Kathy Andrist

Campus Address
Department of Mathematics #261
Utah Valley University
800 West University Parkway
Orem, UT 84062
Kathy.Andrist@uvu.edu
Tel: (801)863–6309
Fax: (801)863–6254

August 10, 2020

Education

Brigham Young University, Provo, UT. Ph.D. in Mathematics, August 2000.
Dissertation: *A Three-Manifold With Non-Trivial Fundamental Group Which Does Not Admit Non-trivial Group Actions.* Advisor: Dr. David G. Wright.

Brigham Young University, Provo, UT.
M.S. in Mathematics, August 1995
Project: *Freudenthal Compactification.* Advisor: Dr. David G. Wright.

Brigham Young University, Provo, UT.
B.S. in Mathematics, August 1993.

Teaching Experience

Professor. Utah Valley University. July 2011 – present.

- Math Leap, Math 100R Course Supervisor and Instructor, Fall 2016-Present
- Undergraduate Course Instruction
  - Math Leap, Abstract Algebra, Elementary Statistics, College Algebra, Calculus I, II & III, Analysis, Geometry, Linear Algebra, Discrete mathematics, Actuarial Problems Lab, and Advanced Topology
- Graduate Course Development and Instruction
  - Special Topics in Geometry and Topology: *Algebraic Topology*, Math 6100, Spring 2017
  - Special Topics in Geometry and Topology: *Geometric Topology using the Inquiry Based Learning method*, Math 6100, Fall 2020
- Curriculum Development: Actuarial Emphasis Review and Revision, 2014-2015, 2017, 2020
- Undergraduate Course Development
  - Developer: Math Leap, Math 100R, Spring 2016.
  - Co-Developer: Hybrid Trigonometry, Math 1060, Spring 2017.
  - Co-Developer: College Algebra with Pre-Requisites, Math 1055, Spring 2017.
  - Developer: Math Leap, Math 100R, Fall 2016.
  - Piloted a combination course for Intermediate and College Algebra students.
  - Developed my own Inquiry Based Learning course notes for College Geometry.
  - Developed my own Inquiry Based Learning course notes for Abstract Algebra.

Associate Professor. Utah Valley University. July 2006 – 2011.

- Curriculum Development: Actuarial Emphasis, 2008-2009.
- Course Development
  - Knot Theory, Math 490R, Spring 2010.

- Topology, Math 3500, Fall 2008.
- Actuarial Problems Lab, Math 4015, Fall 2007.

- Taught Calculus III, Linear Algebra, Modern Geometry, Actuarial Problems Lab, Foundations of Analysis, Topology and Knot Theory.

Assistant Professor. Utah Valley University. January 2001– July 2006.

- Taught College Algebra, Trigonometry, Math for Elementary School Teachers I and II, Brief Calculus, Calculus I and II, Honors Calculus and Linear Algebra.
- Piloted a *Structured Learning Assistance (SLA)* course, Spring Semester, 2003. Taught SLA courses again Spring 2007 and Fall, 2009.
- Worked with a representative from the Education Department to improve the *Math for Elementary School Teachers* courses, Spring, 2002.
- Honors Calculus Instructor, Approved Spring, 2001.

Assistant Professor. Brigham Young University, Provo, UT. August 2000 – January 2001.

- Business Calculus Course Supervisor: Coordinated the efforts of the faculty members and graduate student teaching assistants.

Graduate Student Instructor. Brigham Young University, Provo, UT. 1993 – August 2000.

- College Algebra Course Supervisor: Trained and observed approximately 20-30 student instructors. Selected the textbook and wrote the departmental midterm and final exams.
- Taught College Algebra, Trigonometry, Business Calculus, Calculus I, II and III.
- Taught recitation sections for Calculus I and II.

Service　　**Students**

- Obtain annual funding each year for 6 - 12 Math Club students to attend the Regional Mathematics Association of America meetings. (2010, 2011, 2012, 2015, 2016, 2017, 2018, 2019, 2020 trip cancelled)
- Applied for and obtained Scholarly and Creative Projects Funding for Blake Allen to attend Summer REU, Provo, UT, 2010.

Mathematics Department

- Mathematics Department Graduate Committee, 2016-present
- Math Department Rank, Tenure and Promotion Committee, 2009–2011; 2017-present.
- Math Department ALEKS Implementation Specialist, 2015-present.
- Math Leap, Math 100R Course Coordinator
- Mathematics Department Hiring Committee, 2002, 2010, 2015, 2019.
- Math Club Co-Advisor, 2017-present.
- Math Club Advisor, 2001–2017.
- Mathematics Department Assistant Chair, January 2006–January 2008.
- Math Department Scholarship Chair, 2006–Present.
- Math Department Advisor, 2006-2009.

- Math Department Outcomes Assessment Director, 2005-2007.
- Math Club Founder, September 2002.

College of Science and Health

- Faculty Excellence Awards Committee, 2019-2020
- Faculty Excellence Awards Committee, 2018-2019
- School of Science and Health Scholastic Appeals Committee, 2002–Present.

Utah Valley University

- Raspberry Pi Workshop Volunteer
- UVU ALEKS Implementation Team Member, 2015-present. Includes sharing implementation details with other institutions, including:
  - **Auburn University:** Anthony Moninski
  - **Lorain Community College:** Mary Wilkinson and Patti Arneson
  - **Central Oregon Community College:** Kkathy Smith aand Doug Nelson
  - **Dixie State University:** McKay Sullivan, Jesse Hicks and Tamron Lee
  - **Diable Valley College;** Brian Raymond
  - **Westminster College:** Bill bynum
  - **Broward College:** Amy Loschak
- UVU Gateway Course Initiative Committee Member, 2015-2016.
- Math Completion Pilot committee member, 2014-present.
- UVU STEM Committee 2014–2015.
- UVU General Education Committee Chair, July 2010–2013.
- Associate Vice President for Academic Programs Hiring Committee, 2011.
- UVU General Education Committee, 2006–2013.
- Learning Communities Task Force, 2009-2012.
- Accessibility Services (ADA) Committee, 2005–2009.
- ASD Director Search Committee, Sept 2007.
- Student Success and Retention Committee, 2004-2008.
- Math Task Force Committee, 2005–2006.
- Math Success Policy Committee Chair, 2005.
- Faculty Senate Task Force to study faculty grievances, 2003-2004.
- Utah Valley State College Northwest Accreditation Self-Study participant, 2004.
- Faculty Senate Member, 2001-2003
  - Participated in the drafting and ratification of the UVU tenure policy.
  - Revised the Post Tenure Review Policy.
  - Revised the UVU constitution to deal with the newly acquired NCAA athletic program.
  - Introduced faculty workload policy changes.
  - Faculty Senate Task Force to investigate means of settling faculty grievances.
  - Faculty Senate Subcommittee to study academic dishonesty.

Profession & Community

- Judge: JMM Undergraduate Student Poster Session Friday, Jan 18, 2019
- Judge: MATHFEST Student Poster Session Friday, August 3, 2018
- Member: Mathematics Association of America (MAA) Committee on the Undergraduate Program in Mathematics (CUPM), 2013-present.
- MAA Board of Governors: Governor of the Intermountain Section of the MAA, 2013–2016.
- Weber State University Mathematics Program Review Team, 2018
- Sterling Scholar Judge, 2001, 2004, 2015.
- Organizer: Intermountain section meetings of the MAA, March 2013.
- Member of the Utah Mathematics Tuning Project Team, 2011-2014.
- Co-Organizer: MAA Intermountain Section Teaching Session, 2009& 2010.
- Judge: Undergraduate Student Poster Session, Joint AMS/MAA Meetings, January 2009, 2012 & 2013.
- Hosted Mathematics Interactive Booth at *Expanding Your Horizons Conference for Girls*, Orem, Ut, 2009, 2010, 2011 & 2015.
- Utah State Mathematics Exam Proctor, Orem, UT, 2009, 2010 & 2011.
- Integration Bees:
    - Organizer: UVU/BYU Student Integration Bee, Orem, UT, March 2009 & 2011, 2013.
    - Judge: BYU/UVU Student Integration Bee, Provo, UT, April 2005, 2006, 2010 & 2011.
    - Judge/Organizer: MAA Intermountain Section Student Integration Bee, March 2005, 2009, 2010, 2011, 2012, 2013.
    - Student Organizer: Southern Idaho's First Annual Regional Integration Bee, Twin Falls, ID, March 2006.

Research Interests	Geometric Topology, Origami & Knot Theory.
Publications	K. Andrist, Dennis J. Garrity, Dušan D. Repovš, and David G. Wright, **New Techniques for Computing Geometric Index**, *Mediterr. J. Math.*, (**2017**) DOI 10.1007/s00009-017-1036-1 ©Springer International Publishing AG, part of Springer Nature 2017.
	K. Andrist and David G. Wright, **The Whitehead Manifold Has No Orientation Reversing Homeomorphism**, *Topology Proceedings*, Vol 31, No. 1 (**2007**), 1-5.
	K. Andrist, **On Computing The Geometric Index**, *Proceedings of the Seventeenth Annual Workshop in Geometric Topology*, (**2000**), 35–38.
Undergraduate Research	R. Krieger, K. Taylor, B. Johnson, H. Son, **Statistical Analysis of the Utah State Division of Wildlife Data**.
Presentations	**Webinar Presentation:** *Paving the Path to Graduation: Strategies for Placement Prep and Learning*: ALEKS: Math Skills Bridge Webinar, 1:00-1:45 pm MST, April 17, 2020. **Peer to Peer Virtual Webinar Presentation:** *Math Leap: From Stumbling Block to Stepping Stone*: McGraw Hill Education, October 26, 2018. **Back on Track with One Less Hurdle: Math Refresher Workshops**: UMATYC, Ogden, UT, September 26, 2015. **Panelist:** *Improving Success with Co-Requisite Courses*: USHE College Access & Completion Retreat, Salt Lake City, UT, April 21, 2017.

Meeting STEM Needs in Utah Valley: HUIC STEAM Conference, Honolulu, HI, June, 2015.

Bringing Down the House: *My Most Successful Math Club Activity*, JMM, Boston, MA, January, 2012.

General Education and Assessment: Maintaining Momentum, Achieving New Priorities *Dynamic Adaptation to Change: The Utah Valley University Engagement Model*, Poster Presentation, Seattle, WA, February 2010.

UVU Mathematics Department Colloquiuia ,

- *The Conway Notation for Rational Tangles*, November 13 & 20, 2009.

- *The Freudenthäl Compactification*, 2007.

- *Knot Polynomials and A Proof That The Whitehead Manifold Does Not Admit an Orientation Reversing Homeomorphism*, November, 2004.

- *A Certain Class of 3-Manifolds Which Cannot Be Covering Spaces*, January, 2001.

AMS/MAA Intermountain Section Meetings *The Truth, Nothing But the Truth, but Not the Whole Truth*, Provo, UT 2009.

UVU Math Club

- *Why Knot?* February, 2003.

Spring Topological and Dynamical Systems Conference, *A Three-Manifold With Non-Trivial Fundamental Group Which Does Not Admit Non-Trivial Group Actions,* Morelia, Mexico, March 2001.

Conferences   **Actuarial Teaching Conference**, Pittsburgh, PA, June 26-27, 2017.

AMS/MAA Joint Mathematics Meetings

- Denver, CO, 2020
- Baltimore, MD, 2019
- San Diego, CA 2018
- Atlanta, GA, January 2017
- Seattle, WA, January 2016
- San Antonio, TX, January 2015.
- Baltimore, MD, January 2014.
- San Diego, CA, January 2013.
- Boston MA, January 2012.
- SanFrancisco CA, January 2010.
- Washington D.C, January 2009.

MathFest

- Washington, D.C., August 2015.
- Portland, OR, August 2014.

MAA Intermountain Section Meetings

- Brigham Young University, Provo, UT, June 2015.

- Utah Valley University, Orem, UT, March 2014.
- Brigham Young University-Idaho, Rexburg, ID, March 2013.
- Salt Lake Community College, Salt Lake City, UT, March 2012.
- Southern Utah University, Cedar City, UT, March 2011.
- Utah State University, Logan, UT, March 2010.
- Brigham Young University, Provo, UT March 2009.
- Idaho State University, Pocatello, ID, February 2005.

Utah Mathematics Association for Two Year Colleges (UMATYC), Ogden, UT, September 2015.

HUIC STEAM Conference, Honolulu, HI, June 2015.

Campus-Based ePortfolio Conference, Salt Lake Community College, April 2013.

Workshop in Geometric Topology

- Colorado Springs, CO, June 2010.
- Park City, UT, June 2008.
- Corvallis, OR, June 2006.
- Colorado Springs, CO, June 2005.
- Milwaukee, WS, June 2004.
- Park City, UT, June 2003.
- Grand Rapids, MI, June 2002.
- Corvallis, OR, June 2001.

Special Year of Topology Conference, Moab, UT, May 2009.

MAA Undergraduate Unknot Conference, Granville, OH, July 2009.

Utah State Math Summit 2007.

Wasatch Topology Conference

- Park City, UT June 2003.
- Park City, UT, December 2001.

Spring Topological and Dynamical Systems Conference, 2001, 2004, 2005.

AAC&U Conferences

- **Engaged STEM Learning: From Promising to Pervasive Practices**, Miami, FL, March 2011.
- **General Education and Assessment: Maintaining Momentum, Achieving New Priorities**, Seattle, WA, February 2010.
- **8th Annual Greater Expectations Institute:** *Campus Leadership for Student Engagement, Inclusion, and Achievement*, Snowbird, UT, June 2008.

What is an Educated Person Conference: Salt Lake City, UT, 2010, 2011, 2013, 2014.

Visualizing the Future of Mathematics Education: Wiley Faculty Network, Orlando, FL, December 2006.

Professional Development

UVU Faculty Development: Teaching College in an Age of Accountability *with Olga Kopp*, 2014

AAC& U Pre-Conference Workshop: Implementing Interdisciplinary STEM Programs: Connecting Leadership to Learning, Miami, FL, March 2011.

MAA Mini course: Getting Students Involved in Undergraduate Research, San Francisco, CA, January, 2010.

MAA Undergraduate Unknot Short Course, Granville, OH, July 2009.

Magna Online Seminar: What Faculty Need to Know About Retention, November 2008.

Passed **Actuarial Exam P**, May 2008.

20th Annual International Conference on Technology in Collegiate Mathematics, San Antonio, TX, March 2008.

- *Dynamic Interactive Excel Templates for the Math Classroom* Minicourse.
- *Using Geogebra to Create Applets for Visualization and Exploration* Minicourse.
- *Getting in Touch With Geometry and Matrices* Workshop.
- *Using the Classpad 330 to View Mathematics From Different Angles* Workshop.

UVU Faculty Development: Five Learning Strategies *with David Bate*, 2006

Math Teaching and Learning Seminar, Donna Dillingham-Evans, Orem, UT, September 2005.

Utah Association of Mathematics Teacher Educators (UAMTE) Conference, Ogden, UT, February, 2005.

Utah Mathematics Association of Two Year Colleges (UMATYC) Conference, Orem, UT, September, 2004.

Professional Memberships

Mathematical Association of America (MAA)

Utah Mathematics Association for Two Year Colleges (UMATYC) (http://www.umatyc.org/)