

Violeta Vasilevska

CURRICULUM VITAE

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Education

Ph.D. in Mathematics

The University of Tennessee, Knoxville, TN, 2004
Dissertation: *Fibrator Properties of PL Manifolds*
Advisor: Dr. Robert J. Daverman

M.S. in Mathematics

Sts. Cyril and Methodius University, Skopje, Republic of Macedonia, 1998
Thesis: *Two Approaches to Proper Shape Theory—by Proper Fundamental Nets and Inverse Systems*
Advisor: Dr. Nikita Shekutkovski

B.S. in Mathematics

Sts. Cyril and Methodius University, Skopje, Republic of Macedonia, 1992
Bachelor Thesis: *Presentations of Groups and Cayley Graphs*
Advisor: Dr. Dončo Dimovski

Academic Positions

Professor, Utah Valley University (UVU), 2019–present

Sabbatical Leave, Utah Valley University (UVU), Fall 2017–Spring 2018

Associate Professor, Utah Valley University (UVU), 2013–2019

Assistant Professor, Utah Valley University (UVU), 2010–2013

Assistant Professor, The University of South Dakota (USD), 2004–2010

Visiting Assistant Professor, IMMERSE (Intensive Mathematics: A Mentoring, Education and Research Summer Experience), The University of Nebraska–Lincoln (UNL), 2009

Graduate Teaching Fellow, The University of Tennessee–Knoxville (UTK), 2000–2004

Graduate Teaching Assistant, Sts. Cyril and Methodius University
(Faculty of Natural Sciences and Mathematics), 1993–1999

Leadership Roles for Women in Math

Director of the Math Girls Rock! Program, UVU, 2011–present
(www.uvu.edu/math/students/math_girls_rock.html)

Director of the USD Math Days for Women Program, USD, 2007–2010

Research Interests

Graph Theory
 Geometric/Algebraic Topology
 (Geometric) Group Theory
 Scholarship of Teaching and Learning (SoTL)
 Math Education

Publications

Pure Math Research Articles

- L. L. Nelsen, L. M. Nelsen, C. Osborne, V. Vasilevska, “Domino Antimagic Squares and Rectangles,” (submitted, 2020).
- V. Vasilevska, “Coperfectly Hopfian Groups and Shape Fibrator’s Properties,” *Topology Appl.*, 266 (2019), 106842, 11 pp.
- K. F. Benson, D. Ferrero, M. Flagg, V. Furst, L. Hogben, V. Vasilevska, “Note on Nordhaus-Gaddum Problems for Power Domination,” *Discrete Appl. Math.*, 251 (2018), 103–113.
- K. F. Benson, D. Ferrero, M. Flagg, V. Furst, L. Hogben, V. Vasilevska, B. Wissman, “Zero Forcing and Power Domination for Graph Products,” *Australas. J. Combin.*, 70 (2018), 221–235.
- D. Adams, D. Gulbrandsen, V. Vasilevska, “Investigating Properties of the Integers with Infinite Generating Sets,” *Mathematics Exchange*, Vol. 10, No. 1 (2016), 40–50.
- V. Vasilevska, “Homology n -Spheres as Codimension- $(n + 1)$ Shape m_{simpl} -Fibrators,” *Topology Appl.*, 155 (2008), 1140–1148.
- V. Vasilevska, “Special Manifolds and Shape Fibrator Properties,” *Topology Appl.*, 153 (2006), 2765–2781.
- V. Vasilevska, “Fibrator Properties of PL Manifolds,” Thesis (Ph.D.)–The University of Tennessee. (2004), 81 pp.
- N. Shekutkovski, V. Vasilevska, “Equivalence of Different Definitions of Space of Ends,” *God. Zb. Inst. Mat. Prir.–Mat. Fak. Univ. Kiril Metodij Skopje*, 39 (2001), 7–13.
- N. Shekutkovski, V. Vasilevska, “Two Approaches to Proper Shape Theory,” *Mat. Bilten*, No. 21 (1997), 51–66.

SoTL/ Education Research Articles

- V. Vasilevska, “Engaging Students as Math Researchers,” (submitted, 2019).
- V. Vasilevska, “Enhancing the Geometry Classroom with GeoGebra Projects,” *The 2019 ICTCM Conference Proceedings*, (2019)
 (<https://www.pearson.com/content/dam/one-dot-com/one-dot-com/us/en/files/Proceedings-ICTCM2019-VioletaVasilevska.pdf>).
- V. Vasilevska, “Flipping the Hybrid College Algebra Classroom Using MyLab™ Math,” *The 2018 ICTCM Conference Proceedings*, (2018)
 (https://www.pearson.com/content/dam/one-dot-com/one-dot-com/us/en/files/VioletaVasilevska-Flipping_the_Hybrid_%20College_Algebra_Classroom_VV.pdf).
- N. Benaki, J. Debnath, T. Magnus, V. Vasilevska, “(De)Encrypting with KidRSA–No KidING! Using Mathematics to Keep Communication Private,” *CCICADA module series*, (2016)
 (http://ccicada.org/wp-content/uploads/2018/09/BDTV_Reconnect_2016_Final_1-003.pdf)
- L. Vasilevska, V. Vasilevska, “Combinatorial Representation of Finite Continued Fraction,” *Sigma*, Skopje, 109, Vol. 38, No. 1 (2016–2017).

- M. A. Karim, V. Vasilevska, “Having Fun with Graph Theory and Forensics: CSI Fingerprint Analysis - Whose Fingerprint is this one?,” *CCICADA module series*, (2015), (<http://ccicada.org/wp-content/uploads/2015/06/Karim-and-Violeta-Module-for-Reconnect-2014-FINAL-4.pdf>).
- C. McBee, V. Vasilevska, “Information for Faculty New to Undergraduate Research,” *Special Issue of Involve: Trends in Undergraduate Research in the Mathematical Sciences (Chicago, 2012)*, Vol. 7, No. 3 (2014), 395–401.
- V. Vasilevska, “Ceva’s Theorem,” *Utah Mathematics Teacher*, 2013.
- V. Vasilevska, C. Wagner, “Winning High School Women’s Heart and Minds,” *Focus*, Vol. 31, No. 3 (June/July 2011), 23–24.
- V. Vasilevska, “The Power of a Point with Respect to a Circle,” *Sigma*, Skopje, 45, Vol. 21, No. 1 (1999–2000), 7–10.
- V. Vasilevska, “The Honeybee–‘Mathematician,’” *Sigma*, Skopje, 43, Vol. 20, No. 2 (1998–1999), 65–68.

Book

- L. Babinkostova, V. Vasilevska, “Regional and State’s Olympiad Problems in Mathematics for High School Students from the Period of 1988–1997,” *Faculty of Natural Sciences and Mathematics, Skopje, Republic of Macedonia* (1999).

**Research
Projects
in Progress**

- V. Hoyos, E. Murray, C. Turner, V. Vasilevska, “Variation Theory.”
- K. F. Benson, D. Ferrero, M. Flagg, V. Furst, L. Hogben, V. Vasilevska, “Fault-tolerance.”
- M. Flagg, V. Vasilevska, “Fun Graph Coloring Games and Electric Grid.”
- S. Nyhus, V. Vasilevska, “Conic Sections, Origami, Art and GeoGebra.”
- C. Hamilton, S. Nyhus, V. Vasilevska, “Investigating the Effect of After-school Programs on High School Students Attitude Toward Mathematics.”

Awards

- Faculty Senate Excellence Award*, Spring 2020
- Outstanding Teaching Award*, awarded from the Intermountain MAA Section to recognize Distinguish College and University Teaching of Mathematics, Spring 2017 (<http://sections.maa.org/intermountain/teachingaward.html>)
- 2016 Champion of Inclusion Award for a Faculty Member*, Spring 2016 (<https://www.uvu.edu/inclusion/champions/>)
- 2nd Place Faculty Poster*, UVU Engaged Learning Week, Spring 2016
- Faculty Senate Excellence Award*, Spring 2015
- Wolverine Achievement Award (Distinguished Volunteer Service)*, UVU, Spring 2014 (<https://www.uvu.edu/uvusa/info/waa.html>)
- Certificate of Appreciation*, South Dakota Alpha Pi Mu Epsilon Chapter, April 21, 2010
- Certificate of Appreciation*, USD Math Club, April 10, 2006
- Center of Excellence (Science Alliance Fellowships)*, UTK, TN, 2001–2004

SARIF (Scholarly Activity and Research Incentive Funds) Summer Graduate Research Fellowship
 UTK, TN, Summer 2002

Honored Student Award (Most Outstanding Graduate), Sts. Cyril and Methodius University,
 Republic of Macedonia, 1992

Nominations, Honors, and Recognitions

Senior Fellow of the Higher Education Academy, accredited international recognition through
 the Higher Education Academy, 2018 (https://www.uvu.edu/otl/faculty/faculty_recognition.html)

Haimo Award, MAA Deborah and Franklin Tepper Haimo National Award for Distinguished
 College or University Teaching of Mathematics, nominated 2018

(<https://www.maa.org/programs-and-communities/member-communities/maa-awards/teaching-awards/haimo-award-distinguished-teaching>)

Fellow of the Higher Education Academy, accredited international recognition through the Higher
 Education Academy, 2018 (https://www.uvu.edu/otl/faculty/faculty_recognition.html)

KSL TV Segment, advertising the popular workshop I conduct at *SheTech Explorer Day*.
 February 22, 2018, (<https://youtu.be/LvsQpy0vGSo>)

Associate Fellow of the Higher Education Academy, accredited international recognition through
 the Higher Education Academy, 2017

Interview (in Macedonian) – Fakulteti.mk, Macedonian academic website
 Published August 23, 2017

(http://www.fakulteti.mk/mobile/news/17-08-23/intervju_d-r_violeta_vasilevska_vonreden_profesor_na_utah_valley_university_makedonskite_nauchnici_mu_pokazhuvaat_na_svetot_deka_imame_golemi_kvaliteti)

Recognition during the Hoagies with Holland 2016, recognizing the work on the outreach program
Math Girls Rock! and the Inclusion Award, Spring 2016

Thank You One Math Professor, Pearson's One Math Professor initiative - honoring professors
 by students, September 2015

Article in the UVU Review, recognizing the work on the outreach program *Math Girls Rock!*,
 March 2015

Recognition during the Presidential State of University Address 2015, recognizing the work on
 the outreach program *Math Girls Rock!*, February 2015

Recognition during the Presidential State of University Address 2015, for my students' award,
 February 2015

MAA Outstanding Presentation Award, awarded to my students at MAA MathFest,
 August 2014

Presidential Engagement Award, nominated 2014

Faculty Center/OTL Certificate of Accomplishment, Learning Circle,
 Spring 2017, Spring 2015, Spring 2013, Fall 2012, Fall 2011, Spring 2011

Nebraska IMMERSE–Early Career Faculty, UNL, Summer 2009

Administration Recognition for USD Math Days for Women, USD Office of Research, 2009

National Project NExT (New Experiences in Teaching) Fellow, Summer 2005–Summer 2006

Pi Mu Epsilon Member, South Dakota Alpha Pi Mu Epsilon Chapter, April, 2005

Teaching Experience

Utah Valley University

College Algebra (MATH 1050) (traditional & hybrid (flipped classroom))
 Calculus I & II (MATH 1210 & MATH 1220)
 Foundations of Geometry (MATH 3100)
 Foundations of Analysis (MATH 3200)
 Foundations of Abstract Algebra (MATH 3300)
 Foundations of Topology (MATH 4510)
 Introduction to Modern Algebra I & II (MATH 4310 & MATH 4320)
 Advanced Calculus I & II (MATH 4210 & MATH 4220)
 Graph Theory and its Applications (MATH 3320)
 Modern Algebra (MATH 6310) (graduate class for the Graduate Certificate in Mathematics)

The University of South Dakota

Calculus I & II
 Modern Geometry
 Linear Algebra (undergraduate/graduate level course)
 Combinatorics (undergraduate/graduate level course)
 Abstract Algebra I & II (undergraduate/graduate level course)
 Introduction to Topology (graduate level course)

IMMERSE (The University of Nebraska–Lincoln)

Co-designed and co-taught a graduate-level course:
 Abstract Algebra (for pre-grad students)
 (The course was based on a paper by P. J. Cahen, J. L. Chabert, “Elasticity for Integral-Valued Polynomials,” *J. of Pure and Applied Algebra* 103 (3) (1995) 303-311.)

The University of Tennessee–Knoxville

Calculus I & II (for math and science major students)
 Statistical Reasoning (for not-math major students)
 Finite Mathematics

Sts. Cyril and Methodius University

Mathematical Analysis I	Calculus I & II
General Topology	Algebraic Topology
Analytic Geometry	
Methodology of Teaching Mathematics	

Selected SoTL/Outreach and Pure Math Research Grants (Received and Submitted)

(See Appendix I for a detailed list.)

Selected Examples of SoTL/Outreach-Related Grants Received/Submitted**Extramural
Grants****NCTM NSF travel grant award**

Organization: National Council of Teachers of Mathematics. *Funded:* \$2,750.

Event: 14th International Conference on Mathematical Education

Shanghai, China, July 12–19, 2020; Rescheduled for July 11–18, 2021

CASM NSF travel grant

Organization: NSF. *Fully funded.*

Event: Connecting Advanced and Secondary Mathematics Educators (CASM) Conference

Minneapolis, MN, May 20–22, 2019

NSF INCLUDES: Design & Development Launch Pilots: UTAH PREP.

Co-PI. Organization: NSF (2016-2018). *Funded:* \$300,000.

2018 Math, Cryptography, and Cyber Security Conference at UVU

Organization: Rocky Mountain Power Foundation. *Funded:* \$3,000.

Grant to attend McGraw-Hill Education STEM Summit

Organization: McGraw-Hill. *Fully funded.*

Event: Improving STEM Outcomes Through Learning Science In College Algebra

Loews Ventana Canyon Resort, Tucson, AZ March 17-19, 2016

Grant to attend and present at 2016 Circle on the Road Conference.

Organization: Circle on the Road Conference (through various grants). *Funded:* \$500.

**Intramural
Grants****COS Funding**

Organization: College of Science. *Event:* 2018-19 Math Girls Rock! *Funded:* \$2,000.

2016 GEL Seed Grant

Organization: Office of Engaged Learning, UVU. *Funded:* \$6,998.

2016 UVU Math Initiative Grant

Organization: Math Initiative, UVU. *Funded:* \$3,840.

2015 UVU Math Initiative Grant

Organization: Math Initiative, UVU. *Funded:* \$4,700.

2015 GEL Seed Grant

Organization: Office of Engaged Learning, UVU. *Funded:* \$8,860.

2013–2019 Faculty Supplemental Travel Grant

Organization: Office for Teaching and Learning, UVU. *Funded:* \$700–800 each year.

Selected Examples of Pure Math Research Grants Received**Extramural
Grants****NSF–AWM Travel grant**

Organization: Association of Women in Mathematics (AWM). *Funded:* \$2,500.
Event: 22nd Conference of the International Linear Algebra Society (ILAS)
Rio de Janeiro, Brazil, July 8–12, 2019.

Collaborate@ICERM

Organization: Institute for Computational and Experimental Research in Mathematics
Event: Summer Research Collaboration
Providence, RD, August 11–17, 2019. *Fully funded.*

2019 DIMACS Summer Reconnect Grant

Organization: Center for Discrete Mathematics & Theoretical Computer Science (DIMACS)
Event: DIMACS Reconnect Workshop 2019 on Cryptography
Champlain College, Burlington, VT, June 18–22, 2019
Funded lodging, most of the meals, and \$500 as travel support.

2018 DIMACS Mathematics of Planet Earth 2013+ (MPE2013+) grant

Organization: NSF grant *Fully funded.*
Event: Mathematics of Planet Earth 2013+ (MPE2013+) Workshop
Muhlenberg College, Allentown, Pennsylvania, June 10–14, 2018.

Summer REUF-2017 Continuation Grant.

Organization: NSF through AIM. *Funded:* Fully funded.
Event: Summer Research Collaboration, Ames, IA, July 3–7, 2017.

2017 CCICADA Summer Reconnect Grant

Organization: DHS. *Funded lodging, partial travel, and most of the meals.*
Event: CCICADA Reconnect 2017 Workshop
Appalachian State University, Boone, NC, June 11–17, 2017.

PIC Math on Data Analytics Grant

Organization: MAA and SIAM (Through NSF grant). *Fully funded.*
Event: PIC Math Workshop on Data Analytics, Provo, UT, May 29–June 2, 2017.

2016 CCICADA Summer Reconnect Grant

Organization: DHS. *Funded lodging and most of the meals.*
Event: CCICADA Reconnect 2016 Workshop, West Point, NY, June 12–18, 2016.

Summer REUF-2016 Continuation Grant.

Organization: NSF through AIM. *Funded:* Fully funded.
Event: Summer Research Collaboration (through Skype), July 24–28, 2016.

NSF-AIM (REUF) Grant

Organization: NSF through AIM. *Funded:* Fully funded.
Event: Workshop: Research Experience for Undergraduate Faculty, Providence, RI,
July 20–24, 2015.

**Intramural
Grants****2016 SAC Grant**

Organization: College of Science and Health, UVU.
Event: ICME-13, Hamburg, Germany, July 24–31, 2016. *Funded:* \$2,000.

2015 SAC Grant

Organization: College of Science and Health, UVU. *Funded:* \$5,871.
Event: Effects of Math After-School Programs on High School Female Students, UVU.

Selected SoTL/Education- and Pure Math Research-Related Presentations

(See Appendix II for a detailed list.)

Selected Invited SoTL/Education-Related Presentations

**International/
National
Presentations** **Math + Origami + Puzzles + Magic → The Odds Are Always in Favor of Fun.**
14th International Congress on Mathematical Education, Shanghai, China, July 12–19, 2020.
Conference canceled because of COVID-19.

Origami+Math=Fun.

Honor seminar, Texas State University, San Marcos, TX, March 28, 2018.

Why Math?

Math Conference, Whitehorse High School, Montezuma Creek, UT, May 18, 2017.

Popularizing Math Through Outreach Programs for Young Women.

13th International Congress on Mathematical Education, Hamburg, Germany, July, 2016.

The Math Behind Origami Folds. MoSAIC, Lincoln, NE, November 14–15, 2015.

Fun with Math and Origami.

2 Workshop presentations, MoSAIC, Lincoln, NE, November 14–15, 2015.

**Regional/
Local
Presentations** **Finding your niche through identifying strengths and following your passion(s) –
The story of my journey in mathematics**
Keynote Career Speaker at the Dixie Tensor Scholar Program
Dixie State University, St. George, UT, November 7, 2019.

MATH + ORIGAMI ⇒ The Odds are Always in Favor of FUN.

3 Workshop presentations. SheTech Explorer Day, 2015–2018.

MATH+Origami+Coloring=FUN! REALLY!

Empowering Your Tomorrow, UVU, Orem, UT, November 12, 2016.

Graphs Change Live - for REAL? PREP, UVU, Orem, UT, June 23, 2016.

MATH+Origami+Coloring=FUN! REALLY? 3 Workshops presentations

Expanding Your Horizons, UVU, Orem, UT, 2015–2016.

Engaging High School Students in Hands-on Math Activities.

UAMTE, UVU, Orem, UT, February 20, 2016.

Engaging High School Students in Hands-on Math Activities.

Utah Council of Teachers of Mathematics (UCTM), Lehi, UT, November 6–7, 2015.

Math Girls Rock!

Department of Developmental Mathematics Seminar, UVU, September 21, 2015.

Math behind Everything – REALLY? PREP, UVU, June 10, 2015.

Fingerprint Analysis: Whodunite? PREP: Student-Parent Orientation, UVU, May 5, 2015.

Selected Contributed SoTL/Education-Related Presentations

- International/
National
Presentations**
- Drawing Connections between Euclidian Constructions and Origami.**
History and Pedagogy of Mathematics
Macau, China, July 21–25, 2020. (*Conference canceled because of COVID-19.*)
- The Effect of in-Class Group Work on Student Learning.**
10th Annual STEM/STEAM Education Conference
Honolulu, HI, May 28–30, 2020. (*Conference canceled because of COVID-19.*)
- Enhancing Abstract Algebra Classes with Various Teaching Techniques and Activities.** Joint Mathematics Meetings, Denver, CO, January 15–18, 2020.
- Reflections on Lessons Learned from Project NExT.**
MathFest, Cincinnati, OH, July 31–August 3, 2019.
- UVU PREP–Intensive Summer STEM Program.** Poster presentation.
MathFest, Cincinnati, OH, July 31–August 3, 2019.
- Implementing Modified IBL through Daily Group Work in Calculus Classes.**
National Inquiry Based Learning and Teaching Conference, Denver, CO, June 6–8, 2019.
- Enhancing the Geometry Classroom with GeoGebra Projects.**
ICTCM 2019–31st International Conference on Technology in Collegiate Mathematics
Scottsdale, AZ, March 14–17, 2019.
- Math, Cryptography, and Cyber Security Conference for High school Students.**
Poster presentation. Joint Mathematics Meetings, San Diego, CA, January 10–13, 2018.
- Active Learning in a Flipped College Algebra Class.** IECMSA-2017-6th International Euroasian Conference on Mathematical Sciences and Applications
Budapest, Hungary, August 15–18, 2017.
- Encouraging Collaborations in Undergraduate Research.** Poster presentation.
UR Programs: Undergraduate Research Collaborations, Northern Arizona University
Flagstaff, AZ, June 27–29, 2017.
- The Effect of Math-Art Projects on High School Students’ Attitude toward Math.**
International Conference for Academic Disciplines, Venice, Italy, June 28– July 1, 2016.
- Regional/
Local
Presentations**
- Connecting Abstract Algebra with Secondary Math.**
Fall SoTL Report-Out, UVU, Orem, UT, November 8, 2019.
- (Almost) Everything You Wanted to Know about MAA.**
Intermountain MAA Section Meeting, Cedar City, UT, April 12-13, 2019.
- Intersection of Math, Art, and GeoGebra.**
The Utah Academy of Sciences, Arts, and Letters, Ogden, UT, March 23, 2019.
- Staying Sane with the “Instant Insanity” Game.** PCMI–High School Summer Camp
Park City, UT, July 12, 2018.
- Info on Starting a New Outreach Program.** Intermountain MAA Section Meeting
Weber State University, Ogden, UT, April 7–8, 2017.
- Enhancing the College Algebra Classroom.** T4L (Intermountain Teaching For Learning)
Conference: Soaring to New Heights, UVU, Orem, UT, March 30–31, 2017.

Selected Invited Pure Math Research Presentations

- International/
National
Presentations** **Nordhaus-Gaddum Bounds for Power Domination**
 AMS Special Session on Graphs and Matrices
 Fall Western AMS Section Meeting, Virtual conference, October 24–25, 2020.
- Power Domination.**
 Combinatorics, Algebra, Topology Seminar, United States Naval Academy, Annapolis, MD
(Seminar talk canceled because of COVID-19.)
- Nordhaus-Gaddum Sum Bounds for Power Domination**
 Mini-Symposia: Zero Forcing, Propagation, Throttling: Variations and Applications
 22nd Conference of the International Linear Algebra Society (ILAS)
 Rio de Janeiro, Brazil, July 8–12, 2019.
- Popularizing Math while Exploring Shapes and Domination.**
 Women Doing Math, San Marcos, TX, March 28, 2018.
- Power Domination and Zero Forcing.**
 Monash University, Melbourne, Australia, January 29, 2018.
- Comparing the Large Scale structure of Cayley Graphs of the Group of Integers.**
 Joint Mathematics Meetings, Atlanta, GA, January 4–7, 2016.

Selected Contributed Pure Math Research Presentations

- International/
National
Presentations** **Free Products of Special Hopfian Groups.**
 International Conference-Algebra and Analysis with Application
 Ohrid, Republic of Macedonia, July 1-4, 2018.
- Fibrators among Manifolds with Perfectly-Hopfian Fundamental Groups.**
 2018 Arches Topology Conference, Moab, UT, May 7-10, 2018.
- Products of Hopfian Manifolds and Their Shape m_{simpl} Fibrator’s Properties.**
 International Euroasian Conference on Mathematical Sciences and Applications
 Budapest, Hungary, August 15-18, 2017.
- Regional/
Local
Presentations** **Zero Forcing Number for Lexicographic Products of Graphs.**
 Intermountain MAA Section Meeting, Utah State University, Logan, UT, March 23–24, 2018.
- Nordhaus-Gaddum Problems for Power Domination.**
 Seminar Talk, Department of Mathematics, UVU, Orem, UT, April 14, 2017.
- Power Domination and Zero Forcing Numbers and their relation.**
 Intermountain MAA Section Meeting, Weber State University, Ogden, UT, April 7–8, 2017.
- Power Domination and Zero Forcing.**
 Seminar Talk, Department of Mathematics, UVU, Orem, UT, March 25, 2016.
- Hopfian Groups.**
 Intermountain MAA Section Meeting, BYU, Provo, UT, March 20–21, 2015.

Undergraduate Research and Mentoring

Faculty Mentor for the following undergraduate student research projects:

RESEARCH PROJECT: *Investigating Coperfectly Hopfian Groups* (Fall 2018)

Student: Gregory Faurot

RESEARCH PROJECT: *Math and Art Designs*

Student: Stina Nyhus

Presentations:

Conic Sections within Math-Art-Designs, Engaged Learning week, March 29, 2016.

The Math behind Art Designs, Nebraska Conference for Undergraduate Women in Mathematics, Lincoln, NE, January 30, 2016.

Conic Sections within Math-Art-Designs

Joint Mathematics Meetings, Seattle, WA, January 8, 2016.

Connecting Math and Art through Geometry and GeoGebra

MathFest, Washington, DC, August 7, 2015.

Enhancing High School Girls' Education Through Technology, The Fourth International Women of the Mountain Conference, Orem, UT, October 7-9, 2015.

RESEARCH PROJECT: *Counting Points in Scaled Polytopes*

Students: Daniel Gulbrandsen and Christopher VanderWilt

Presentations:

Quasi-polynomials as Integer Point Counting Functions, Daniel Gulbrandsen
MathFest, Washington, DC, August 7, 2015.

Polygons and Counting: Where's the Point?, Daniel Gulbrandsen, Christopher Vander Wilt
Engaged Learning Week, Orem, UT, March 31, 2015.

Using Quasi-polynomials to Count Integer points, Daniel Gulbrandsen, Christopher Vander Wilt, MAA Intermountain Section, Provo, UT, March 20, 2015.

Counting Integer Points in Scaled Polytops, Daniel Gulbrandsen, Christopher Vander Wilt
UCUR (Utah Conference for Undergraduate Research), St. George, UT,
February 27, 2015.

Counting Integral Points Contained in Scaled Polygons, Daniel Gulbrandsen, Christopher Vander Wilt, Utah Regional Undergraduate Mathematics Conference, Orem, UT, November 1, 2014.

RESEARCH PROJECT: *Investigating Properties of the Cayley Graph of the Group of Integers with respect to Infinite Generating Sets*

Students: Daniel Adams, Daniel Gulbrandsen, and Kristen Smith

Presentations:

Investigating Properties of $\text{Cay}(\mathbb{Z}, \{\pm 2^n\})$ and $\text{Cay}(\mathbb{Z}, \{\pm 3^n\})$, Daniel Gulbrandsen, Joint Mathematics Meetings, San Antonio, TX, January 12, 2015. (Poster Presentation)

Exploring Properties of $\text{Cay}(\mathbb{Z}, \{\pm 2^n\})$ and $\text{Cay}(\mathbb{Z}, \{\pm 3^n\})$, Daniel Adams, Daniel Gulbrandsen, Utah Regional Undergraduate Mathematics Conference, Orem, UT, November 1, 2014.

Exploring Properties of $\text{Cay}(\mathbb{Z}, \{\pm 2^n\})$ and $\text{Cay}(\mathbb{Z}, \{\pm 3^n\})$, Daniel Adams, Daniel Gulbrandsen, MathFest, Portland, OR, August 7, 2014.

- Ends of Cayley Graphs of with Infinite Generating Sets*, Daniel Adams, Kristen Smith
Intermountain MAA Sectional Meeting, Orem, UT, March 28, 2014.
- Hyperbolicity of Cayley Graphs of with Infinite Generating Sets*, Daniel Gulbrandsen
Intermountain MAA Sectional Meeting, Orem, UT, March 28, 2014.
- Having Fun with Cayley Graphs*, Daniel Adams, Daniel Gulbrandsen, Kristen Smith
UVU Engagement Week, Orem, UT, March 25, 2014.
- Ends of the Cayley Graphs of with Infinite Generating Sets*, Daniel Adams, Kristen Smith
CURM Student Research Conference, Provo, UT, March 14, 2014.
- Hyperbolicity of the Cayley Graphs of with Infinite Generating Sets*, Daniel Gulbrandsen
CURM Student Research Conference, Provo, UT, March 14, 2014.
- Are $\text{Cay}(\mathbb{Z}, \{\pm 2^n\})$ and $\text{Cay}(\mathbb{Z}, \{\pm 3^n\})$ quasi-isometric?*, Daniel Adams, Daniel
Gulbrandsen, CURM Student Research Conference, Provo, UT, March 14, 2014.
- Exploring Properties of Cayley Graphs of with Infinite Generating Sets*, Daniel Adams,
Daniel Gulbrandsen, UCUR, Provo, UT, February 20, 2014.
- Exploring Properties of Cayley Graphs with Infinite Generating Sets*, Daniel Adams, Daniel
Gulbrandsen, UVU Math Department Seminar, Ore, UT, February 21, 2014.

RESEARCH PROJECT: *Outreach and Mentoring through Math Girls Rock! program*

Presentations:

- Encouraging High School Girls to Study Math*, Sydney Butler, Kristen Smith
UVU Engagement Week, Orem, UT, March 26, 2014.
- Encouraging High School Girls to Study Math*, Sydney Butler, Emily Stucki, Kristen Smith
Nebraska Conference for Undergraduate Women in Mathematics, January 31–
Lincoln, NE, February 2, 2014.
- Mentoring High School Girls*, Megan deJager, Kristen Smith
Student Leadership and Mentoring Conference, Orem, UT, May 3, 2013.
- Mentoring High School Girls (Through Math Girls Rock! Program)*, Megan deJager, Kristen
Smith, Scholarship of Teaching and Engagement, Orem, UT, March 28, 2013.
- Mentoring High School Girls*, Megan DeJager, Kristen Smith, Nebraska Conference for
Undergraduate Women in Mathematics, Lincoln, NE, January 25–27, 2013.
- Math Projects that Spark the Interest of High School Girls*, Joylyn Loveridge, Mary Petersen,
Victoria Trevino, Nebraska Conference for Undergraduate Women in Mathematics,
Lincoln, NE, January 27–29, 2012.

RESEARCH PROJECT: *Various Topics*

Presentations:

- Investigating Instructional Methods for High School Geometry*, Katie Graves (USD student),
IdeaFest, April 7–8, 2010, Vermillion, SD.
- Investigating Instructional Methods for High School Geometry*, Katie Graves (USD student),
MAA Sectional meeting, Vermillion, SD, April 9–10, 2010,
- Structure of a Finitely Generated Carrey Group*, Meshack Kiplagat (USD student), IdeaFest,
Vermillion, SD, March 31–April 1, 2009.
- Math Origami Projects for High School Geometry Class*, Nicholas Wulf (USD student),
IdeaFest, Vermillion, SD, April 1–2, 2008.

Selected Examples of Professional Development

(See Appendix III for a detailed list.)

DIMACS Reconnect Workshops 2019 on Cryptography

Champlain College, Burlington, VT, June 18–22, 2019

Promoting Problem Solving.

Project NExT workshop, MathFest, Denver, CO, August 2–3, 2018.

3D Printing in Calculus with Mathematica®.

Workshop, ICTCM, Washington, DC, March 17, 2018.

An Introduction to GeoGebra and Dynamic Worksheets.

Workshop, ICTCM, Washington, DC, March 16, 2018.

DIMACS Mathematics of Planet Earth 2013+ (MPE2013+) Program/Workshop: Not in My Back Yard (NIMBY).

Muhlenberg College, Allentown, Pennsylvania, June 10–14, 2018.

REUF Continuation Research Week

Iowa State University, Ames, IA, July 3–7, 2017.

CCICADA Reconnect 2017 Workshop: Mathematical and Computational tools for Energy Efficiency and Reliability of Data Centers and the Electrical Grid – Individual Interests vs. the Common Good.

Appalachian State University, Boone, NC, June 11–17, 2017.

PIC Math Data Analytics

Brigham Young University, Provo, UT, May 29–June 2, 2017.

REUF Continuation Research Week

AIM, San Jose, CA, (Skype participation), July 25–29, 2016.

CCICADA Reconnect 2016 Workshop: Cyber Security.

U.S. Military Academy, West Point, NY, June 12–18, 2016.

MAA Minicourses (at the Joint Mathematics Meetings and Math Fest).

Learning Circles, workshops, seminars, panels, fairs

Organized by the Office for Teaching and Learning, UVU, Orem, UT.

Professional Memberships

Mathematical Association of America (MAA) (<http://www.maa.org/>)

American Mathematical Society (AMS) (<http://www.ams.org/>)

Association of Women in Mathematics (AWM) (<http://www.awm-math.org/>)

Utah Association of Mathematics Teacher Educators (UAMTE)
(<http://uamte.math.byu.edu/>)

Society for Industrial and Applied Mathematics (SIAM) (<http://www.siam.org/>) (past)

Higher Education in Teaching and Learning (HETL) (<https://www.hetl.org/>) (past)

The Scientific Research Society (Sigma Xi) (<http://www.sigmaxi.org/>) (past)

Selected Conferences Attended (without Presentation)

(See Appendix IV for a detailed list.)

- Great Teacher’s Conference.** UVU, Wasatch campus, UT, October 18-20, 2018.
- Upper-Division Pathways: Mountain regional Meeting.**
Orem, UT, September 28-19, 2018.
- 34th Annual Workshop in Geometric Topology.** Provo, UT, June 8–10, 2017.
- 2nd Annual Open Education Symposium.** UVU, Orem, UT, February 9, 2017.
- Fall Conference on Teaching and Learning.** UVU, Orem, UT, September 17, 2016.

Service

Selected Examples of Service to the Mathematics Community

(See Appendix V for a detailed list.)

- Chair of the Committee on Undergraduate Students.** August 2019–present
- Member of the of the MAA Council on Communities.** August 2019–present
- Mentor Facilitator for MAA Project NExT.** Summer 2019–present.
- Consultant for MAA Project NExT.** Summer 2018–present.
- Co-organizer** of the panel session *What Every Student Should Know about the JMM*
Joint Mathematics Meetings, 2016–2020.
- Reviewer for the ICME-14.**
14th International Congress on Mathematical Education 2020, Fall 2019.
- Member of the MAA Morgan Prize Committee,** Fall 2019.
- Higher Education Academy Assessor.** Fall 2018, Summer 2018, Fall 2019.
- AP Calculus Reader** at the 2019 Annual AP Reading, Kansas City, MO, June 2019.
- Judge** for the Moody’s Mega Math (M^3) Challenge, March 2019.
- MAA Governor/Congress Representative** of the Intermountain Section
July 1, 2016–June 30, 2019.
- Member of the MAA Committee on Undergraduate Student Activities and Chapters**
January 1, 2016–August 2019
- Judge** for the Moody’s Mega Math (M^3) Challenge. 2019, 2018, 2017, 2016, 2015.
- Participant in the Cengage Focus Group:** *Expanding The Digital Mathematics Experience: An Investigation of Proofs in Online Homework,*
at the 2017 Joint Mathematics Meetings, Atlanta, GA, January 6, 2017.
- Chair** of the MAA Intermountain Sectional Meeting 2014–2016.
- Judge for the MAA Undergraduate Student Poster Session**
Joint Mathematics Meetings, 2018, 2017, 2016, 2015, 2014, 2013.
- AP Calculus Reader**
Annual AP Reading, Kansas City, MO, 2014, 2016–2019.

Service to the University

Member of the Retention, Tenure, Promotion (RTP) Advisory Committee.
Fall 2020–present.

Member of the Faculty Senate Grievance Committee (FSGC). Spring 2020–present.

Ambassador for Faculty. UVU Utah Women in Higher Education Network (UWHEN)
Chapter, Spring 2019–present.

Co-organizer of the UVU Female Faculty Forum: Path to Professor
UVU UWHEN Chapter, October 10, 2019; February 13, 2020; September 23, 2020.

Co-organizer of the UVU Female Faculty Forum: Research Discussion Group
UVU UWHEN Chapter, November 14, 2019; March 12, 2020; November 11, 2020.

Member of the Graduate Council. Fall 2018–present.

Honors Thesis Advisor for Maya Secola, Fall 2018–Spring 2019.

Math Week Committee, Fall 2011–2018.

Member of the NAPE PIPELine STEM Committee. 2014–2016.

Faculty Senate. Spring 2014–2016.

Member of the UVU STEMLink committee. Fall 2013–Spring 2014.

Member of the “Recruiting Women into STEM” committee. Fall 2011–Spring 2013.

Center for Teaching and Learning Task Force. USD, Spring 2010.

Senate. UVU, 2014–present, USD, 2008–2010.

Council on Undergraduate Research and Creative Activity. USD, 2008–2010.

IdeaFest Working Committee. USD, 2008–2010.

(USD) Chapter Vice President/Program Chair for Sigma Xi. 2007–2010.

(USD) Student Scholarship Committee at the College of Arts and Sciences.
2006–2008.

EEO Representative for the College of Arts and Sciences. USD, 2005–2010.

Hiring Committee for the Department of Physics. USD, 2005–2006.

Service to the College of Science (COS)

Participating in Various Outreach Activities

STEM like a Girl. Orem Library, March 9, 2020.

SHEroes in STEM. Thanksgiving Point, March 7, 2020.

Faculty Excellence Award Committee for the CSH, Fall 2015.

NSF Mentor, for the NSF scholar Adam Smith, UVU, Orem, UT, 2013–2014.

Service to the Department

Hiring Committee for Core Mathematics tenure-track position, Fall 2020.

Faculty Mentor for Dr. Woktor Mogilski, Fall 2020–present.

Diversity and Inclusion Committee, Chair, Fall 2020–present.

Outreach Committee, Spring 2018–present.

MATH 1050 Committee, Fall 2018–present.

Faculty Mentor for Dr. Jennifer Hooper, Fall 2016–2020.

Graduate Program Committee, Spring 2014–present.

Hiring Committee for Mathematics tenure-track position, Spring 2019.

Facilitator for Dr. James Sellers (Penn State University) department seminar talk
UVU, Orem, UT, January 28, 2019.

Hiring Committee for Mathematics tenure-track position, Spring 2016.

Undergraduate Research Committee – Chair, Spring 2015–2018.

Math Program Outcomes Committee, Fall 2012–2016.

Capstone Committee, Fall 2011.

Test Writing Committee for Utah State Math Contest, 2010–2011.

MATH 1050, Concurrent Pilot Grading (Volunteer), 2010–2011.

Coordinator for the American Mathematics Competitions. USD, 2008–2009.

**Coordinator for the Geometry Exam of the Annual USD High School Math Contest:
Marten Hasse Math Competition**. USD, 2005–2010.

Advisor of Pi Mu Epsilon. USD, 2004–2010.

Undergraduate Program Committee. USD, 2004–2010.

Assessment Program Committee. USD, 2004–2010.

Calculus Textbook Selection Committee. USD, 2005.

Departmental Committee for Appendix G. USD, 2005.

Service to the Community

Established and have been leading the outreach program *Math Girls Rock!*, to encourage girls to study mathematics, UVU, Orem, UT, 2011–present.

Co-organized the *Math, Cryptography, and Cyber Security Conference*, for high school students, UVU, Orem, UT, 2017–2018.

Co-organized the *Math-Forensics Conference: Whodunite, Howdunite, Whendunite*, for high school students, UVU, Orem, UT, 2015–2016.

Established and run the outreach program *USD Math Days for Women*, to encourage girls to study mathematics, University of South Dakota, Vermillion, SD, 2007–2010.

Republic of Macedonia-Cradle of Culture, Land of Nature. Invited Talk
Vermillion Rotary Club, Vermillion, SD. March 29, 2005.

Personal Data

Languages: Macedonian (native), English, Serbian, Croatian.

Computer Skills/Experience: Microsoft Word, Microsoft Excel, LaTeX, Power Point,
The Geometer's Sketchpad, MATLAB, GeoGebra, GAP.

Hobbies: Traveling, yoga, origami, stamping, hiking, ballroom and folk dancing.