central Sectional Meeting, MSU, East Lansing, MI, March 2015.
- Network Behavioral Analytics. Department of Defense briefing, July, 2014.
- Sequences and Conserved Quantities via Cluster Algebras. UIUC REGS Day, UIUC, Urbana, IL, October 2012.
- Differential Forms and the Generalized Stokes' Theorem. MAA Mathfest, Lexington, KY, August 2011.

WORKSHOPS & SUMMER SCHOOLS

| IAS/Park City Mathematics Institute | Park City, UT |
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| Harmonic Analysis Summer Session | July 2018 |
| THE UNIVERSITY OF CHICAGO | Chicago, IL |
| Fourth Chicago Summer School in Analysis | June 2017 |
| Institut des Hautes Études Scientifiques | Bures-sur-Yvette, France |
| Nonlinear Waves | July 2016 |
| MATHEMATICAL SCIENCES RESEARCH INSTITUTE | bns Berkeley, CA |
| Randomness and long time dynamics in nonlinear equation | August 2015 |
| New Challenges in PDE: Deterministic dynamics and random content of the second s | domness October 2015 |
| INSTITUTE FOR MATHEMATICS AND ITS APPLICATIONS | Minneapolis, MN |
| Workshop for Women in Analysis and PDE | May 2015 |

| MATHEMATICAL SCIENCES RESEARCH INSTITUTE | Berkeley, CA |
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| Graduate Summer School in Dispersive PDE | June 2014 |
| INSTITUTE FOR MATHEMATICS AND ITS APPLICATIONS | Minneapolis, MN |
| Careers and Opportunities in Industry for Mathematical | Scientists April 2014 |
| THE UNIVERSITY OF ILLINOIS Research Experience for Graduate Students Smoothing for the Nonlinear Schrödinger Equation Cluster Algebras and Integrable Systems | Urbana-Champaign, IL Summer 2013 Summer 2012 |
| The George Washington University | Washington, D.C. |
| Summer Program for Women in Mathematics | Summer 2011 |

| Honors & | <i>z</i> Awards |
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| • Research Experience for Graduate Students Silver Award | October 2012 |
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| • Mathematics Department Scholarship | May 2012 |
| • Student Juried Annual Art Exhibition Accepted Work | March 2012 |
| • Willard O. Ash Award | December 2011 |
| • Terry University Scholarship | 2007 - 2012 |