

Curriculum Vitae

Alan R. Parry

CONTACT INFORMATION

Department of Mathematics
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EDUCATION

PhD	Mathematics	Duke University	2013
		Advisor: Hubert L. Bray	
MA	Mathematics	Duke University	2008
MS	Mathematics	Utah State University	2007
		Advisor: Ian M. Anderson	
BS	Mathematics	Utah State University	2006
		Magna Cum Laude	

PROFESSIONAL APPOINTMENTS/EMPLOYMENT

Utah Valley University - Mathematics	Associate Professor	2021 - present
Brigham Young University - Mathematics	Visiting Associate Professor	2024 - 2025
Utah Valley University - Mathematics	Department Chair	2021 - 2024
Utah Valley University - Mathematics	Associate Chair	2018 - 2021
Utah Valley University - Mathematics	Assistant Professor	2016 - 2021
University of Connecticut - Mathematics	Visiting Assistant Professor	2013 - 2016

RESEARCH INTERESTS

Election Theory, Mathematics Education, Differential Geometry, General Relativity, Mathematical Physics

PUBLICATIONS

Refereed Journal Articles

2025 Alan Parry, Daniel Havens, Michael Gundlach, Wiktor Mogilski, and Joe Simons, *Analysis Paralysis: On the Potential Overemphasis of Calculus and Analysis in the Undergraduate and Graduate Mathematics Curricula*, accepted, to appear in the Proceedings of the 28th Annual Conference on Research in Undergraduate Mathematics Education

Wiktor Mogilski and Alan Parry, *Reflective Homework System in Mathematics Courses*, Journal of Mathematics Education at Teachers College, **16** (1), 56-68, (2025), available at <https://journals.library.columbia.edu/index.php/jmetc/article/view/12575>.

2022 Alan R. Parry, *Parametrizations of the Poisson-Schrödinger Equations*, Canadian Journal of Physics, **100** (1), 27-38, (2022), available at <https://doi.org/10.1139/cjp-2020-0213>.

2018 Alan R. Parry, *A Useful Observation about the Unit Circle*, Utah Mathematics Teacher, **11**, 31-33, Fall/Winter 2018-2019, available at http://uctmarchive.weebly.com/uploads/2/6/4/7/26475011/uctm_journal_2018.pdf.

Alan R. Parry, *Graph Transformations by Variable Replacement*, Utah Mathematics Teacher, **11**, 34-48, Fall/Winter 2018-2019, available at http://uctmarchive.weebly.com/uploads/2/6/4/7/26475011/uctm_journal_2018.pdf.

2015 Hubert L. Bray and Alan R. Parry, *Modeling Wave Dark Matter in Dwarf Spheroidal Galaxies*, Journal of Physics: Conference Series, **615**, 012001, (2015), available at <http://dx.doi.org/10.1088/1742-6596/615/1/012001>.

2014 Alan R. Parry, *A Survey of Spherically Symmetric Spacetimes*, Analysis and Mathematical Physics, **4**, 333-375, (2014), available at <http://dx.doi.org/10.1007/s13324-014-0085-x>.

Research Reports and White Papers (not peer-reviewed)

2025 John Kidd and Alan Parry, *Research Update: Increased Error Rates in RCV and the Impact on Election Outcomes*, Gary R. Herbert Institute for Public Policy, (2025), available at <https://www.uvu.edu/herbertinstitute/docs/addressing-increased-error-rates.pdf>

2024 Alan Parry and John Kidd, *Addressing Concerns About Instant Runoff Voting*, Gary R. Herbert Institute for Public Policy, (2024), available at https://www.uvu.edu/herbertinstitute/docs/web_final_addressing_concerns_about_rcv_utah.pdf

John Kidd and Alan Parry, *An Evaluation of the Ranked-Choice Voting Pilot in Utah*, Gary R. Herbert Institute for Public Policy, (2024), available at https://www.uvu.edu/herbertinstitute/docs/evaluation_of_rcv_pilot.pdf

Alan Parry and John Kidd, *Summary of Recent Reports on Ranked-Choice Voting*, Gary R. Herbert Institute for Public Policy, (2024), available at https://www.uvu.edu/herbertinstitute/docs/summar_rcv.pdf

Alan Parry and John Kidd, *Deficiencies in Recent Research on Ranked Choice Voting Ballot Error Rates*, Institute for Mathematics and Democracy, (2024), available at <https://mathematics-democracy-institute.org/deficiencies-in-recent-research-on-ranked-choice-voting-ballot-error-rates/>

2023 Alan Parry, *Presentation of Election Results in Ranked Choice Voting and Voter Confidence*, Gary R. Herbert Institute for Public Policy, (2023), available at <https://www.uvu.edu/herbertinstitute/docs/2024rankedchoicevoting.pdf>.

Rachel Hutchinson and Alan Parry, *What if Voters Don't Rank All the Candidates? Inactive Ballots in Single-Choice vs. Instant Runoff Voting*, Herbert Institute for Public Policy and FairVote.org, (2023), available at <https://www.uvu.edu/herbertinstitute/docs/2024inactiveballots.pdf>.

Theses

2013 Alan R. Parry, *Wave Dark Matter and Dwarf Spheroidal Galaxies*, PhD Thesis, Duke University, Durham, NC, (2013), available at <http://arxiv.org/abs/1311.6087>.

2007 Alan R. Parry, *A Classification of Real Indecomposable Solvable Lie Algebras of Small Dimension with Codimension One Nilradicals*, Master's Thesis, Utah State University, Logan, UT, (2007), available at <http://arxiv.org/abs/1311.6069>.

ArXiv

2012 Alan R. Parry, *Spherically Symmetric Static States of Wave Dark Matter*, (2012, updated 2015), available at <http://arxiv.org/abs/1212.6426>.

Papers in Preparation

Alan R. Parry and Bob Palais, *Given Any Two Statements, One of Them Implies the Other*, in preparation

AWARDS, HONORS, DISTINCTIONS

2022 Board of Trustees Award of Excellence
Utah Valley University, February 2022

2019 Faculty Excellence Award
Utah Valley University, April 2019

2018 Fellow of the Higher Education Academy
Higher Education Academy, June 2018

2010 L.P. and Barbara Smith Award for Teaching Excellence
Duke University Mathematics Department, September 2010

2009 L.P. and Barbara Smith Award for Beginning Teachers
Duke University Mathematics Department, February 2009

2007 Math and Stat Graduate Research Award
Utah State University Mathematics and Statistics Department, April 2007

Math and Stat Graduate Teaching Award
Utah State University Mathematics and Statistics Department, April 2007

2006 Senior Academic Achievement Award
Utah State University Mathematics and Statistics Department, April 2006

2001 University Club Scholarship
Utah State University, 2001

Robert C. Byrd Scholarship
Utah State Board of Education, 2001

CERTIFICATIONS

2020 UVU Online Teaching Certification, May 2020

GRANTS

2019 Alan R. Parry, Presenting at the Joint Mathematics Meeting 2020, Faculty Senate Faculty Development Committee Travel Grant Award, October 31, 2019, Travel to: Joint Mathematics Meetings, Denver, CO, January 15-18, 2020, Amount: \$600.

2018 Alan R. Parry, *Contributing to the Differential Geometry Package in Maple - Yang Mills Solutions*, UVU Grants for Engaged Learning Quick Grant, August 16, 2018, Amount: \$1,318.24.

Alan R. Parry, *Contributing to the Differential Geometry Software and Databases in Maple*, UVU Grants for Engaged Learning Quick Grant, June 5, 2018, Amount: \$1,320.

Alan R. Parry, *Contributing to the Differential Geometry Software and Databases in Maple*, UVU College of Science Scholarly Activities Committee Scholarly Activities Grant, April 18, 2018, Amount: \$1,200.

Alan R. Parry, *Contributing to the Differential Geometry Software and Databases in Maple*, UVU College of Science Scholarly Activities Committee Summer Stipend Award, April 11, 2018, Amount: \$3,590.

GRANTS AWARDED TO SUPERVISED STUDENTS

2019 Eli Atkin (supervised by Alan R. Parry), *Creating a Database of Yang-Mills Solutions for the Differential Geometry Package in Maple*, UVU College of Science Scholarly Activities Travel Grant, April 2, 2019, Travel to: American Physical Society April Meeting, April 13-16, 2019, Amount: \$922

2018 Eli Atkin, Ryan Bevan (supervised by Alan R. Parry), *Creating a Database of Yang-Mills Solutions for the Differential Geometry Package in Maple*, UVU College of Science Scholarly Activities Committee Travel Grant, November 26, 2018, Travel to: Joint Mathematics Meetings, Baltimore, MD, January 16-19, 2019, Amount: \$1,780.

Eli Atkin, Ryan Bevan, (supervised by Alan R. Parry), *Contributing to the Differential Geometry Software and Databases in Maple - Training REU*, UVU College of Science Activities Committee Travel Grant, May 3, 2018, Travel to Dixie State University, May 11-12, 2018, Amount: \$454.

TALKS

2025 *Do We Vote the Wrong Way?*, t^3 : tea time talks, Utah Valley University, December 3, 2025

Do We Vote the Wrong Way?, BYU Mathematics Undergraduate Colloquium, Brigham Young University, November 12, 2025

Do We Vote the Wrong Way?, MAA Intermountain Section Speaker Program, Online, October 7, 2025

Addressing Concerns About Ranked Choice Voting, with John Kidd, Vineyard City Council Meeting, March 26, 2025

Utah's Launch Years Story, 24th Annual UAMTE Conference, Utah State University Eastern, March 22, 2025

Survey Research on Utah Pilot Program, with John Kidd, FairVote Academic Working Group Meeting, February 19, 2025

An Analysis of Utah's Ranked Choice Voting Pilot Program, with John Kidd, Webinar, Gary R. Herbert Institute for Public Policy, Utah Valley University, January 24, 2025, entire webinar available on YouTube at https://youtu.be/IGzx2J5W-_0?si=dgn0xv1XC_Ph47D2

Analysis Paralysis: Modern Opportunities to Reconsider the Mathematics Curriculum at All Levels, 2025 Joint Mathematics Meetings, Seattle, WA, January 8, 2025

2024 *Do We Vote the Right Way?*, Mathematics Monday: Math Factor/Math Department Seminar, Weber State University, October 21, 2024

Evaluating Utah's Ranked Choice Voting Pilot Program, Utah State Legislature Political Subdivisions Interim Committee, Utah State Capitol, October 16, 2024, entire committee meeting available at <https://le.utah.gov/av/committeeArchive.jsp?mtgID=19464> (this presentation starts about 1 hour into the meeting)

Analysis Paralysis: Modern Opportunities to Reconsider the Mathematics Curriculum at All Levels, MAA Intermountain Section Meeting 2024, Westminster University, March 30, 2024

Modern Opportunities to Reconsider the Mathematics Curriculum at All Levels, BYU Math Colloquium, Brigham Young University, January 16, 2024

2023 *What if Voters Don't Rank all the Candidates?*, with Rachel Hutchinson, RCV Network Meeting, November 15, 2023

Analysis is Wrong!, MAA Intermountain Section Meeting, Utah Tech University, March 25, 2023

2022 *The Mathematics of Ranked Choice Voting*, Universal, Utah Valley University, November 2, 2022, entire talk available on YouTube at <https://youtu.be/wNysAyRioK0>

Science Uses Math! - A Story Told with Lots of XKCD Comics, Future Science Student Day, Utah Valley University, April 15, 2022

A Pictorial Introduction to General Relativity, Mathematics Colloquium, Utah Valley University, March 18, 2022, entire talk available on YouTube at <https://youtu.be/jWa-D-v0pyk>

Master of Science in Mathematics Education at Utah Valley University, with Debanjan Bhattacharjee, Christine Walker, and Yingxian Zhu, UCTM 2022 Annual Conference, Davis High School, February 26, 2022

Given Any Two Statements, One of Them Implies the Other, with Bob Palais, t^3 : tea time talks, Utah Valley University, February 7, 2022

2021 *Mathematics is Universal*, Universal, Utah Valley University, September 16, 2021

What is Ranked Choice Voting?, t^3 : tea time talks, Utah Valley University, September 15, 2021

Given Any Two Statements, One of Them Implies the Other, MAA Intermountain Section Meeting, Brigham Young University - Idaho, Virtual Conference, March 26, 2021

2020 *Using Whiteboard/Visualizer in Live Stream*, Teaching with Technology Tune-up, Utah Valley University, November 5, 2020

Normal Vectors and Space Curves, 2020 Joint Mathematics Meetings, Denver, CO, January 17, 2020

2019 *The Day Gravity and Curvature Met*, Roots of Knowledge Lecture Series, Utah Valley University, November 14, 2019, entire talk available on YouTube at https://www.youtube.com/watch?v=3t_Y35iwiVM

Wibbly-Wobbly Timey-Wimey Geometry, 2019 UMATYC Conference, Utah Valley University, November 2, 2019

Skiing Deeper into Slope, with Jennifer Hooper, NCTM 2019 Regional Conference, Salt Lake City, UT, October 18, 2019

The Generalized Stokes Theorem, Mathematics Colloquium, Utah Valley University, April 19, 2019, entire talk available on YouTube at <https://www.youtube.com/watch?v=8-kH8LPtjjo>

2018 *A Useful Observation of the Unit Circle*, UCTM 2018 Annual Conference, Draper Park Middle School, October 12-13, 2018

2017 *The Cat in the Hat is a Little Abstract*, Mathematics Colloquium, Utah Valley University, November 10, 2017, entire talk available on YouTube at <https://www.youtube.com/watch?v=lg99onjzbNI>

Classifying Solvable Lie Algebras, 2nd Annual Idaho/Utah Geometry Rendezvous, Idaho State University, October 28, 2017

Who Has the Power?, Mathematics Colloquium, Utah Valley University, March 31, 2017, entire talk available on YouTube at <https://www.youtube.com/watch?v=dNxqdIGaWIw>

The Courtship of Freedom and Manipulation: An Immutable Union, Mathematics Colloquium, Utah Valley University, March 17, 2017, entire talk available on YouTube at <https://www.youtube.com/watch?v=jWIEdSJqASk>

Manipulation, Lies, and Elections, Mathematics Colloquium, Utah Valley University, March 10, 2017, entire talk available on YouTube at <https://www.youtube.com/watch?v=oSaCubC1U1U>

2016 *Wave Dark Matter and Galactic Dynamics*, Mathematics Colloquium, Utah Valley University, November 18, 2016

A Pictorial Introduction to General Relativity, Mathematics Colloquium, Utah Valley University, November 11, 2016

Classifying Low-Dimensional Solvable Lie Algebras, DG Rendezvous 2016, Utah State University, November 5, 2016

Wibbly-Wobbly Timey-Wimey Geometry, Mathematics Colloquium, Utah Valley University, November 4, 2016

Black Holes Suck!, UConn Physics Club, University of Connecticut, April 8, 2016

Parametrizations of the Poisson-Schrödinger Equations in Spherical Symmetry, AMS Sectional Meeting: Special Session on Mathematical General Relativity, SUNY Stony Brook, March 19-20, 2016

Geometric Flows in General Relativity, AMS Sectional Meeting: Special Session on PDE Methods in Geometric Flows, SUNY Stony Brook, March 19-20, 2016

The Einstein-Klein-Gordon Equations and Wave Dark Matter, California State University - Sacramento, February, 23, 2016

Wibbly-Wobbly Timey-Wimey Geometry, Undergraduate Talk, Texas Christian University, February 18, 2016

A Light in the Darkness: What Curvature has to do with Dark Matter, Mathematics Colloquium, Brigham Young University, January 28, 2016

2015 *Shedding Light on Dark Matters*, PDE and Differential Geometry Seminar, University of Connecticut, December 7, 2015

Wibbly-Wobbly Timey-Wimey Geometry, UConn Math Club, University of Connecticut, September 16, 2015

Wave Dark Matter and Galactic Dynamics, RIT Astrophysics Group Lunch Seminars, Rochester Institute of Technology, March 18, 2015

2014 *Gravitational Monsters in the Dark*, UConn Astronomy Association, University of Connecticut, November 18, 2014

Black Holes Suck!, S.I.G.M.A. Seminar, University of Connecticut, November 14, 2014

Modeling Wave Dark Matter in Dwarf Spheroidal Galaxies, IARD 2014, University of Connecticut, June 9-13, 2014

Wibbly-Wobbly (and Perhaps Timey-Wimey) Geometry, Early College Experience Recertification Workshop, University of Connecticut, May 19, 2014

2013 *A Pictorial Introduction to General Relativity*, UConn Math Club, University of Connecticut, October 23, 2013

Understanding the Gravity of the Situation, S.I.G.M.A. Seminar, University of Connecticut, September 27, 2013

Mathematics Meets Astrophysics: An Overview of General Relativity and Dark Matter in Galaxies, PDE Seminar, Vanderbilt University, April 12, 2013

Modeling Wave Dark Matter in Dwarf Spheroidal Galaxies, High-Energy Theory and Cosmology Seminar, Vanderbilt University, April 12, 2013

Mathematics Meets Astrophysics: An Overview of General Relativity and Dark Matter in Galaxies, PDE and Differential Geometry Seminar, University of Connecticut, April 1, 2013

Mathematics Meets Astrophysics: An Overview of General Relativity and Dark Matter in Galaxies, Mathematics Colloquium, Brigham Young University, February 7, 2013

2012 *Modeling Wave Dark Matter in Dwarf Spheroidal Galaxies*, Miami 2012, Sponsored by the Physics Department at the University of Miami, December 13-20, 2012

Modeling Wave Dark Matter in Dwarf Spheroidal Galaxies, Math-Physics Colloquium, Lafayette College, October 3, 2012

A Pictorial Introduction to General Relativity, Mathematical Adventures and Diversions Talk, Lafayette College, October 3, 2012

Modeling Wave Dark Matter in Dwarf Spheroidal Galaxies, Geometry and Physics Seminar, University of Miami, September 26, 2012

Modeling Wave Dark Matter in Dwarf Spheroidal Galaxies, Geometry/Topology Seminar, Duke University, September 4, 2012

Crazy Cosmological Correlations and How General Relativity Has and Might Continue to Explain Them, Graduate/Faculty Seminar, Duke University, April 20, 2012

Dark Matter Matters, First Annual Math Slam, Duke University, March 23, 2012

PANELS

2024 *What Do Utahns Think About Elections?*, The Election Trust Forum, Gary R. Herbert Institute for Public Policy, Utah Valley University, May 7, 2024, Role: Panel Moderator

Municipal Ranked Choice Elections: Lessons Learned from the Pilot, Utah Ranked Choice Voting, February 12, 2024, Role: Panel Member and Speaker

Herbert Panel: Elections Security and Voter Confidence in the 2024 Election, Gary R. Herbert Institute for Public Policy, Utah Valley University, January 29, 2024, Role: Panel Member and Speaker

2015 *Preparing for Math Graduate School Panel Discussion*, UConn Math Club, University of Connecticut, April 22, 2015, Role: Panel Member

MEDIA APPEARANCES

2025 *Interview with Instant Runoff Voting Mathematician Dr. Alan Parry*, Long Live Alternative Parties Podcast, August 30, 2025, available at <https://youtu.be/VQaqzjQ5n2M?si=WGk04rbTKLYiceJe>

Mathematics professor explains ranked choice voting by Roger Goldman, Interview with Alan Parry, KPCW, February 21, 2025, available at <https://www.kpcw.org/show/local-news-hour/2025-02-21/mathematics-professor-explains-ranked-choice-voting>

2024 *Study from Utah Valley University refutes No on 3 campaign's claims of ballot errors caused by voter confusion* by Molly Ellery, Report on Kidd and Parry paper *Deficiencies in Recent Research on Ranked Choice Voting Ballot Error Rates*, WJHL.com, October 22, 2024, available at <https://www.wjhl.com/business/press-releases/ein-presswire/753618614/study-from-utah-valley-university-refutes-no-on-3-campaigns-claims-of-ballot-errors-caused-by-voter-confusion/>

Opinion: Why are Utah lawmakers set to abandon ranked choice voting? by Jay Evensen, Result of Interview with Alan Parry, Deseret News, February 16, 2024, available at <https://www.deseret.com/opinion/2024/2/16/24074274/utah-ranked-choice-voting-conservatives/>

Report says confidence in ranked choice voting could be improved through better data, by Logan Stefanich, Report on January 2024 Herbert Institute Panel, KSL.com, January 31, 2024, available at <https://www.ksl.com/article/50861126/report-says-confidence-in-ranked-choice-voting-could-be-improved-through-better-data>

ACADEMIC CONFERENCES

Organizer

2022 MAA Intermountain Section Meeting, Utah Valley University, March 25-26, 2022,
Role: Organizing Committee Member

2018 Learning to Use Maple Research Experience for Undergraduates, Dixie State University, May 11-12, 2018, Role: Co-organizer with Dr. Jesse Hicks and Presenter

Speaker

2025 24th Annual UAMTE Conference, Utah State University Eastern, March 22, 2025,
Role: Speaker

2025 Joint Mathematics Meetings, Seattle, WA, January 8-11, 2025, Role: Speaker

2024 MAA Intermountain Section Meeting, Westminster University, March 29-30, 2024,
Role: Speaker

2023 MAA Intermountain Section Meeting, Utah Tech University, March 24-25, 2023, Role:
Speaker

2022 UCTM 2022 Annual Conference, Davis High School, February 26, 2022, Role: Speaker

2021 MAA Intermountain Section Meeting, Brigham Young University - Idaho, Virtual
Conference, March 26-27, 2021, Role: Speaker

2020 Teaching with Technology Tune-up (T3), Utah Valley University, November 2-15,
2020, Role: Speaker

2020 Joint Mathematics Meetings, Denver, CO, January 15-18, 2020, Role: Speaker,
Session Moderator, and Undergraduate Poster Judge

2019 2019 UMATYC Conference, Utah Valley University, November 2, 2019, Role: Speaker

NCTM 2019 Regional Conference, Salt Lake City, UT, October 18, 2019, Role: Speaker

2018 UCTM 2018 Annual Conference, Draper Park Middle School, October 12-13, 2018,
Role: Speaker

2017 2nd Annual Idaho/Utah Geometry Rendezvous, Idaho State University, October 27-28,
2017, Role: Speaker

2016 DG Rendezvous 2016, Utah State University, November 4-5, 2016, Role: Speaker

AMS Sectional Meeting, SUNY Stony Brook, March 19-20, 2016, Role: Speaker at
Special Sessions on Mathematical General Relativity and on PDE Methods in Geometric Flows

2014 IARD 2014 - The 9th Biennial Conference on Classical and Quantum Relativistic Dynamics of Particles and Fields, University of Connecticut, June 9-13, 2014, Role: Speaker

2012 Miami 2012 - A Topical Conference on Elementary Particles, Astrophysics, and Cosmology, Sponsored by the Physics Department at the University of Miami, December 13-20, 2012, Role: Speaker

Staff

2012 MSRI Summer Graduate Workshop on Mathematical General Relativity, MSRI, July 9-20, 2012, Role: Teaching Assistant

27th Annual Geometry Festival, Duke University, April 27-29, 2012, Role: Attendee/Technology Liaison

Attendee

2025 Launch Years Initiative Learning Exchange, Charles A. Dana Center, University of Texas at Austin, Austin, TX, February 27-28, 2025, Role: Attendee (Utah state team member)

2024 Launch Years Initiative State Math Pathways Learning Exchange, Charles A. Dana Center, Anaheim, CA, February 5-6, 2024, Role: Attendee (Utah state team member)

2023 Building a Conservative Agenda for Democracy: National Conference, SNF Agora Institute at Johns Hopkins and R Street Institute, Washington DC, November 6-8, 2023, Role: Attendee

Scaling Data Science in Utah: State Data Science Education Summit, DOMO, American Fork, UT, September 12, 2023, Role: Attendee

2022 Launch Years Initiative All-State Kickoff, Charles A. Dana Center, The University of Texas at Austin, November 2-3, 2022, Role: Attendee (Utah state team member)

2019 MAA Intermountain Section Meeting, Southern Utah University, April 12-13, 2019, Role: Attendee

CUR: Broadening Participation Institute, Whitworth University, March 22-24, 2019, Role: Attendee

UCUR 2019, 13th Annual Utah Conference on Undergraduate Research, Weber State University, February 22, 2019, Role: Attendee/Faculty Mentor to Student Presenters

2019 Joint Mathematics Meetings, Baltimore, MD, January 17-19, 2019, Role: Attendee and Undergraduate Poster Judge

2018 MAA Intermountain Section Meeting, Utah State University, March 23-24, 2018, Role: Attendee

2nd Annual Intermountain Teaching for Learning Conference, Nevada State College, March 15-16, 2018, Role: Attendee

2017 ALEKS Symposium, Denver, CO, April 7, 2017, Role: Attendee

2016 2016 Joint Mathematics Meetings, Seattle, WA, January 6-9, 2016, Role: Attendee

2013 PCMI Graduate Summer School 2013, PCMI, June 30 - July 20, 2013, Role: Attendee/Student

43rd Barrett Memorial Lectures on the Proof of the Willmore Conjecture, University of Tennessee, Knoxville, May 4-5, 2013, Role: Attendee

2013 Joint Mathematics Meetings, San Diego, CA, January 9-12, 2013, Role: Attendee

2012 Southeastern Geometry Seminar XXI, University of Tennessee, Knoxville, December 9, 2012, Role: Attendee

2011 41st Barrett Memorial Lectures in Mathematical Relativity, University of Tennessee, Knoxville, May 11-14, 2011, Role: Attendee

SCHOLARLY YOUTUBE VIDEO CONTENT

Scholar Sauce

2025 *Merry Mathmas Carols!*, December 1, 2025, Video Link

Every Type of Math in 42 Minutes (Compilation), November 1, 2025, Video Link

Math Professor and his Computer Science Major Son React to Animation vs. Coding, September 12, 2025, Video Link

5 Math Terms that Were Named Wrong, May 31, 2025, Video Link

Math Professor Reacts to Animation vs. Physics, April 14, 2025, Video Link

When π is NOT π ?, March 14, 2025, Video Link

Pythagorean Theorem in a Trapezoid?!? - The Pythagorean President, February 19, 2025, Video Link

5 Reasons Why $0.999\overline{9}$ Repeated = 1, February 7, 2025, Video Link

Using Math to Reorganize the NFL Playoffs, February 4, 2025, Video Link

Math Professor Reacts to Animation vs. Math, January 21, 2025, Video Link

From Whence Came the Quadratic Formula?, January 4, 2025, Video Link

2024 *Something Awesome is Coming this Year!*, December 27, 2024, Video Link (This is a trailer for the channel to attract new viewship.)

Every Type of Math in 7 Minutes - Part 5: Statistics, December 23, 2024, Video Link

Every Type of Math in 7 Minutes - Part 4: Discrete Mathematics, December 12, 2024, Video Link

Every Type of Math in 9 Minutes - Part 3: Geometry and Topology, November 29, 2024, Video Link

Every Type of Math in 11 Minutes - Part 2: Algebra, November 18, 2024, Video Link

Every Type of Math in 7 Minutes - Part 1: Calculus and Analysis, November 10, 2024, Video Link

Do We Vote the Wrong Way?, November 3, 2024, Video Link

Math Professor Reacts to Animation vs. Geometry, July 23, 2024, Video Link

Every Number Does This!, **Short**, April 26, 2024, Video Link

Weird Ways to Use Calculators..., **Short**, April 19, 2024, Video Link

The Amazing World of Sad Numbers (And Happy Ones Too)!, **Short**, April 12, 2024, Video Link

How to Win Let's Make a Deal!, **Short**, March 22, 2024, Video Link

What the Heck Does Infinite Even Mean?, **Short**, March 15, 2024, Video Link

Does the Bible Get π Wrong?, March 14, 2024, Video Link

An Odd Place for Euler's Number..., **Short**, March 8, 2024, Video Link

No Deck of Cards Has Been Shuffled the Same Way Twice!, **Short**, March 1, 2024, Video Link

Math Facts That Sound Fake But Are Actually True! - Part 3, February 26, 2024, Video Link

I Bet Two of You Have the Same Birthday!, **Short**, February 23, 2024, Video Link

Polynomials that You Can't Solve?!, **Short**, February 16, 2024, Video Link

What was Fermat's Last Theorem?, **Short**, February 9, 2024, Video Link

How to Make a Möbius Strip and a Klein Bottle, **Short**, February 2, 2024, Video Link

How Big is a Googol?, **Short**, January 26, 2024, Video Link

i^i is a Real Number?!, **Short**, January 19, 2024, Video Link

The Coolest Fact I Know!, **Short**, January 12, 2024, Video Link

Some Infinite Sums Can Add to Anything!, **Short**, January 5, 2024, Video Link

2023 *0.999 Repeated = 1?*, **Short**, December 29, 2023, Video Link

What's the Deal with Euclid's Vth Postulate? (Part 2), December 28, 2023, Video Link

An Infinite Number of Mathematicians Walk Into a Bar..., **Short**, December 22, 2023, Video Link

What's the Deal with Euclid's Vth Postulate? (Part 1), December 21, 2023, Video Link

An Infinite Number of Tasks?, **Short**, December 15, 2023, Video Link

How Many Convex Regular Polyhedra Are There?, **Short**, December 8, 2023, Video Link

What Makes a Prime Number?, **Short**, December 1, 2023, Video Link

How Many Moves Does it Take to Solve a Rubik's Cube?, **Short**, November 24, 2023, Video Link

6 Weeks is Exactly 10! Seconds?, **Short**, November 17, 2023, Video Link

The Unpaintable Paint Can!, **Short**, November 10, 2023, Video Link

Math Facts that Sound Fake But Are Actually True! - Part 2, November 1, 2023, Video Link

How are those Math Facts that Sound Fake Actually True?!?, September 13, 2023, Video Link

Math Facts that Sound Fake But Are Actually True!, September 2, 2023, Video Link

An Engineer, a Physicist, and a Mathematician Wake Up in a Burning Hotel..., August 4, 2023, Video Link

The Building is Empty, **Short**, August 4, 2023, Video Link

Classic JRPG World Maps aren't Spheres?!?, July 28, 2023, Video Link

Ever Had an Imaginary Moment?, **Short**, July 28, 2023, Video Link

Flat Map Morphs Into A Globe Or Does It!, **Short**, July 15, 2023, Video Link

You Better Sit Down for this One, **Short**, July 14, 2023, Video Link

There Are No Horses of a Different Color!, July 12, 2023, Video Link

A Mathematician Smells Fire, **Short**, July 7, 2023, Video Link

A Professor's Coke Addiction, **Short**, June 30, 2023, Video Link

Is π Really Wrong?, with Bob Palais, June 28, 2023, Video Link

Crickets Laugh at Me, **Short**, June 23, 2023, Video Link

So is Your Grade!, **Short**, June 9, 2023, Video Link

Stop Saying π is Infinite, March 14, 2023, Video Link

Negative Operations, **Short**, January 27, 2023, Video Link

2022 *Having the Same Birthday is Way More Likely Than You Thought*, **Short**, December 29, 2022, Video Link

Mathematicians React to Hilarious Math Memes #2, with Zach Hurdle and Wiktor Mogilski, December 23, 2022, Video Link

Alternate Dimensions!, **Short**, December 16, 2022, Video Link

There are Just as Many Even Numbers as Numbers?, **Short**, December 9, 2022, Video Link

Triangles - Smash Study Trigonometry #2, November 26, 2022, Video Link

Mathematicians React to Math Memes and Comics #1, November 15, 2022, Video Link

Why Ranked Choice Voting?, November 6, 2022, Video Link

The Angle Sum of a Triangle is NOT 180 Degrees?, September 19, 2022, Video Link

Angles - Smash Study Trigonometry #1, August 11, 2022, Video Link

Is Math Invented or Discovered?, July 29, 2022, Video Link

A Line is NOT the Shortest Distance Between Two Points?, July 22, 2022, Video Link

Mathematical Structures, July 6, 2022, Video Link

What is Calculus?, June 22, 2022, Video Link

General Relativity in Pictures!, March 29, 2022, Video Link

2021 *PEMDAS is a Lie*, November 2, 2021, Video Link

The Generalized Stokes Theorem, October 7, 2021, Video Link

Does Ranked Choice Voting Work?, March 14, 2021, Video Link

How to Count to Infinity!, February 21, 2021, Video Link

2020 *How can 2 Planets Fit in the Same Telescope View?*, December 23, 2020, Video Link

TrigonomerTreats

2025 *How to Compute the Cumulative Annual Growth Rate (CAGR) in a Spreadsheet*, August 16, 2025, Video Link

Population and Compound Interest in Spreadsheets, August 15, 2025, Video Link

How to Use VLOOKUP to Search a Table for Data in a Spreadsheet, August 14, 2025, Video Link

How to Create If-Then Commands in Spreadsheets, August 13, 2025, Video Link

How to Use Random Numbers in a Spreadsheet, August 12, 2025, Video Link

Formatting a Cell the Way You Want, August 11, 2025, Video Link

Cell Referencing Made Easy!, August 9, 2025, Video Link

Fixing Formula Spreadsheet Errors, August 8, 2025, Video Link

Eigenvalues, Eigenvectors, and Eigenspaces, Oh My!, May 22, 2025, Video Link

The Intermediate Value Theorem for Beginners, May 19, 2025, Video Link

Fixing a Continuity Error in a Function, May 17, 2025, Video Link

Computing a Limit Using the Limit Laws, May 9, 2025, Video Link

The Secret To Memorizing the Unit Circle, April 19, 2025, Video Link

Related Rates - Solving an Example, April 6, 2025, Video Link

Integration by Parts Made Easy!, January 30, 2025, Video Link

How to Find the Equation of a Line that is Parallel or Perpendicular to Another Line, January 14, 2025, Video Link

How to Find the Equation of a Line - Part 2, January 14, 2025, Video Link

How to Find the Equation of a Line - Part 1, January 14, 2025, Video Link

How to Find the Slope and y-intercept of a Line Given by an Equation, January 14, 2025, Video Link

Find the Slope Between Two Points, January 14, 2025, Video Link

How to Solve a Word Problem on Equations of Curves, January 13, 2025, Video Link

Are These Points on this Curve? - Part 2, January 13, 2025, Video Link

Are These Points on this Curve? - Part 1, January 13, 2025, Video Link

2023 *Why Should You Care About Factoring?*, October 5, 2023, Video Link

Factoring Some Complicated Trinomials, October 4, 2023, Video Link

Three Factoring Examples with the AC No Guess Method, October 3, 2023, Video Link

How to Factor Trinomials without Guessing any Factors, October 2, 2023, Video Link

What is the Pythagorean Theorem Good For Anyway?, September 21, 2023, Video Link

Using Distance to Understand Circles!, September 20, 2023, Video Link

Computing the Distance Between Two Points, September 19, 2023, Video Link

How Do We Know this is the Distance Formula?, September 18, 2023, Video Link

Searing Scovilles

2023 *Sally Rocks Skis Backwards Off a Cliff While Torching through Spicy Nuggets*, with Sally Rocks and Zach Hurdle, October 11, 2023, Video Link (Originally released on Scholar Sauce on June 16, 2023)

Sally Rocks Skis Backwards Off a Cliff and Eats Spicy Nuggets, **Short**, with Sally Rocks, October 11, 2023, Video Link (Originally released on Scholar Sauce on June 16, 2023)

How Hot is Scholar Sauce? ft. Dr. Sally Rocks, with Sally Rocks, October 4, 2023, Video Link (Originally released on Scholar Sauce on March 17, 2023)

How Hot is Scholar Sauce?, **Short**, with Sally Rocks, October 4, 2023, Video Link (Originally released on Scholar Sauce on March 17, 2023)

Ellis Jensen Pickles Eggs and Plays a Digeridoo While Blazing through Spicy Nuggets, with Ellis Jensen, September 27, 2023, Video Link (Originally released on Scholar Sauce on March 10, 2023)

Ellis Jensen Plays a Digeridoo While Eating Spicy Nuggets, **Short**, with Ellis Jensen, September 27, 2023, Video Link (Originally released on Scholar Sauce on March 10, 2023)

Lauren Brooks Talks about Poop while Eating Spicy Cauliflower, with Lauren Brooks and Zach Hurdle, September 20, 2023, Video Link (Originally released on Scholar Sauce on December 1, 2022)

Lauren Brooks Talks Poop and Eats Spicy Cauliflower, **Short**, with Lauren Brooks, September 20, 2023, Video Link (Originally released on Scholar Sauce on December 1, 2022)

Danny Horns Stays Cool as Ice While Eating Spicy Nuggets, with Daniel Horns and Zach Hurdle, September 13, 2023, Video Link (Originally released on Scholar Sauce on November 1, 2022)

Alan Parry Wants You to Love Math While Eating Spicy Nuggets, with Zach Hurdle, September 6, 2023, Video Link (Originally released on Scholar Sauce on October 6, 2022)

UVU Office Hours

2022 *Factoring Trinomials Using the AC Method*, December 8, 2022, Video Link

Addition of Logs Simplified, November 17, 2022, Video Link

How to Subtract Logarithms, October 17, 2022, Video Link

How to Memorize the Unit Circle for Trigonometry, September 15, 2022, Video Link

BlueMarbleScience

2023 *Blue and Scholar Sauce Destroy Try Thinking*, BlueMarbleScience, December 15, 2023, Video Link

SERVICE

Professional Service

Faculty Fellow of the Gary R. Herbert Institute for Public Policy, Utah Valley University, October 2023 - present

USHE/CBMS Early College Pathways Steering Committee, Co-Lead, July 2022 - present

USHE/CBMS Pathways Leadership Committee, Launch Years Initiative, July 2022 - present

Reviewer for the Journal of Mathematical Physics, 2022

USHE Faculty Mathematics Major Committee, February 2020 - May 2024; Chair, February 2020 - May 2024

Reviewer for Classical and Quantum Gravity, 2019

UVU Faculty Senate Policy Liaison, April 2019 - June 2021

UVU Mathematics Department Transfer Articulation, August 2017

UVU Faculty Senate, April 2017 - April 2020

Organizer for the PDE and Differential Geometry Seminar in the University of Connecticut Mathematics Department, January 2014 - May 2016

Reviewer for the Canadian Journal of Physics, 2013

Committee Service

UVU Mathematics Department Undergraduate Activities Committee, Co-chair, August 2025 - present

UVU College of Science Curriculum Committee, August 2025 - present

UVU Mathematics Department Curriculum Committee, Chair, August 2025 - present

UVU Mathematics Department Utah State Math Competition Registration Committee, September 2023 - April 2024

UVU Mathematics Department RTP Criteria Revision Committee, September 2022 - May 2024

UVU Mathematics Department Hiring Committee - Administrative Assistant III, September 2021

UVU Department Chair Policy Drafting Committee, April 2021 - February 2024; Chair, February 2022 - August 2022

UVU Mathematics Department Hiring Committee - Lecturer, April 2021 - June 2021

UVU Mathematics Department Hiring Committee - Tenure-Track Mathematics Faculty, September 2020 - June 2021

UVU Course Materials Policy Drafting Committee, August 2020 - February 2024

UVU Department Chair Policy Task Force, August 2020 - May 2021

UVU Search Committee - Associate Vice President of Academic and Student Digital Services, June 2020 - September 2020

UVU Mathematics Department Hiring Committee - Non Tenure Track Lecturer, June 2020 - August 2020

UVU Policy Coordinator Committee, February 2020 - June 2021

UVU College of Science Faculty Excellence Awards Selection Committee, January 2020 - February 2020

UVU Mathematics Department Hiring Committee - Tenure Track Mathematics Faculty, January 2020 - April 2020

UVU University Governance Committees Policy Drafting Committee, December 2019 - April 2020

UVU Faculty Separation Task Force, December 2019 - June 2021

UVU Search Committee - College of Science Dean, October 2019 - March 2020

UVU Enrollment Management Policy Review Committee, October 2019 - June 2021

UVU Faculty Web Resources Task Force, October 2019 - January 2022

UVU GE Transfer Credit Task Force, August 2019 - September 2019

UVU Academic Scheduling Committee, July 2019 - June 2021

UVU Faculty Senate Executive Committee, April 2019 - June 2021

UVU Faculty Sabbatical Leave Policy Drafting Committee, April 2019 - February 2024, Chair, April 2019 - August 2022

UVU Faculty Evaluation of Administrators Policy Drafting Committee, Chair, April 2019 - June 2021

UVU Policy Subcommittee, April 2019 - June 2021

UVU SCULPT, February 2019 - present

UVU Mathematics Department Hiring Committee - Course Manager, Chair, January 2019 - May 2019

UVU Mathematics Department Hiring Committee - Tenure Track Actuarial Science Emphasis, January 2019 - May 2019

UVU Data Science Program Committee, January 2019 - September 2020

UVU Faculty Workload Task Force, Chair, December 2018 - April 2019

UVU Mathematics Leadership Committee, August 2018 - June 2024

UVU College of Science Curriculum Committee, August 2018 - September 2019

UVU Mathematics Department Curriculum Committee, Chair, August 2018 - September 2019

UVU Mathematics Department Graduate Committee, August 2018 - August 2021

UVU Mathematics Department Executive Committee, August 2018 - June 2024; Chair, July 2021 - June 2024

UVU Shared Governance Committee, April 2018 - April 2019; Chair, January 2019 - April 2019

UVU College of Science Faculty Excellence Awards Selection Committee, January 2018 - February 2018

UVU Mathematics Department Math 2000 Committee, May 2017 - April 2019; Chair, May 2017 - August 2018

UVU Academic Technology Steering Committee, April 2017 - April 2019

UVU Math Club Committee, April 2017 - August 2018

UVU Mathematics Department Math 1055 Committee, April 2017 - August 2018

UVU Mathematics Department Building a Bridge Between Two Departments Committee, February 2017 - August 2018

UVU Mathematics Department Undergraduate Research Committee, August 2016 - August 2018

UVU Mathematics Department Outreach Committee, August 2016 - August 2018

Duke Mathematics Department Calculus Textbook Selection Committee, February 2013 - March 2013

Duke Mathematics Department Calculus Committee, January 2010 - June 2013

Service Presentations/Panels

2025 *Faculty Panel - New Faculty Orientation*, Utah Valley University, August 11, 2025, Role: Panel Member

2024 *Department Chair Workshop Panel*, Utah Valley University, October 15, 2024, Role: Panel Member

Faculty Panel - New Faculty Orientation, Utah Valley University, August 12, 2024, Role: Panel Member

2023 *New Department Chair Academy Panel*, Utah Valley University, May 12, 2023, Role: Panel Member

OUTREACH

2025 Utah State Math Competition, Assisted with facilitating the exam by checking schools in on the day of the exam, March 10, 2025

UVU Math Club Election of π vs. τ 2020, Represented π in the debate and election, Utah Valley University, October 2020 - November 2020, full debate on October 30, 2020 available on YouTube at <https://www.youtube.com/watch?v=9qu0FYuc4KY&t=480s>.

UVU Math Club Election of π vs. τ 2016, Represented π in the debate and election, Utah Valley University, September 2016 - November 2016, full debate on October 11, 2016 available on YouTube at <https://www.youtube.com/watch?v=iJSrU39JiA4>.

UVU Mathematics Alumni Association Coordinator, August 2016 - August 2018

University of Connecticut Physics Department Special Awards Judge for Connecticut Science & Engineering Fair, Quinnipiac University, March 15-19, 2016

Event Organizer for 1st Annual UConn Multi-Department STEM-fest High School Outreach, University of Connecticut, May 14, 2015

PROFESSIONAL DEVELOPMENT

2022-2023 Utah Valley Senior Executive Leadership Forum (UVSELF), Utah Valley University

2021-2022 UVULEAD, Supervisor Seminar Series, Utah Valley University

UNDERGRADUATE RESEARCH PROJECTS MENTORED

2024-2025 Dylan Evans and Sam Lundberg, *RCV Methods, Network Centrality, and Prevalence of Voting Pathologies*, Brigham Young University

2020-2022 Franklin Maxfield, *Viviani's n Vertices*, Utah Valley University

2019-2022 Daniel Havens, *Evolutes that don't Evolve*, Utah Valley University

2018-2020 Eli Atkin and Ryan Bevan, *Creating a Database of Solutions to the Yang-Mills Equations for the Differential Geometry Package in Maple*, Utah Valley University

SENIOR THESES SUPERVISED

2015 Zachary Cohen, *Schwarzschild Spacetime and Friedmann-Lemaître-Robertson-Walker Cosmology*, University of Connecticut, Completed June 2015

CURRICULUM DEVELOPMENT

Utah Valley University

Courses Created

MATH 3755	Financial Mathematics Laboratory Created with Patrick Ling (2024)
STAT 4715	Mathematical Statistics - Probability and Statistics Laboratory Created with Patrick Ling (2024)
MATH 6330	Advanced Linear Algebra Created with Bob Palais (2020)
MATH 489R	Undergraduate Research in Mathematics Minor addition to course offerings (2019)
MATH 1080	Precalculus QL Created at request by USHE (2018)
MATH 290R	Topics in Mathematics Minor addition to course offerings (2018)
MATH 3250	Introduction to Advanced Calculus Created with David Fearnley, Christine Merrin, and Bob Palais (2018)
MATH 4100	Differential Geometry of Curves and Surfaces Created with Bob Palais (2018)
MATH 2000	Algebraic Reasoning with Modeling QL Chaired development committee (2017)

Utah Valley University

Programs Created

Master of Science Mathematics Education
Created with Bob Palais, Christine Walker, and the Mathematics Department Graduate Committee (2020)

TEACHING EXPERIENCE

Utah Valley University

Courses Taught

Advanced Linear Algebra (Graduate)	Spring 2023, Spring 2026
Theory of Linear Algebra	Spring 2019, Spring 2020, Spring 2022, Spring 2024, Spring 2026
Introduction to Modern Algebra I	Fall 2018
Diff. Geom. of Curves and Surfaces	Fall 2019
Discrete Mathematics	Spring 2018
Foundations of Analysis	Spring 2017

Foundations of Geometry	Fall 2017, Spring 2018, Spring 2019, Fall 2019, Spring 2020, Fall 2020, Spring 2021, Fall 2022, Fall 2025, Spring 2026
Geometry for Mid. School Math Teachers	Summer 2023
Diff. Equations and Linear Algebra	Summer 2020, Fall 2020, Summer 2021, Fall 2025
Calculus III	Fall 2018, Spring 2019, Spring 2021, Summer 2024
Math for Elem. Teachers II	Summer 2022, Summer 2024
Calculus II	Spring 2017, Spring 2018, Summer 2020, Summer 2021
Calculus I	Fall 2016, Summer 2017, Fall 2017, Summer 2018, Summer 2019, Summer 2025 (2 sections), Fall 2025
Introduction to Calculus	Fall 2016
Trigonometry	Fall 2016, Summer 2017, Spring 2026
College Algebra	Spring 2017, Summer 2019
Math Leap (MATH 100R or workshop)	Summer 2017, Fall 2017 (5 sections), Spring 2018, Summer 2018 (5 sections), Fall 2018 (3 sections), Summer 2020 (2 sections), Fall 2025

Brigham Young University Courses Taught

Elementary Linear Algebra Fall 2024 (3 sections), Winter 2025 (3 sections)

University of Connecticut Courses Taught

Elements of Topology	Spring 2016
Mathematical Writing Seminar	Fall 2015, Spring 2016
Transitions to Advanced Mathematics	Fall 2014
Geometry	Spring 2014, Spring 2015, Fall 2015
Applied Linear Algebra	Fall 2013, Spring 2015, Summer 2015
Honors Multivariable Calculus	Fall 2014
Honors Calculus II	Spring 2014
Honors Calculus I	Fall 2013
Calculus I	Summer 2014, Summer 2016
Calculus for Business and Economics	Winter Intersession 2016
Precalculus	Winter Intersession 2014, Winter Intersession 2015

Duke University - Graduate Student Instructor Courses Taught

Laboratory Calculus I	Spring 2011
One Variable Calculus	Fall 2010
Laboratory Calculus and Functions I	Fall 2008, Summer 2009, Fall 2009, Spring 2010, Summer 2010

Lab TA

Laboratory Calculus II Fall 2007

**Utah State University - Graduate Student Instructor
Courses Taught**

Single Variable Calculus I	Summer 2007
College Algebra	Fall 2006, Spring 2007
Intermediate Algebra	Spring 2006, Summer 2006