Michael Dorff

Professor
Department of Mathematics
Brigham Young University
Provo, Utah 84602

Office Phone: (801) 422-1752
Cell Phone: (801) 404-3614
mdorff@math.byu.edu
http://www.math.byu.edu/~mdorff/

EMPLOYMENT

- Professor, Dept. of Math., Brigham Young Univ., 2011-present.
- Visiting mathematician, Mathematical Association of America, Washington DC, 2012.
- Associate chair in charge of the undergraduate programs, Dept. of Math., Brigham Young Univ., 2006-2011.
- Visiting U.S. Fulbright scholar, Uniwersytet Marii Curie-Skłodowskiej (Poland), 2005-2006.
- Associate professor, Dept. of Math., Brigham Young Univ., 2004-2011.
- Visiting assistant professor, Dept. of Math., Purdue Univ., spring 2003.
- Assistant professor, Dept. of Math., Brigham Young Univ., 2000-2004.
- Assistant professor, Dept. of Math. and Statistics, Univ. of Missouri - Rolla, 1997-2000.
- High school mathematics teacher, Palos Verdes High, Calif. and Nürnberg High, Germany, 1986-1990.

EDUCATION

- Ph.D., Mathematics, Univ. of Kentucky, 1997.
- M.S., Mathematics, Univ. of New Hampshire, 1992.
- B.A., Mathematics Education, Brigham Young Univ., 1986.

AWARDS

- Lawrence K. Egbert Teaching and Learning Faculty Fellowship, Brigham Young University, 2012-2015. There are 15 faculty fellowships awarded for a three-year period from among the 1,300 faculty in all disciplines at BYU. This fellowship was awarded for success in mentoring undergraduate students in research.
- Fellow of the American Mathematical Society, 2012.
- Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching of Mathematics, Mathematics Association of America (MAA), 2010. Each year 3 recipients are chosen nationally from among the 25,000 members of the MAA.
- Karl G. Maeser Excellence in Teaching Award, Brigham Young University, 2010. Each year 3 recipients are chosen from the 1,300 faculty in all disciplines at BYU.
- Distinguished Teaching Award established by a gift from Carolyn Savage Wright and the Kenneth C. Savage Foundation, BYU Department of Mathematics, 2010.
- MAA Section Meritorious Service Award, Mathematics Association of America, Intermountain Section, 2010. This service award is given once every five years.
- MAA Section Teaching Award, Mathematics Association of America, Intermountain

Section, 2008.
- Distinguished Citizenship Award, BYU College of Physical and Mathematical Sciences, 2008.
- Distinguished Citizenship Award, BYU Department of Mathematics, 2007.
- Chancellor's Exceptional Teacher-Scholar Apprentice Award, University of Kentucky, 1997.
- College Teaching Award, University of Kentucky Association of Emeriti Faculty, 1997.
- Wimberly Royster Teaching Award, University of Kentucky Department of Mathematics, 1996.

FUNDED MENTORING GRANTS

- PI, *Preparing Students for Business, Industry, and Government Careers (PIC Math)*, a National Science Foundation (NSF) Division of Mathematical Sciences (DMS) grant to prepare students for careers in business, industry, and government and to train faculty to help in this effort. $2,057,514. 2013-2017.
- PI, *Regional Undergraduate Mathematics Conferences*, an NSF DMS grant to fund regional undergraduate mathematics conferences. I was not involved with the original grant, but the PI became sick and passed away in 2013 and I was asked by the MAA who has the grant to be the new director and PI of the grant. $600,000. 2013-2014 (original grant is 2009-2014).
- PI, *EMSW21-MCTP: Center for Undergraduate Research in Mathematics*, an NSF DMS grant to continue the national center for undergraduate research in mathematics to train professors throughout the U.S. in successfully mentoring undergraduate students in research. $1,280,000. 2012-2017.
- Co-PI, *High-Impact Teaching Fund: TA Training*, BYU College of Physical and Mathematical Sciences grant. $9,240. 2011-2012.
- PI, *STEM Real World Applications of Mathematics*, an NSF Division of Undergraduate Education (DUE) grant to fund a "Careers in Mathematics" speaker series. $30,000. 2010-2013.
- PI, *Metacalibrations Undergraduate Research Group*, a BYU "Environment for Mentoring" (MEG) grant to conduct research with undergraduate students at Brigham Young University. $20,000. 2010-2012.
- PI, *REU Site: Brigham Young University Undergraduate Research Experience in Mathematics*, an NSF DMS grant to establish an 8-week summer national research center in mathematics at BYU for undergraduate students. $336,504. 2008-2012.
- PI, *EMSW21-MCTP: Center for Mentoring Undergraduate Research in Mathematics*, NSF DMS grant to establish the national center for undergraduate research in mathematics to train professors throughout the U.S. in successfully mentoring undergraduate students in research. $1,262,854. 2006-2011.
- PI, *Improving Elementary Math Instruction for All: A BYU-Public School Partnership Program*, Utah Office of Ed. grant. This is a collaborative project with BYU CITES, BYU College of Ed., BYU College of Physical and Math. Sci., and 5 local Utah school districts (Alpine, Jordan, Nebo, Provo, and Wasatch) to improve math instruction in K-6 public schools. $513,000. 2006-2009.
- Co-PI, *Geometry Undergraduate Research Group*, a BYU "Environment for Mentoring"

(MEG) grant to conduct research with undergraduate students at Brigham Young University. $18,000. 2006-2007.

- PI, *Brigham Young University Undergraduate Research Experiences in Mathematics*, an NSF grant to establish an 8-week summer national research center in mathematics at BYU for undergraduate students. $158,166. 2005-2008.
- PI, *Undergraduate Research in Geometric Measure Theory*, a BYU MEG grant to conduct research with undergraduate students at Brigham Young University. $14,150. 2003-2004.
- PI, *Tensor Grant* from the Math. Association of America/Tensor Foundation to support women participation in an undergraduate summer workshop. $5,000. 2002.

FUNDED RESEARCH GRANTS

- PI, Conference on One and Several Complex Variables, NSF DMS. $14,800. 2008-2009.
- PI, Monograph on Complex Analysis Research Topics, an NSF DUE collaborative grant to write a book on current research topics related to complex analysis. My part involves writing a chapter on planar harmonic mappings and a chapter on minimal surfaces. There are seven mathematicians involved in this project. Editor of the monograph. $137,391. 2007-2010.
- PI, a Research Fulbright Scholar award supporting a 5-month visit to collaborate on research and teach at the Catholic University in Lublin and the Marie Curie Skłodowska University in Poland, $22,000. 2005-2006.
- PI, COBASE (Collaboration in Basic Science and Engineering) Program, a National Research Council (NRC) grant to support two 4-week research trips (one for me from the U.S. to Poland and the other for a colleague from Poland to the U.S.) to initiate collaborative research in mathematics. $8,400. 2003.
- PI, Harmonic Univalent Functions, Univ. of Missouri Research Board. $11,857. 1998.

REFEREED RESEARCH PUBLICATIONS

- M. Dorff and S. Muir, "A family of minimal surfaces and univalent planar harmonic mappings" submitted for publication, 2013.
- Z. Boyd, M. Dorff, M. Nowak, M. Romney, and M. Woloszkiewicz. "A class of univalent convolutions of harmonic mappings" submitted for publication, 2013.
- R. Kumar, M. Dorff, S. Gupta, and S. Singh. "Convolution properties of some harmonic mappings in the right-half plane" submitted for publication, 2013.
- V. Bucaj, S. Cannon, M. Dorff, J. Lawson, and R. Viertel. "Embeddedness for singly periodic Scherk surfaces with higher dihedral symmetry," *Involve, a Journal of Mathematics* **6-4** (2013), 383-392.
- M. Dorff, R. Viertel, and M. Wołoszkiewicz. "Convex combinations of minimal graphs," *Int. J. Math. Math. Sci.* **2012** (2012), Article ID 724268, 9 pages.
- M. Dorff, M. Nowak, and M. Wołoszkiewicz. "Convolutions of harmonic mappings." *Complex Var. Elliptic Equ.* **57** (2012), no. 5, 489-503.
- M. Dorff, M. Nowak, and W. Szapiel. "Typically real harmonic functions." *Rocky Mountain J. Math.* **42** (2012), no. 2, 567-581.
- M. Dorff, M. Nowak, and M. Wołoszkiewicz. "Harmonic mappings onto parallel slit domains." *Ann. Polon. Math.* **101** (2011), 149-162.

- M. Dorff and J. Szynal. "Higher order Schwarzian derivatives for convex univalent functions." *Tr. Petrozavodsk. Gos. Univ. Ser. Mat.* **15** (2009), 7-11.
- M. Dorff and J.-L. Marichal. "Some relations between volume and area of regions in $\mathbb{R}^n$." *Rocky Mountain J. Math.*. **37** (2007), no. 2, 551-572.
- M. Dorff and J. Szynal. "Linear invariance and integral operators of univalent functions." *Demonstratio Math*. **38** (2005), no. 1, 47-57.
- M. Dorff and J. Szynal. "Harmonic shears of elliptic integrals." *Rocky Mountain J. Math*. **35** (2005), no. 2, 485-499.
- M. Dorff and M. Nowak. "Landau's Theorem for planar harmonic mappings." *Comput. Methods Funct. Theory* **4** (2004), no. 1, 151-158.
- M. Dorff, I. Naraniecka, and J. Szynal. "Doubly close-to-convex functions." *J. Math. Anal. Appl.* **290** (2004), 55-62.
- M. Dorff, "Minimal graphs in $\mathbb{R}^3$ over convex domains." *Proc. Amer. Math. Soc*. **132** (2004), 491-498.
- G. Jiang, T. Niederhauser, S. Davis, Y. Lua, M. Dorff, L. Howard, S. Magleby, and M. Linford. "Stability of Alkyl Monolayers on Chemomechanically Scribed Silicon to Air, Water, Hot Acid, and X-rays." *Colloids and Surfaces A: Physicochemical and Engineering Aspects* **226**, (2003), no. 1-3, 9-16.
- M. Dorff, D. Halverson, and G. Lawlor. "Area-minimizing minimal graphs over nonconvex domains." *Pacific J. Math*. **210**, (2003), no. 2, 229-259.
- M. Dorff. "Convolutions of planar harmonic convex mappings." *Complex Var. Theory Appl*. **45** (2001), 263-271.
- T. Niederhauser, G. Jiang, Y. Lua, M. Dorff, D. Berges, and M. Linford. "A new process for preparing alkyl monolayers on silicon and patterning it by scribing in the presence of reactive species." *Langmuir* **17**, (2001), 5889-5900.
- M. Dorff. "Harmonic mappings onto asymmetric vertical strips." *Computational methods and function theory 1997 (Nicosia), Ser. Approx. Decompos. 11*. River Edge, NJ: World Sci. Publishing, 1999, 171-175.
- M. Dorff. "Some harmonic *n*-slit mappings." *Proc. Amer. Math. Soc*. **126** (1998), 569-576.
- M. Dorff and T. Suffridge. "The inner mapping radius of harmonic mappings of the unit disk." *Complex Var. Theory Appl.* **33** (1997), 97-103.

CHAPTERS IN A BOOK

- Z. Boyd, M. Dorff, R. Messick, M. Romney, and R. Viertel. Harmonic univalent mappings with singular inner function dilatation. *60 years of analytic functions in Lublin - in memory of our professors and friends Jan G. Krzyż, Zdzisław Lewandowski and Wojciech Szapiel*, 191–200, Innovatio Press Sci. Publ. House Univ. Econ. Innov. Lublin, Lublin, 2012.
- M. Dorff, Soap Films, Differential Geometry, and Minimal Surfaces, *Explorations in Complex Analysis*, 85-159, Math. Assoc. of America, Inc., Washington, DC, 2012.
- M. Dorff, Anamorphosis, Mapping Problems, and Harmonic Univalent Functions, *Explorations in Complex Analysis*, 197-269, Math. Assoc. of America, Inc., Washington, DC, 2012.

OTHER REFEREED PUBLICATIONS

- J. Diamantopoulos, M. Dorff, and S. Richardson. "How much undergraduate research in mathematics is being done?" AMS Notices, accepted for publication, 2013.
- M. Dorff. "Non-Academic Careers, Internships, and Undergraduate Research." *Involve*, special edition for the Proceedings for the Trends in Undergraduate Research in the Mathematical Sciences (TURMS) conference, accepted for publication, 2013.
- M. Dorff. "CURM: Promoting Undergraduate Research in Mathematics." *Topics from the 8th Annual UNCG Regional Mathematics and Statistics Conference*, 1-6, Springer Proceedings in Mathematics & Statistics, Springer Science-Business Media, New York, 2013.
- M. Dorff and D. Narayan. "Obtaining Funding and Support for Undergraduate Research." *PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies*, **29** (2013), no. 9, 776-784.
- M. Dorff, "An Unexpected AMS Fellows Invitation." *MAA Focus*, Dec. 2012/Jan. 2013, p. 14.
- B. Bailey, M. Budden, M. Dorff, and U. Ghosh-Dastidar. "Undergraduate Research: How Do We Begin?" *MAA Focus*, Jan. 2009, pp. 14-16.
- M. Dorff. "Center for Undergraduate Research in Mathematics (CURM) at Brigham Young University." *Proc. for Promoting Undergraduate Research in Math*. ed., J. Gallian, Amer. Math. Soc., Providence, 2007, 245-249.
- M. Dorff. "Summer Mathematics Research Experience for Undergraduates (REU) at Brigham Young University." *Proc. for Promoting Undergraduate Research in Math*., ed. J. Gallian, Amer. Math. Soc., Providence, 2007, 23-26.
- M. Dorff and L. Hall. "Solids in $\mathbb{R}^n$ whose area is the derivative of the volume." *The College Math. J.* **34** (2003), no. 5, 350-358.

RECENT GENERAL PRESENTATIONS

Expository: Soap Bubbles and Mathematics

- Keynote address at the Kentucky Research by Undergraduates Mathematics Conference, Centre College, Kentucky, Sep. 2013.
- Colloquium speaker at Georgia College, Georgia, Aug. 2013.
- Speaker for the Family Program, Mathematics of Various Entertaining Subjects (MOVES) Conference, Museum of Mathematics, New York, Aug. 2013.
- Keynote address at the Pacific Coast Undergraduate Math Conference, Cal Poly Pomona, California, Mar. 2013.
- Math Club speaker at Lone Peak High School, Utah, Feb. 2013.
- Colloquium speaker in the Introduction to Math Series at Brigham Young Univ., Utah, Feb. 2013.
- Plenary speaker at the Fifth Biennial Mercer University Undergraduate Mathematics Conference at Mercer Univ., Georgia, Feb. 2013.
- Colloquium speaker at Hood College, Maryland, Nov. 2012.
- Colloquium speaker at Washington and Lee Univ., Virginia, Nov. 2012.
- Colloquium speaker at Univ. of Richmond, Virginia, Nov. 2012.
- Colloquium speaker at Davidson College, North Carolina, Nov. 2012.

- Plenary speaker at the Kennesaw Mountain Undergraduate Mathematics Conference at Kennesaw State Univ., Georgia, Oct. 2012.
- Carriage House Lecture speaker at the Math. Assoc. of America, Washington, DC, Oct. 2012.
- Colloquium speaker at James Madison Univ., Virginia, Oct. 2012.
- Colloquium speaker at Longwood Univ., Virginia, Sep. 2012.
- Guest speaker at the Rochester Institute of Tech. summer math REU, New York, Jul. 2012.
- Guest speaker at the Grand Valley State Univ. summer math REU, Michigan, Jul. 2012.
- Colloquium speaker at PURE Math, Univ. of Hawaii, Hilo, Jun. 2012.
- Plenary speaker at the Univ. of Tennessee Undergraduate Mathematics Conference at Univ. of Tennessee, Apr. 2012.
- Colloquium speaker at Univ. of Tennessee, Apr. 2012.
- Guest speaker at Springville Middle School, Utah, Dec. 2011.
- Colloquium speaker at Univ. of California, Irvine, Oct. 2011.
- Colloquium speaker at Willamette Univ., Oregon, Oct. 2011.
- Plenary speaker at the 2011 Spring Michigan MAA Meeting at Western Michigan Univ., May 2011.
- Contributed talk at the 2011 Spring Michigan MAA Meeting at Western Michigan Univ., May 2011.
- Colloquium speaker at Calvin College, Michigan, May 2011.
- Colloquium speaker at Univ. of Kentucky, Apr. 2011.
- Plenary speaker at the 2011 Midwest Undergraduate Mathematics Symposium at Simpson College, Iowa, Apr. 2011.
- Robert Noyce Teacher Scholarship Colloquium speaker at East Central University, Oklahoma, Mar. 2011.
- Natural Sciences and Mathematics Colloquium speaker at St. Mary's College of Maryland, Feb. 2011.
- Colloquium speaker at Jackson State Univ., Mississippi, Jan. 2011.
- Math for Everyone Series Colloquium speaker at Univ. of Notre Dame, Indiana, Nov. 2010.
- Lyman Briggs College Colloquium speaker at Michigan State Univ., Nov. 2010.
- Focus on Math Series Colloquium speaker at Brigham Young Univ., Utah, Oct 2010.
- Colloquium speaker at CUNY Tech, New York, Oct. 2010.
- Guest speaker (3 talks) at Bronx High School of Science, New York, Apr. 2010.
- Colloquium speaker at Univ. of Wisconsin – Stout, Apr. 2010.
- Distinguished Mathematics Lecture Series (2 talks) at Winona State Univ., Minnesota, Apr. 2010.
- Colloquium speaker at Calif. State Univ., Fullerton, Feb. 2010.
- Colloquium speaker at Calif. State Univ., Long Beach, Feb. 2010.

Expository: Careers in Mathematics

- Panelist at the Kentucky Research by Undergraduates Mathematics Conference, Centre College, Kentucky, Sep. 2013.
- Colloquium speaker at University of Minnesota - Duluth, Duluth, Minnesota, Sep. 2013.

- Colloquium speaker at Georgia College, Georgia, Aug. 2013.
- Panelist for an online panel on jobs, INGenIOus Project, sponsored by AMS, SIAM, ASA, and MAA, May 2013.
- Plenary speaker at the 2013 Spring Texas MAA Meeting at Texas Tech Univ., Apr. 2013.
- Luncheon speaker at 2013 Spring Georgia MAA State Lunch, Feb. 2013.
- Colloquium speaker in the Introduction to Math Series at Brigham Young Univ., Utah, Jan. 2013.
- Panelist at the 2013 Joint Mathematics Meetings, San Diego, California, Jan. 2013.
- Colloquium speaker at Denison Univ., Ohio, Dec. 2012.
- Colloquium speaker at Marymount Univ., Virginia, Dec. 2012.
- Plenary speaker at the 8th annual UNCG Regional Mathematics and Statistics Conference at Univ. of North Carolina, Greensboro, Nov. 2012.
- Presentation for K-8 teachers in Davidson, North Carolina, Nov. 2012.
- Colloquium speaker at Univ. of Scranton, Pennsylvania, Oct. 2012.
- Pi Mu Epsilon speaker at James Madison Univ., Virginia, Oct. 2012.
- Colloquium speaker at St. Mary's College of Maryland, Oct. 2012.
- Colloquium speaker at St. Michael's College, Vermont, Sep. 2012.
- Colloquium speaker at PURE Math, Univ. of Hawaii, Hilo, Jun. 2012.
- Plenary speaker at the 2012 Spring Rocky Mountain MAA Meeting at Univ. of Colorado at Denver, Apr. 2012.
- Plenary speaker at the 2012 Spring Intermountain MAA Meeting at Westminster College, Utah, Mar. 2012.
- Colloquium speaker at Grinnell College, Iowa, Apr. 2012.
- Panel presenter at the 2012 Joint Mathematics Meetings, Boston, Massachusetts, Jan. 2012.
- Invited speaker at the Mathematics in Business, Industry, and Government session at the 2012 Joint Mathematics Meetings, Boston, Massachusetts, Jan. 2012.
- Colloquium speaker at Colorado College, Colorado, Apr. 2010.

Mentoring Students in Undergraduate Research

- Plenary speaker on successfully mentoring undergraduates in research in the sciences, College of Science Faculty Workshop on Undergraduate Research, The College of New Jersey, New Jersey, Oct 2013.
- Keynote speaker on undergraduate research in business and industry, Math Faculty Workshop on Undergraduate Research, Totowa, New Jersey, May 2013.
- Keynote speaker on funding undergraduate research, Math Faculty Workshop on Undergraduate Research, Totowa, New Jersey, May 2013.
- Invited speaker at The College of New Jersey, New Jersey, May 2013.
- Main presenter at 2-day faculty training workshop for the Center for Undergraduate Research in Mathematics (CURM), Herriman, Utah, May 2013.
- CUR Institute presenter at Cameron University, Oklahoma, Apr. 2013.
- Invited speaker for undergraduate students at Boise State University, Idaho, Apr. 2013.
- Invited speaker for faculty sponsored by the STEM Station at Boise State University, Idaho, Apr. 2013.
- Panelist at the 2013 Joint Mathematics Meetings, San Diego, California, Jan. 2013.

- Invited speaker at the 2012 Trends in Undergraduate Research in the Mathematical Sciences (TURMS) conference, Chicago, Illinois, Oct. 2012.
- Invited speaker for faculty session at the Kennesaw Mountain Undergraduate Mathematics Conference at Kennesaw State University, Georgia, Oct. 2012.
- Contributed talk on Funding Undergraduate Research at the 2012 MAA MathFest meeting, Madison, Wisconsin, Aug. 2012.
- Panelist at the 2012 MAA MathFest meeting, Madison, Wisconsin, Aug. 2012.
- Math Club speaker at Utah Valley Univ., Utah, Feb. 2012.
- Panelist at the 2012 Joint Mathematics Meetings, Boston, Massachusetts, Jan. 2012.
- Plenary speaker at the 2011 Conference of Research Experiences for Undergraduate Student Scholarship sponsored by the Council on Undergraduate Research (CUR), Washington, D.C., Oct. 2011.
- Luncheon speaker for administrators at Jackson State Univ., Mississippi, Jan. 2011.
- Invited speaker for all faculty at Jackson State Univ., Mississippi, Jan. 2011.
- Panelist at the 2011 Joint Mathematics Meetings, New Orleans, Jan. 2011.
- Main presenter at 2-day faculty training workshop for the Center for Undergraduate Research in Mathematics (CURM), Draper, Utah, Jun. 2010.
- Invited speaker at the 2010 Council on Undergraduate Research (CUR) Conference at Weber State Univ., Utah, Jun. 2010.
- Invited speaker at Univ. of Wisconsin – Stout, Apr. 2010.
- Invited speaker at The College of New Jersey, Nov. 2009.
- Main presenter at 2-day faculty training workshop for CURM, Heber City, Utah, Aug. 2009.
- Invited speaker at Univ. of Northern Iowa, Apr. 2009.
- Main presenter at 2-day faculty training workshop for CURM, Provo, Utah, Aug. 2008.
- Invited speaker at Pepperdine Univ., California, Oct. 2007.
- Main presenter at 2-day faculty training workshop for CURM, Provo, Utah, Jun. 2007.
- Panelist at the 2007 Joint Mathematics Meeting, New Orleans, Jan. 2007.

Recruiting Students to Mathematics

- Main workshop presenter on "Recruiting math students" at the Fall Dinner of the Northeastern Section of the Math. Assoc. of America, St. Michael's College, Vermont, Sep. 2012.
- Colloquium speaker at Univ. of California, Irvine, Oct. 2011.
- Main workshop presenter for the minicourse on "Recruiting more students to take mathematics courses" at the 2011 MAA MathFest Meeting, Lexington, Kentucky, Aug. 2011.
- Plenary speaker at the 2011 Project NExT summer workshop before the MAA MathFest Meeting, Lexington, Kentucky, Aug. 2011.
- Main workshop presenter for the minicourse on "Recruiting more students to take mathematics courses" at the 2010 MAA MathFest Meeting, Pittsburgh, Pennsylvania, Aug. 2010.
- Plenary speaker at the "Haimo Award Presentation," 2010 Joint AMS/MAA Mathematics Meeting, San Francisco, California, Jan. 2010.
- Distinguished Mathematics Lecture Series, Talk 3, at Winona State Univ., Minnesota,

Apr. 2010.

Other Topics

- Webinar panelists on "Professional Science Master's Program," CUR, Oct. 2013.
- Colloquium speaker on "How math is changing movies" in the Introduction to Math Series at Brigham Young Univ., Utah, Mar. 2013.
- Invited speaker on "What's new at the MAA" at the 2013 Spring Intermountain MAA Meeting at BYU – Idaho, Idaho, Mar. 2013.
- Panel presenter on "Professorial Development" at the 2013 Joint Mathematics Meetings, San Diego, California, Jan. 2013.
- Plenary speaker at the 2011 "Math Excel 20th Anniversary Celebration" in honor of Mike Freeman, Univ. of Kentucky, Apr. 2011.

INVITED TALKS ON RESEARCH TOPICS

- Colloquium speaker at University of Minnesota - Duluth, Duluth, Minnesota, Sep. 2013.
- Invited Paper Session, MathFest 2013, Hartford, Connecticut, Aug. 2013.
- Computational Methods and Function Theory Conference, Shantou, China, Jun. 2013.
- International Workshop on Complex Analysis and Its Applications, Sangli, India, July 2012. Invited to give three one-hour plenary talks.
- Harmonic and Quasiconformal Mappings ICM 2010-Satellite Conference and Workshop, Chennai, India, Aug. 2010. Invited to give three one-hour plenary talks.
- Univ. of Colorado at Colorado Springs, Apr. 2010.
- US Air Force Academy, Colorado, Mar. 2010.
- Joint AMS/MAA Mathematics Meeting, San Francisco, California, Jan. 2010.
- AMS regional meeting, Waco, Texas, Oct. 2009.
- Fresno State Univ., California, Sep. 2009.
- Univ. of Northern Iowa, Apr. 2009.
- Joint AMS/MAA Mathematics Meeting, Washington, D.C., Jan. 2009.
- Colorado College, Colorado, Oct. 2008.
- Geometric Function Theory Conference, Petrozavodsk, Russia, Jul. 2008.
- Complex Analysis and Special Functions Workshop, Texas Tech Univ., Nov. 2007.
- AMS/Polish Mathematical Society international conference, Warsaw, Poland, Aug. 2007.
- Instytut Matematyki, Uniwersytet Marii Curie-Skłodowskiej, Lublin, Poland, May 2007.
- Instytut Matematyki, Katolicki Uniwersytet Lubelski (a set of 5 lectures), Lublin, Poland, Dec. 2005-Jan. 2006.
- Instytut Matematyki, Uniwersytet Marii Curie-Skłodowskiej (a set of 12 lectures), Lublin, Poland, Oct. 2005-Jan. 2006.
- Computational Methods and Function Theory Conference, Joensuu, Finland, Jun. 2005.
- Special Functions in Harmonic Analysis and Applications Conf., Irsee, Germany, Jul. 2004.
- Joint AMS/MAA Mathematics Meeting, Phoenix, Arizona, Jan. 2004.
- Instytut Matematyki, Katolicki Uniwersytet Lubelski, Lublin, Poland, Dec. 2003.
- Instytut Matematyki, Uniwersytet Marii Curie-Skłodowskiej, Lublin, Poland, July 2003.

- Instytut Matematyki, Politechnika Rzeszowska, Rzeszów, Poland, June 2003.
- Instytut Matematyki, Politechnika Łódzka, Łódż, Poland, June 2003.
- American Mathematical Society regional meeting, Portland, Oregon, Jun. 2002.
- Joint AMS/MAA Mathematics Meeting, San Diego, California, Jan. 2002.
- Instytut Matematyki, Uniwersytet Marii Curie- Skłodowskiej, Lublin, Poland, May 2001.
- Instytut Matematyki, Politechnika Łódzka, Łódż, Poland, May 2001.
- The Show-Me State Lectures (plenary speaker), St. Louis, Missouri, Apr. 2000.
- Second International Workshop on Planar Harmonic Mappings, Technion, Haifa, Israel, Jan. 2000.
- Joint AMS/MAA Mathematics Meeting, San Antonio, Texas, Jan. 1999.
- Computational Methods and Function Theory Conference, Nicosia, Cyprus, Oct. 1997.
- Joint AMS/MAA Mathematics Meeting, San Diego, California, Jan. 1997.
- Joint AMS/MAA Mathematics Meeting, Orlando, Florida, Jan. 1996.

TEACHING EXPERIENCE

- August 2000-present, Department of Mathematics, Brigham Young University. Courses taught include:
  - Freshman Level: Intro to Being a Math Major, Calculus I, Calculus II, Calculus for Non-science Majors.
  - Sophomore Level: Calculus of Several Variables, Ordinary Differential Equations, Advanced Engineering Math.
  - Junior Level: Complex Variables, Geometry for Perspective Teachers, Differential Geometry.
  - Graduate Level: Complex Analysis, Differential Geometry, Real Analysis.
- August 1997-2000. Assistant Professor, Department of Mathematics and Statistics, University of Missouri - Rolla. Courses taught include:
  - Freshman Level: Calculus I, Calculus II.
  - Junior Level: Linear Algebra, Mathematics for Elementary School Teachers.
  - Senior Level: Complex Variables, Tensor Calculus, Differential Geometry.
  - Graduate Level: Intro. to Real Analysis, Complex Analysis I, Complex Analysis II.

RESEARCH INTERESTS

Geometric function theory, complex analysis, and minimal surfaces.

STUDENTS INVOLVED IN RESEARCH SINCE 2004

- M.S. students: Robert Berry ('03-'04), Zach Boyd ('13-'14), Lauritz Peterson ('04-'05), Steve Taylor ('06-'07), Matthew Romney ('12-'13).
- Undergraduate students: Tina Benhaim ('07), Gia Bloomstrand ('07), Zach Boyd ('12), Valmir Bucaj ('10), Robert Buss (’13), Laura Cannon ('05), Sarah Cannon ('10), Amanda Clingerman ('07), Evelyn Crofts ('07), Amanda Curtis ('10), Diana Dimond ('04), Sam Ferguson ('09), Paul Fiske ('11), Heather Florence ('04), Susanna Fullmer (’13), Ife George (’13), Devin Gerrard ('12), Laura Graham ('09), Karla Hendricks ('06), Angela Hicks ('05), Ryan Hubscher ('05), Jordan Hull ('09), Leah Jackman ('07), Josh Kaminsky

('11), Jamal Lawson ('10), Missy Lucas ('11), Rachel Messick ('10), Darren Ong ('07), Adam Rich ('05), Shaina Richardson ('11), Matthew Romney ('11), Brian Rushton ('06), Jessica Spicer ('09), Ashley Swannack ('05), Ryan Viertel ('10), Dan Walton ('13), Jared Whitehead ('05), Chad Witbeck ('11), Melissa Yeung ('09).

EXAMPLES OF NATIONAL SERVICE

- Director of National Programs
  - Founding director of the *Center for Undergraduate Research in Math* (CURM) at BYU funded by the National Science Foundation (NSF) for $2542854, 2006-2017 (see http://curm.byu.edu).
  - Co-director of *Preparing Students for Business, Industry, and Government Careers* (PIC Math) at the MAA/SIAM funded by NSF for $2057514, 2013-2017.
  - Director of the Regional Undergraduate Mathematics Conferences (RUMC) program at the MAA funded by NSF for $600000, 2012-2014.
  - Founding director of the BYU Summer Math. Research Experience for Undergraduates (REU) funded by NSF for $494,670, 2005-2012 (see http://math.byu.edu/reu/).
  - Director of the one-week BYU Summer Mathematics Institute for undergraduates, 2001-2004.
- National Organizations
  - The Mathematical Association of America (MAA), which is the largest U.S. organization with about 20,000 members dedicated to the teaching and learning of undergraduate mathematics.
    - Chair of the *MAA Invited Addresses* Committee for the 2013 Joint Mathematics Meetings in San Diego, California, 2011-2013.
    - Governor of the MAA Intermountain Section, 2010-2013.
    - MAA national committee on *Haimo Teaching Award*, member 2014-2017.
    - MAA national committee on *Early Career Mathematicians*, member 2007-2012, chair of committee 2009-2012.
    - MAA national committee on *Council on the Profession*, member 2009-2012.
    - MAA national subcommittee on *Research By Undergraduates*, member 2007-2012, chair of committee 2009-2012.
    - MAA national committee for *Strategic Planning Working Group* on STEM-related issues in Mathematics, member 2008-2009.
  - Council on Undergraduate Research (CUR), which is a national organization promoting undergraduate research in all disciplines.
    - Member of the Executive Board, 2011-present.
    - Chair of the Mathematics and Computer Science Division, 2011-present.
    - Councilor in the Mathematics and Computer Science Division, 2008-present.
  - Project NExT (New Experiences in Teaching), which is a national program to help new mathematics professors who are interested in improving the teaching and learning of undergraduate mathematics.
    - Consultant and mentor to new math professors: Evelyn Lamb (2013, Univ. of Utah), Aaron Hill (2011, Univ. of North Texas), Roummel Marcia

(2010, Univ. of Calif., Merced), Jeff Blanchard (2008, Univ. of Utah); Frank Lynch (2006, Westminster College); David Brown (2005, Utah State Univ.); Bryna Kohler (2004, Utah State Univ.); and David Hartenstine (2002, Univ. of Utah).

- Reviewer and Referee
  - Invited on-site external reviewer for program reviews of mathematics departments.
    - Univ. of Wisconsin – Eau Claire, Nov. 2013.
    - New College of Florida, Feb. 2012.
    - Denison Univ., Ohio, Apr. 2011.
    - Winona Univ., Minnesota, Feb. 2011.
    - The College of New Jersey, May 2010.
    - Rowan Univ., New Jersey, Apr. 2010.
  - Reviewer for National Science Foundation (NSF) grant proposals
    - 3 times panel reviewer, DUE (Division of Undergraduate Education) – TUES (Transforming Undergraduate Education in STEM).
    - 3 times proposal reviewer, DMS (Division of Mathematical Sciences) – Infrastructure Program.
    - 2 times panel reviewer, DMS – REU (Research Experiences for Undergraduates) Program.
    - 1 time member of the Site Visit Review Team for DMS – MIE (Model Institutions for Excellence), Xavier Univ. in New Orleans, Louisiana.
    - 3 times panel reviewer, DUE – CCLI (Course, Curriculum and Laboratory Improvement).
    - 1 time proposal reviewer, DMS – Geometric Analysis.
  - Editorial Board:
    - Associate editor, *American Mathematical Monthly*, 2011-present.
    - Associate editor, *Math Horizons*, 2014-present.
    - Associate editor, *Involve: a journal of mathematics*, 2007-present. Involve is dedicated to showcasing and encouraging high quality mathematical research involving students (at all levels). All manuscripts accepted for publication in Involve should be publishable in quality journals in their respective fields.
  - Journal referee for: *J. Math. Anal. Appl*.; *Amer. Math. Monthly*; *J. Inequal. Appl.*; *Complex Var. Elliptic Equ.; Comput. Methods Funct. Theory*; *Complex Var. Theory Appl*.; *Acta Mathematica Sinica*; *Rocky Mountain J. Math*.; *Involve*; *Analysis (Munich); Abstr. Appl. Anal*.; *Computers and Math. Appl*.; *Ann. Univ. Mariae Curie-Sklodowska Sect. A*; *Int. J. Math. Math. Sci*.; *Int. J. Comput. Math*.; *Appl. Math Letters*; *Math. Comp. Model*.; *Open Math. Journal*; *Sci. China Math*.; *Bull. Malaysian Math. Sci. Soc*.; *Hacet. J. Math. Stat*.; *Arab. J. Sci. Eng.; Rose-Hulman Ugrad. Math. J*.; 2001-present.
- Conference Organizer
  - Co-organizer of the MAA Project Leadership conference, in Washington, D.C., Apr. 2013.
  - Co-organizer of the Trends in Undergraduate Research in the Mathematical Sciences (TURMS) conference, in Chicago, Illinois, Oct. 2012.
  - Main organizer of the Center for Undergraduate Research in Mathematics

(CURM) spring research conference at Brigham Young University, Utah, Mar. 2010, Mar. 2011.
- Main organizer of the "2008 One and Several Complex Variables Conference," at the University of Kentucky, May 2008.
- Main organizer of the joint Center for Undergraduate Research in Mathematics (CURM) and MAA Intermountain Sectional Meeting at Brigham Young University, Utah, Mar. 2008, Mar. 2009.
- Co-organizer at the American Math. Society (AMS) and Polish Math. Society (PTM) International Conference for a special session in "Geometric Function Theory" in Warsaw, Poland, Aug. 2007.
- Co-organized the American Math. Society (AMS) special session on "Area-minimization and minimal surfaces," at AMS sectional meeting, in Salt Lake City, Utah, Oct. 2002.

EXAMPLES OF STATE/UNIVERSITY SERVICE

- Member of the Dean selection committee for the BYU College of Physical and Mathematical Sciences, 2007.
- Member of the Utah Office of Education Committee to evaluate the Utah State K-12 Mathematics Standards, 2006.
- Member of the BYU CITES (Center for the Improvement of Teaching Education and Schooling) Math Initiative Committee consisting of representatives from 5 local public school districts and BYU faculty with a commission from Dean Richard Young of the College of Education "to engage in an exploration of an approach to teaching numeracy which would be more effective in helping children to learn," 2004-present.

EXAMPLES OF COLLEGE/DEPARTMENT SERVICE

- Associate chair (in charge of department activities related to the undergraduate program), BYU Department of Mathematics, 2006-2011.
- Member of the College's Spring Research Planning Committee, 2007-2008.
- Speaker on "Effective Teaching Strategies" at the College's Fall TA Training Workshop, 2006, 2007, 2008.
- Member of the BYU Math. Dept. Planning Committee, 2004-present.
- Chair of the Department's PR Committee, 2004-2005.
- Member of the Department's Graduate Committee, 2002-2006.

PROFESSIONAL AFFILIATIONS

- American Association for the Advancement of Science (AAAS)
- American Mathematical Society (AMS)
- Council on Undergraduate Research (CUR)
- Fulbright Association
- Mathematics Association of America (MAA)
- Project NExT (New Experiences in Teaching) Fellow
- Society of Industrial and Applied Mathematics (SIAM)