Dr. Zhigang Han

Department of Mathematics
Millersville University
P.O. Box 1002
Millersville, PA 17551
Phone: (717) 872-3107
Email: zhan@millersville.edu

EDUCATION

Ph.D. in Mathematics, Stony Brook University, Stony Brook, NY, August 2006
    Dissertation Title: *Bi-invariant norms on the group of symplectomorphisms*
    Advisor: Dr. Dusa McDuff

Graduate Study, Fudan University, Shanghai, China, 1997-2000
    Advisor: Dr. Yuanlong Xin

B.S. in Mathematics *with the highest honor*, Fudan University, Shanghai, China, July 1997

ACADEMIC POSITIONS

- Assistant Professor, Millersville University, August 2009 - present

- Visiting Assistant Professor, UMass Amherst, September 2006 - August 2009

- Graduate Assistant, Stony Brook University, September 2000 - August 2006

TEACHING AND CURRICULUM DEVELOPMENT

Courses Taught:
- UNIV 103 First Year Math Majors Seminar
- MATH 101 College Algebra
- MATH 110 Trigonometry
- MATH 151 Calculus for Management, Life and Social Sciences
- MATH 160 Precalculus
- MATH 161 Calculus 1
- MATH 211 Calculus 2
- MATH 310 Introduction to Mathematical Proof
- MATH 311 Calculus 3
- MATH 345 Abstract Algebra 1
- MATH 353 Survey of Geometry
- MATH 355 Transformational Geometry
- MATH 504 Modern Algebra for Teachers
- MATH 505 Transformational Geometry for Teachers
- MATH 520 Logic and Foundations of Mathematics
- MATH 650 Topics in Geometry

Individualized Instruction and Independent Study:

- MATH 457 Elementary Differential Geometry
- MATH 483 Point-set Topology
- MATH 499 Periodic Orbits on Certain Polygons
- MATH 505 Transformational Geometry for Teachers
- MATH 650 Topics in Geometry
- MATH 696 Abstract Algebra

Other Curricular Activities:

- Organized and taught (with Dr. Mingquan Zhan) weekly non-credit Math Competition Problem Solving Seminars, Fall 2012, Fall 2013, Fall 2014

- Supervised an original research project titled *"Periodic Orbits on Certain Polygons"* by an undergraduate, Ben Baer, Fall 2013

- Directed (with Dr. Ron Umble) weekly non-credit Undergraduate Research Seminars:

  Periodic Orbits on a 30-30-120 Triangle, Ben Baer, David Brown, Faheem Gilani, Josh Pavoncello, Spring 2012, Fall 2012, Spring 2013

- Supervised (with Dr. Ron Umble) Student Presentations: *Periodic Orbits on a 120-Isosceles Triangle*, Ben Baer, David Brown, Faheem Gilani, Josh Pavoncello

  – Talk: Moravian College Student Mathematics Conference, February 2013

  – Poster: MU School of Science and Mathematics, April 2012

  – Talk: EPaDel/PASSHEMA Joint Conference, Shippensburg University, April 2012

  – Poster: MU Research Conference, March 2012

- Sponsored (with Dr. Ron Umble) a Student Research Grant proposal: awarded \$163 for the project titled *"Periodic Orbits on a 120-Isosceles Triangle,"* Ben Baer, David Brown, Faheem Gilani, Josh Pavoncello, April 2012

SCHOLARSHIP

Books

- Z. Han and R. Umble, *Transformational Plane Geometry*, Textbook in Mathematics, Taylor & Francis/CRC Press, December, 2014

Peer-Reviewed Publications

- Z. Han, *The bounded isometry conjecture for the Kodaira-Thurston manifold and the 4-torus*, Israel Journal of Mathematics, **176**, 285-306 (2010)

- Z. Han, *Bi-invariant metrics on the group of symplectomorphisms*, Transactions of the American Mathematical Society, **361**, 3343-3357 (2009)

Other Research Articles

- Z. Han and R. Umble, *Constructing the fixed point of a non-isometric plane similarity*, electronically published on arv.org e-Print archive (2014): http://arxiv.org/abs/1410.8781

- Z. Han, *A nonextension result on the spectral metric*, electronically published on arv.org e-Print archive (2008): http://arxiv.org/abs/0805.1045

PRESENTATIONS

- *Constructing the fixed point of a non-isometric plane similarity*, Annual PASSHE-MA Conference, Kutztown University, April 2015

- *Title to be decided*, Tetrahedral Geometry/Topology Seminar, Landisville, PA, March 2015

- *Constructing the fixed point of a non-isometric plane similarity*, MU and F&M Joint Math Colloquium, December 2014

- *Some results on the spectral metric*, Tetrahedral Geometry/Topology Seminar, Landisville, PA, May 2013

- *Floer homology and the spectral metric*, Geometry and Physics Seminar, Penn State University, April 2010

- *The nonsqueezing theorem in symplectic geometry*, MU and F&M Joint Math Colloquium, April 2010

- *Euclidean geometry and symplectic geometry*, Annual PASSHE-MA Conference, West Chester University, April 2010

- *Floer homology and the spectral metric*, Topology/Geometry Seminar, Penn State Altoona, March 2010

- *Morse homology and Floer homology*, Tetrahedral Geometry/Topology Seminar, Landisville, PA, November 2009

- *What is symplectic geometry?*, MU and F&M Joint Math Colloquium, November 2009

GRANTS RECEIVED

- Millersville University Released Time Grant (for the Fall 2015 semester), Fall 2014

- Millersville University Released Time Grant (for the Spring 2015 semester), Fall 2013

SERVICE

University Service

- Faculty Grants Committee, 2012-present
  - **Chair**, 2013-present

- General Education Review Committee (GERC), 2013-present

- Cultural Affairs Committee, 2013-present

- Honorary Degree Committee, 2012-2014

- Panelist, New Faculty Orientation, 2011, 2013, 2014

School Service

- Moderator for Women in Mathematics & Science Conference, 2010, 2011

- Prepared math questions (with Dr. Mingquan Zhan) for the annual Science Lectureship and Competition Examination, 2012, 2013, 2014

Department Service

- Search Committees

    - Adjunct Faculty Search Committee, Spring 2014
    - Regular Part-Time Faculty Search Committee, Fall 2013
    - **Chair**, Adjunct Faculty Search Committee, Spring 2013
    - Adjunct Faculty Search Committee, Summer 2012
    - Adjunct Faculty Search Committee, Spring 2011
    - Math Education Tenure-Track Faculty Search Committee, 2011-2012

- Standing Committees

    - Graduate Curriculum Committee, 2009-present
    - Math Contest and Science Lectureship Exam Committee, 2009-present
    - Department Honors Committee, 2009-present
    - Computer Resource Committee, 2009-2011

- Thesis Committees

    - Honors Thesis Committee for Anthony Mastriania, Fall 2012
      Thesis Title: "*Resolution Graphs and Splice Diagrams of Certain Surface Singularities*"
    - Honors Thesis Committee for Morgan Schreffler, Spring 2011
      Thesis Title: "*Fixed Point Theorems in Mathematics*"

- Faculty Evaluation Committees

    - **Chair**, Temporary Part-Time Faculty Evaluation Committee, 2014-2015
    - Temporary Part-Time Faculty Evaluation Committee, 2014-2015
    - Faculty Five-Year Review Committee, 2014-2015

- Other Department Service Activities

    - Organized and taught (with Dr. Mingquan Zhan) weekly non-credit Math Competition Problem Solving Seminars, Fall 2012, Fall 2013, Fall 2014

- Directed (with Dr. Ron Umble) weekly non-credit Undergraduate Research Seminars, Spring 2012, Fall 2012, Spring 2013
- Math Club Coordinator, 2009-present
- Local supervisor (with Dr. Mingquan Zhan) for the Virginia Tech Regional Mathematics Contest, 2012, 2013, 2014
- Coordinator (with Dr. Mingquan Zhan) for the "Problem of the Month" contest, 2011-2012

Community Service

- Grader, Millersville University High School Math Contest, 2010, 2012

PROFESSIONAL SERVICE

- Reviewer for Zentralblatt MATH (14 articles reviewed), 2010-present
- Anonymous referee for Scientific Research and Essays (1 article refereed), 2011

ACADEMIC ADVISING

- Academic adviser for approximately 12 math majors each semester
- Attended two Adviser Enrichment Workshops, Fall 2009, Spring 2010

PROFESSIONAL DEVELOPMENT

- Regular attendance of Tetrahedral Geometry/Topology Seminar, which meets monthly in Landisville, PA, September 2009 - present
- Attended a Professional Development Session sponsored by the Center for Academic Excellence, Fall 2011

PROFESSIONAL AFFILIATIONS

- American Mathematical Society, 2000-present
- Mathematical Association of America, 2014-present
- Mathematics Association of America Eastern Pennsylvania and Delaware, 2014-present
- PASSHE Mathematics Association, 2009-present

CONFERENCE ATTENDANCE

- Annual PASSHE-MA Conference, Kutztown University, April 2015
- Lehigh University Geometry and Topology Conference, Lehigh University, May 2013

- EPaDel Conference, Millersville University, October 2012

- EPaDel/PASSHE-MA Joint Conference, Shippensburg University, April 2012

- Annual PASSHE-MA Conference, West Chester University, April 2010

- Women in Mathematics & Science Conference, annually, 2010-2013

HONORS AND AWARDS

- Invited to the 52nd, 54th, and 55th Millersville University Honors and Awards Convocations (identified by four students as one who has significantly impacted their educational experience), 2010, 2012, 2013

<div align="center">**RELATED PAST ACADEMIC EXPERIENCE**</div>

Teaching

Spring 2009   *Complex Variables*, UMass Amherst
                Symplectic Topology (Ph.D student independent study), UMass Amherst

Fall 2008   *Fundamental Concepts of Mathematics*, UMass Amherst
                Honors Calculus I, Umass Amherst

Spring 2008   *Fundamental Concepts of Mathematics*, UMass Amherst
                Multivariable Calculus, UMass Amherst

Fall 2007   *Multivariable Calculus*, UMass Amherst

Spring 2007   *Introduction to Linear Algebra*, UMass Amherst

Fall 2006   *Calculus I*, UMass Amherst

Summer 2005   *Mathematical Thinking*, Stony Brook University

Spring 2005   *Proficiency Algebra*, Stony Brook University

Summer 2004   *Linear Algebra*, Stony Brook University

Summer 2003   *Calculus II*, Stony Brook University

Summer 2002   *Calculus with Applications*, Stony Brook University

2000 - 2006   Teaching Assistant for Various Courses, Stony Brook University

Fall 1998   Teaching Assistant for *Analytic Geometry*, Fudan University

Presentations

- *A nonextension result on the spectral metric*, AMS Spring Eastern Section Meeting, Special Session on Symplectic and Contact Topology, Worcester, MA, April 2009

- *A nonextension result on the spectral metric*, Differential Geometry Seminar, UC Santa Barbara, June 2008

- *The spectral norm and its non-extension result*, Geometry and Topology Seminar, UMass Amherst, March 2008

- *The bounded isometry conjecture and extending the Hofer norm*, Geometry and Topology Seminar, UMass Amherst, October 2006

- *Bi-invariant metrics on the group of symplectomorphisms*, AMS Spring Eastern Section Meeting, Special Session in Symplectic Topology, Durham, NH, April 2006

- *Bi-invariant metrics on the group of symplectomorphisms*, Joint Mathematics Meetings, Special Session on New Developments in Symplectic Topology, San Antonio, TX, January 2006

Professional Service

- Massachusetts Statewide Undergraduate Conference Abstract Reviewer, 2007-2009

- UMass Amherst Geometry and Topology Seminar Organizer, 2007

Conference Attendance

- AMS Spring Eastern Section Meeting, Worcester, MA, 2009

- Mini-Conference on Dualities in Physics and Mathematics, UC Santa Barbara, 2009

- 3rd Illinois Indiana Symplectic Geometry Conference, UIUC, 2009

- Joint Mathematics Meetings, Washington, DC, 2009

- 2nd Illinois Indiana Symplectic Geometry Conference, University of Notre Dame, 2008

- Transformation Groups in Topology and Geometry, UMass Amherst, 2008

- Cornell Topology Festival, Cornell University, 2008

- 1st Illinois Indiana Symplectic Geometry Conference, IUPUI, 2008

- Great Lakes Geometry Conference, University of Minnesota, 2007

- Recent Developments in Symplectic Topology, CMI, 2007

- Joint Mathematics Meetings, New Orleans, LA, 2007

- Developments in Symplectic Geometry and Topology, Stony Brook University, 2006

- Third Yamabe Memorial Symposium, University of Minnesota, 2006

- AMS Spring Eastern Section Meeting, Durham, NH, 2006

- Joint Mathematics Meetings, San Antonio, TX, 2006

- Cornell Topology Festival, Cornell University, 2005

- XXth Annual Geometry Festival, Stony Brook University, 2005

- Morse Theoretic Methods in Non-linear Analysis and Symplectic Topology, University of Montreal, 2004

- Introduction to Symplectic Field Theory (two semesters), NYU, 2004 - 2005

- Algebraic Topology of String Theory, Stony Brook University, 2003

- Holomorphic Curves and Low Dimension Topology, IAS, 2002