Adam G. Weyhaupt

Department of Mathematics and Statistics, Box 1653
Southern Illinois University Edwardsville
Edwardsville, IL 62026

aweyhau@siue.edu
http://www.siue.edu/~aweyhau/
(618) 650-2220

Education

Ph.D. in Mathematics, Indiana University, August 2006
New Families of Embedded Triply Periodic Minimal Surfaces of Genus Three in Euclidean Space
Advisor: Matthias Weber

Master of Arts in Mathematics, Indiana University, 2002

Bachelor of Arts in Mathematics *(summa cum laude)*, **Eastern Illinois University, 2001**

Bachelor of Science in Mathematics and Computer Science *(summa cum laude)*, **Eastern Illinois University, 2001**

Employment

Southern Illinois University Edwardsville; Associate Professor and Chair *July 2012 to present*

Southern Illinois University Edwardsville; Assistant Professor *August 2006 to July 2012*

Indiana University; Instructor for IU Continuing Studies *Fall 2004 - Fall 2005*

Indiana University; Associate Instructor (graduate student) *Fall 2001 - Summer 2006*

Teaching

Masters theses

1. Shuai Hao. "An introduction to discrete minimal surfaces via the Enneper surface." July 2013.
2. Paul Heidbrink. "A two-parameter family of embedded triply periodic minimal surfaces." August 2011.
3. Darren Garbuz. "Isoperimetric Properties of Some Genus 3 Triply Periodic Minimal Surfaces Embedded in Euclidean Space." May 2010.

I have served on the thesis committees of eleven additional students.

Senior projects
Have directed the following senior projects:

1. Seth Arnold. "Inflating the Platonic solids while preserving distance." May 2014.
2. Courtney Thomas. "Groebner bases and Sudoku puzzles." May 2014.
3. Briana Lawson. "R-Trivial Simple voting games." May 2013.
4. Alexa Creech. "A congruence problem for polyhedra." May 2013.
5. Brian Heger. "Using generating functions to compute power indices." April 2013.
6. Nick Dewaele. "An explanation of 'period 3 implies chaos"' December 2011.
7. Stephanie Kuban. "Political power indices and dealing with abstentions." May 2011.
8. Emily Sowers. "Fair division of pie." April 2011.
9. Holly Crider. "Finite and infinite hat problems." May 2010.
10. Chelsey Poettker. "Topology and the four color theorem." May 2010.
11. Paul Antonacci. "Vanishing mean curvature and related properties." January 2009.
12. Elizabeth Schaab."Finding bounds for the number of Sudoku squares."July 2008.
13. Anthony Scoles. "An investigation of closed geodesics on regular polyhedra." May 2008.
14. Glenn Harris. "Billiards in polygons using unfoldings." April 2007.
15. Meagan Heckert. "Understanding special sudoku solutions through geometry and error correcting codes." April 2007.

Courses
Have taught Intro to Logic, College Algebra, Precalculus, Calculus I, Calculus II, Discrete Mathematics, Logic and Reasoning, Linear Algebra I, Real Analysis I, Real Analysis II, Complex Analysis, Differential Geometry, Senior Seminar, Content and Pedagogy of Discrete Mathematics, Mathematics and Politics, Number Theory, and a summer professional development course for elementary teachers.

Have served on at least eighteen senior project committees in addition to the above.

Papers and Publications

Published/accepted in a peer-reviewed journal:

1. (with A. Neath, J. Cavanaugh) *Model evaluation, discrepancy function estimation, and social choice theory.* To appear in Computational Statistics.
2. (with K. Lawson (undergraduate), J. Parish, C. Traub) *Coloring graphs to classify simple closed geodesics on convex deltahedra.* Int. J. Pure and Applied Math. 89 (2013), no. 2, 123-139.

3. (with M. Feldmann, M. Quivey) *Intel Math Connections: A Three-Year Study of the Impact of a Math-Based Program on Elementary Teachers*. Proceedings of the 2013 ASQ Advancing the STEM Agenda Conference. June 2013.

4. *A real-life data project for an interdisciplinary math and politics course.* PRIMUS, Problems, Resources, and Issues in Mathematics Undergraduate Studies. (2012) 23:1, 13–24.

5. *A note on some bounds for permanents of* $(0,1)$*-matrices.* J. Interdiscip. Math. 12 (2009), no. 1, 123–128.

6. *Deformations of the gyroid and Lidinoid minimal surfaces*. Pacific J. Math. 235 (2008), no. 1, 137–171.

Published in a non-peer-reviewed product:

7. *What do butterflies, ketchup, microcellular structures, and plastics have in common?* Plus Mathematics magazine. September 12, 2011

Presentations and Professional Activities

Professional Talks

- ASQ Education Division "Advancing the STEM Agenda Conference", Grand Valley State University, *Intel Math Connections: A Three Year Study*, June 2013
- (with D. Garbuz) Southern Illinois University College of Arts and Sciences Colloquium "Thinking About Space", *Space Separation Using Minimal Surfaces*, March 2012
- Invited talk to St. Mary's College of Maryland mathematical research seminar, *The moduli space of embedded triply periodic minimal surfaces and the construction of some new examples*, March 2010
- Invited talk to St. Mary's College of Maryland math club, *Minimal Surfaces and the Role of Computers in Theoretical Mathematics*, March 2010
- Mathfest (Mathematical Association of America national meeting), *Students, Sudoku, permanents, and combinatorial proof: An upper bound for permanents of (0, 1)-matrices*, August 2009
- AMS Central Section meeting; special session on minimal and CMC surfaces, *Gyroids, Lidinoids, and the moduli space of embedded triply periodic minimal surfaces of genus 3* , April 2008
- AMS-MAA Joint Meetings, *On the moduli space of triply periodic minimal surfaces*, January 2008
- Illinois section of the MAA, *An illustrated stroll through the forest of minimal surfaces*, March 2007
- AMS-MAA Joint Meetings, *Deformations of the gyroid and Lidinoid minimal surfaces*, January 2007
- Eastern Illinois University Colloquium, *Deformations of triply periodic minimal surfaces: A new family of gyroids*, January 2006
- Indiana University Geometry Seminar, *A deformation of the gyroid minimal surface*, November 2005
- Mathematical Association of America Indiana Section Fall Meeting, *Being a mathematics graduate student* (panel discussion), November 2005

Organizer of special session at meeting *Summer 2011*

Co-organizing special session on "Know More, Teach Better? Content Knowledge for Secondary Teaching and Above" at national meeting of the Mathematica Association of America (Mathfest).

Organizer of special session at meeting *April 2008*

Co-organizing special session at a Central Section meeting of the American Mathematical Society.

American Institute of Mathematics Workshop *June 2005*
Was an invited participant at the American Institute of Mathematics Workshop *Moduli Spaces of Properly Embedded Minimal Surfaces* in Palo Alto, California.

MSRI Summer Graduate Program *Summer 2003*
Participated in the Mathematical Sciences Research Institute's Summer Graduate Program in Mathematical Graphics at Reed College in Portland, Oregon.

Professional Memberships
Current member of the American Mathematical Society and the Mathematical Association of America

Professional service
Refereed paper for a well-respected international journal. Served as co-coordinator of the Project NExT sessions at Mathematical Association of America "Mathfest" annual meeting in Madison, Wisconsin (Spring/summer 2008). Also served as a faculty mentor for the graduate student paper session at Mathfest (Summer 2008).

University service
Advisor of Math Club / Pi Mu Epsilon (Fall 2007 - July 2012). Departmental representative to faculty senate (Fall 2007 - Spring 2011). SIUE representative to the Illinois Board of Higher Education Faculty Advisory Committee (Fall 2011). Chair of the faculty development council of the faculty senate (2009-2010). Member of department instructor search committee (2006) and tenure-track search committee (2007-8). Have participated in departmental support for spring math contests and SIUE preview, along with various formal academic events (graduations and convocations). Meridian scholar selection committee member (Fall 2008 - Spring 2010). Member of department graduate committee (Spring 2008 - Fall 2009). Graduate Program Director (Spring 2010 - July 2012). Course management system selection committee (March 2010 - January 2012). College of Arts and Sciences bullying task force (March - December 2010). College of Arts and Sciences 'Hands on Day on the Quad' presenter (April and September 2010). Wrote LaTeX document class for SIUE Master's thesis (Fall 2010). University Housing Faculty Fellow (2012-13 academic year), presented a faculty development activity on "team teaching." Various miscellaneous service.

Community service
Speaker at St. Elmo High School career fair (March 2010). Presenter for Educational Talent Search summer program at the East St. Louis center (Summer 2009).

Grants, Awards, and Honors

Math/Science Partnership grant *Summer 2012*
Received an approximately $25,000 subcontract through the Monroe-Randolph Regional Office of Education #45 to teach the "MRI Math Connections" program to 25 in-service teachers. The subcontract included tuition and fees for 25 students for 3 credit hours.

Math/Science Partnership grant *Summer 2011*
Received an approximately $25,000 subcontract through the Monroe-Randolph Regional Office of Education #45 to teach the "MRI Math Connections" program to 25 in-service teachers. The subcontract included tuition and fees for 25 students for 3 credit hours.

Excellence in Undergraduate Education grant *Summer 2010*

Received an approximately $16,000 internal grant with C. Traub to implement WeBWorK (an online homework and assessment tool) at Southern Illinois University Edwardsville.

Teaching Recognition Award *2010*
Received a 2010 Teaching Recognition Award and was nominee for the university Teaching Excellence Award.

2007-2008 Project NExT Fellow *Summer 2007*
Project NExT is a national selective professional development program for recent Ph.D.'s in the mathematical sciences. Was organizer of Project NExT 2007 fellow sessions at 2008 Mathfest. Evaluated graduate student talks during Mathfest 2008.

Southern Illinois Univ. Edwardsville 2007 Summer Research Fellowship *2007-2008*
Received $8000 internal grant for the study of deformations of triply periodic minimal surfaces.

National Science Foundation conference support *Spring 2006*
Along with three other graduate students, received NSF grant DMS-0555730 in the amount of $14,750 to organize a graduate student topology conference with over 100 national and international attendees.

Rothruck Teaching Award for Associate Instructors *May 2004*

National Science Foundation VIGRE Graduate Fellowship *August 2001*