

Denise Halverson

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Objective

To foster a culture of agent accountability and organizational learning to authentically and meaningfully endeavor in the mission of BYU.

Education

PH.D. | 1994-1999 | UNIVERSITY OF TENNESSEE, KNOXVILLE

- Mathematics

M.S. | 1992-1994 | BRIGHAM YOUNG UNIVERSITY

- Mathematics

B.S. | 1984-1989 | BRIGHAM YOUNG UNIVERSITY

- Physics and Mathematics

TEACHING CERTIFICATIONS | 1984-1992 | BRIGHAM YOUNG UNIVERSITY

- Secondary Education
- Mild/Moderate Special Education

Additional Training

GRADUATE COURSES IN EDUCATION | 2017-PRESENT | BRIGHAM YOUNG UNIVERSITY

- Educational Psychology
- Educational Leadership

TRANSFORMATION TRAINING MENTORING | 2008-PRESENT

- Healthy organization advocacy

WORKPLACE BULLYING UNIVERSITY | 2012, 2018

- Trained in recognizing, understanding, and addressing the dynamics of workplace bullying
- All-Stars training

Experience

PROFESSOR | BRIGHAM YOUNG UNIVERSITY | 1999 - PRESENT

- Professor 2013-Present
- Associate Professor 2004-2013
- Assistant Professor 2001-2007
- Visiting Professor 1999-2001

Highlights of Synergistic Activities

TRANSFORMATION

- University initiative to foster a culture of agent accountability and cultivate the university as a learning organization
- Implementation of purposeful design and decision based learning in several courses
- Co-founder of Embracing the Divine Purpose in Education and Scholarship

TEACHING AND LEADERSHIP DEVELOPMENT

- Organizer and frequent speaker for faculty seminar on teaching and leadership (2013-present)
- Designed and conducted a leadership course for graduate students (2015-2016)
- Primary designer, along with Jordan Cox, Associate Dean of the Engineering College, of two innovative undergraduate engineering math courses. Coordinated for courses (2002-2017)

MENTORING

- Mentoring of over 80 undergraduate and graduate students
- Implemented leadership training in mentored research
- Graduate TA coordinator, mentoring students in teaching and leadership skills (2012-2015)
- Advisor for the BYU mathematics REU for four years and was the coordinator one year (2006-2009)
- Organizer of the Seminar for Undergraduate Women in Math, Science and Engineering (2004-2009)

FACULTY WOMEN'S ASSOCIATION

- Chair of the BYU Women Thrive Education Initiative (2017-present)
- Have held several elected positions including President (2013-2014) and Secretary (2009-2011)

MATHEMATICS COLLABORATIONS

- Ongoing interdisciplinary collaborations
- International collaborations

Publications

- D. M. Halverson and D. March, The Steiner Tree Problem in Hyperbolic Space, In progress.
- C. Rogers and D. M. Halverson, Modification of Twist Patterns that Create Rigidly Foldable Mechanisms, In progress.
- D. Webb, E. Reynolds, D. M. Halverson, L. L. Howell, Asymmetric Zipper-coupled Tubes and Smooth Sheet Attachments in the Design of Deployable Space-filling Mechanism, Journal of Mechanisms & Robotics, submitted October 12, 2022, revisions submitted December 13, 2022.¹
- D. Webb, E. Reynolds, D. M. Halverson, L. L. Howell, Miura-ori Inspired Smooth Sheet Attachments for Zipper-coupled Tubes, Mathematics, Vol. 10, No. 15, paper 2643, (cover article), <https://doi.org/10.3390/math10152643>, 2022.
- D. Webb, E. Reynolds, D. M. Halverson, L. L. Howell, Deployable Space-filling Mechanisms: Asymmetric Zipper-Coupled Tubes and Smooth Sheet Attachments, ASME 2022 International Design Engineering

¹ A version of this paper was published in the proceedings of the ASME 2022 International Design Engineering Technical Conferences, St. Louis, MO, Aug. 14-17, 2022, IDETC2022-90045, 2022.

- Technical Conferences, St. Louis, MO, Aug. 14-17, 2022, <https://doi.org/10.1115/DETC2022-90045>, IDETC2022-90045.
- D. Ames, J. Jones, A. Mittelman, D. M. Halverson, T. Bateman, S. Magleby, L. L. Howell, Applications of Origami Principles in Deployable Childcare Furniture, ASME 2022 International Design Engineering Technical Conferences, St. Louis, MO, Aug. 14-17, 2022, IDETC2022- 89996, <https://doi.org/10.1115/DETC2022-89996>.
 - K. J. Plummer, M. Kebritchi, H. M. Leary, D. M. Halverson, (2022) Enhancing Critical Thinking Skills through Decision-Based Learning. *Innovative Higher Education*, 1-24.
 - M. Woodland, M. Hsiung, E. Matheson, C. A. Safsten, J. Greenwood, D. M. Halverson, L. L. Howell, Analysis of the Rigid Motion of a Conical Developable Mechanism, *Journal of Mechanisms and Robotics* 13, no. 3 (2021): 031008.
 - M. Woodland, M. Hsiung, E. Matheson, C. A. Safsten, J. Greenwood, D. M. Halverson, L. L. Howell, Analysis of the Rigid Motion of a Developable Conical Mechanism, *Proceedings of the ASME 2020 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference*. Volume 10: 44th Mechanisms and Robotics Conference (MR). Virtual, Online. August 17–19, 2020. V010T10A097. ASME. <https://doi.org/10.1115/DETC2020-22643>
 - Z. Broyles, D. M. Halverson, J. Johnson, S. Talbot, L.L. Howell, (2020) Unpacking the Mathematics of Modeling Origami Folding Transformations with Quaternions. In: Larochelle P., McCarthy J. (eds) *Proceedings of the 2020 USCToMM Symposium on Mechanical Systems and Robotics*. USCToMM MSR 2020. Mechanisms and Machine Science, vol 83. Springer, Cham. https://doi.org/10.1007/978-3-030-43929-3_21
 - J. Badger , T. Nelson , R. Lang , D. Halverson , L. Howell, Normalized Coordinate Equations and an Energy Method for Predicting Natural Curved-Fold Configurations, *J. Appl. Mech.* July 2019; 86(7): 071006 (9 pages), Paper No: JAM-19-1029 <https://doi.org/10.1115/1.4043285> (Published online April 12, 2019)
 - D. Morgan, D. Halverson, S. Magelby, T. Batemann, L. Howell, *Y Origami?*, American Mathematical Soc., 2017.
 - C. Safsten, T. Fillmore, A. Logan, D. Halverson, L. Howell, Analyzing the stability properties of kaleidocycles, *ASME. J. Appl. Mech.* (2016), 83(5):051001-051001-13. doi:10.1115/1.4032572
 - C. Alex Safsten, Logan C. Tatham, A variational approach to a generalized elastica problem, accepted for publication in *Involve* June 2015. (Advisor: Denise M. Halverson)
 - D. M. Halverson, D. Repovš, Detecting codimension one manifold factors with the piecewise disjoint arc-disk property and related properties, *Cent. Eur. J. Math.* 11 (2013), no. 11, 1932–1948. MR3092789
 - D. M. Halverson, A. E. Logan, The Steiner Problem on a cylinder, *Involve* 6 (2013), no. 2, 251–260. MR3096372.
 - E. A. Caffarelli, D. M. Halverson, R. J. Jensen, The Steiner Problem on Surfaces of Revolution, accepted for publication in *Graphs and Combinatorics*, 30 (2014), no. 2, 315-342.
 - D. M. Halverson, D. Repovš, Decompositions of $\mathbb{R}^n$, $n \geq 4$, into convex sets generate codimension one manifold factors, *Mediterranean J. Math.* 10 (2013), no. 2, 1101–1106. MR3045698
 - D. M. Halverson, K. Moon, G. Shero, The Steiner Problem on a regular tetrahedron, *Involve*, 4 (2011), No. 4, 365–404. MR2905235
 - D. M. Halverson, D. Repovš, A survey on the generalized R.L. Moore Problem, *Proc. Conf. Comp. and Geom. Topol.* (Bertinoro, Italy, June 17-19, 2010), *Atti Semin. Mat. Fis. Univ. Modena Reggio Emilia*, 58 (2011), 175-191.

- V. N. Berestovskii, D. M. Halverson, D. Repovš, Locally G-homogeneous Busemann G-spaces. *Differential Geom. Appl.* 29 (2011), no. 3, 299–318. MR2795840
- D. D. Gerrard, D. T. Fullwood, D. M. Halverson, S. R. Niezgod, Computational Homology, Connectedness, and Structure-Property Relations, *Computers, Materials and Continua*, 15 (2010), No.2, 129-152.
- D. M. Halverson, D. Repovš, Detecting codimension one manifold factors with topographical techniques. *Topology Appl.* 156 (2009), no. 17, 2870–2880. MR2556042
- D. M. Halverson, D. Repovš, The Bing-Borsuk and the Busemann conjectures, *Math. Commun.* 13 (2008), no. 2, 163-184. MR2488667
- R.J. Daverman and D.M. Halverson, The cell-like approximation theorem in dimension $n = 5$, *Fundamenta Mathematicae*, 197 (2007), 81-121. MR2365884
- D.M. Halverson, L. Petersen, Projection decompositions of 0-dimensional sets, *JP J. Geom. Topol.* 7 (2007), no.3, 327-339. MR2371845.
- D.M. Halverson, Detecting codimension one manifold factors with 0-stitched disks, *Topology Appl.* 154 (2007), no. 9, 1993-1998. MR2319721
- J. J. Cox, B.L. Adams, D.T. Fullwood, and D.M. Halverson, Heterogeneous design optimization from the microstructure. *Proceedings of IDETC/CIE 2006, ASME 2006 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, September 10-13, 2006, Philadelphia, Pennsylvania, USA. DETC2006-99157. (Refereed Paper)
- D.M. Halverson and G.R. Lawlor, Area-minimizing subsurfaces of Scherk's singly periodic surface and the catenoid. *Calc. Var. Partial Differential Equations* 25 (2006), no. 2, 257-273. MR2188749
- R.J. Daverman and D.M. Halverson, Path concordances as detectors of codimension one manifold factors. *Proceedings of the Oberwolfach Miniworkshop on Exotic Manifolds. Geometry & Topology Monographs* 9 (2006) 7-15. MR2222487
- D.M. Halverson, 2-ghastly spaces with the disjoint homotopies property: The method of fractured maps. *Topology Appl.* 138 (2004), no. 1-3, 277-286. MR2035486
- M.J. Dorff, D.M. Halverson and G.R. Lawlor, Area minimizing minimal graphs over non-convex domains. *Pacific Journal of Mathematics*, 210 (2003), no. 2, 229-259.
- D.M. Halverson, Detecting codimension one manifold factors with the disjoint homotopies property. *Topology Appl.* 117 (2002), no. 3, 231-258. MR1874088
- D.M. Halverson and D.G. Wright, Linearly opaque homeomorphisms of $\mathbb{R}^n$. *Proceedings of the 2000 Topology and Dynamics Conference (San Antonio, TX). Topology Proc.* 25 (2000), Spring, 167-180. MR1875589

Invited Talks* and Presentations

2022

- “General Position Properties that Detect Codimension One Manifold Factors”, The 39th Annual Workshop in Geometric Topology, June 6, 2022
- “Embracing Humility in Education and Scholarship”, Embracing the Divine Purpose in Education and Scholarship Summer Workshop, Brigham Young University, August 12, 2022
- (*) “Purposeful Education and Decision – Based Learning”, WebAssign Summit in New Orleans, New Orleans, Louisiana, August 2022

- “Deployable Space-Filling Mechanisms: Asymmetric Zipper-Coupled Tubes and Smooth Sheet Attachments”, ASME 2022 International Design Engineering Technical Conferences, August 2022, *Presenters: Dylan Webb and Elissa Reynolds*
- “Deployable Space-Filling Mechanisms: Asymmetric Zipper-Coupled Tubes and Smooth Sheet Attachments”, ASME 2022 International Design Engineering Technical Conferences, August 2022, *Presenter: Daniel Ames*

2019

- (*) “Embeddings of Contractible Open Manifolds, Part II”, University of Slovenia, Slovenia, May 29, 2019
- (*) “Embeddings of Contractible Open Manifolds, Part I”, University of Slovenia, Slovenia, May 22, 2019
- (*) “Jordan-Schonflies Theorem in the Plane”, Topology course, University of Slovenia, Slovenia, May 27, 2019
- (*) “Topological and Fractal Dimension”, Topology course, University of Slovenia, Slovenia, May 20, 2019
- (*) “Cantor set, Sierpinski carpet, Menger Sponge”, Topology course, University of Slovenia, Slovenia, May 13, 2019

2018

- (*) “Recent Developments in Decomposition Theory, Part II”, University of Slovenia, Slovenia, May 16, 2018
- (*) “Recent Developments in Decomposition Theory, Part I”, University of Slovenia, Slovenia, May 9, 2018
- (*) “A Case for Philosophy in Mathematics Education”, University of Slovenia, Slovenia, May 24, 2018
- (*) “Jordan-Schonflies Theorem in the Plane”, Topology course, University of Slovenia, Slovenia, May 28, 2018
- (*) “Topological and Fractal Dimension”, Topology course, University of Slovenia, Slovenia, May 21, 2018
- (*) “Cantor set, Sierpinski carpet, Menger Sponge”, Topology course, University of Slovenia, Slovenia, May 14, 2018
- “Designing and Detecting a Variety of Generalized Manifolds”, 52nd Spring Topology and Dynamical Systems Conference, Auburn, Alabama, March, 2018

2017

- (*) “Decision Based Learning and Applications in Mathematics and Topology”, University of Slovenia, Slovenia, May 24, 2017
- (*) “Cantor set, Sierpinski carpet, Menger Sponge”, Topology course, University of Slovenia, Slovenia, May 21, 2017
- (*) “Topological and Fractal Dimension”, Topology course, University of Slovenia, Slovenia, May 14, 2017
- (*) “Jordan-Schonflies Theorem in the Plane”, Topology course, University of Slovenia, Slovenia, May 7, 2017

2016

- (*) “Tour of Decomposition Theory: Part II”, University of Slovenia, Slovenia, May 18, 2016

- (*) “Tour of Decomposition Theory: Part I”, University of Slovenia, Slovenia, May 11, 2016
- (*) “Kaleidocycles, Rigid Reachability, and Huffman Grids”, AMS/MAA Joint Meetings, January 6, 2016.

2015

- (*) “Women in Mathematics”, BYU Women Studies, October 10, 2015
- (*) “Building General Position Properties into Decomposition Spaces”, University of Slovenia, Slovenia, May 27, 2015
- (*) “Complexities of Decompositions”, University of Slovenia, Slovenia, May 20, 2015
- (*) “ANRs and Decompositions”, University of Slovenia, Slovenia, May 13, 2015
- (*) “Infinite-Dimensionality”, University of Slovenia, Slovenia, May 6, 2015

2014

- “Designing Interesting Topological Spaces using Decompositions”, Workshop in Geometric Topology, Milwaukee, Wisconsin, June 13, 2014
- (*) “Designing Interesting Topological Spaces using Decompositions”, University of Maribor, Slovenia, May 16, 2014
- (*) “Being a Multiplier as a Teacher and Mentor”, University of Maribor, Slovenia, May 15, 2014
- (*) “Lectures on Hilbert Cube Review and More Results”, University of Ljubljana, May 27, 2014
- (*) “Lectures on Hilbert Cube Manifolds VIB”, University of Ljubljana, May 21, 2014
- (*) “Lectures on Hilbert Cube Manifolds VIA”, University of Ljubljana, May 14, 2014
- (*) “Designing Interesting Topological Spaces using Decompositions”, University of Zagreb, Croatia, May 9, 2014
- (*) “Lectures on Hilbert Cube Manifolds V”, University of Ljubljana, April 9, 2014
- (*) “Lectures on Hilbert Cube Manifolds IVB”, University of Ljubljana, April 2, 2014
- (*) “Lectures on Hilbert Cube Manifolds IVA”, University of Ljubljana, March 26, 2014
- (*) “Paving the Road to Solving the Product with a Line Problem: Contributions of Robert J. Daverman”, AMS Sectional Meeting, Knoxville, Tennessee, March 22, 2014
- (*) “Lectures on Hilbert Cube Manifolds III”, University of Ljubljana, March 19, 2014
- (*) “Lectures on Hilbert Cube Manifolds IIB”, University of Ljubljana, March 12, 2014
- (*) “Lectures on Hilbert Cube Manifolds IIA”, University of Ljubljana, March 5, 2014
- (*) “Tychonoff’s Theorem”, University of Ljubljana, March 5, 2014
- (*) “Lectures on Hilbert Cube Manifolds I”, University of Ljubljana, February 25, 2014
- (*) “The Homogeneous Property of the Hilbert Cube”, University of Ljubljana, February 19, 2014
- (*) “Women in Mathematics”, BYU Women Studies, February 3, 2014
- (*) “Lectures on Hilbert Cube”, Geometric Topology Seminar, Utah Valley University, January 21, 2014

2013

- (*) “The Busemann Conjecture on Infinite Dimensional Spaces”, Workshop in Geometric Topology, Grand Rapids, Michigan, June 13, 2013.
- (*) “Designing Interesting Topological Spaces using Decompositions, Part III”, University of Ljubljana, Slovenia, May 29, 2013.
- (*) “The R.L. Moore Problem in Action, and other Famous Conjectures”, University of Zagreb, Croatia, May 27, 2013.

- (*) “Designing Interesting Topological Spaces using Decompositions, Part II”, University of Ljubljana, Slovenia, May 22, 2013.
- (*) “Designing Interesting Topological Spaces using Decompositions, Part I”, University of Ljubljana, Slovenia, May 15, 2013.
- (*) “Busemann G-spaces, Part V: Related Conjectures / Open Problems”, University of Sevilla, Spain, March 15, 2013.
- (*) “Busemann G-spaces, Part IV: The Busemann Conjecture in Dimensions $n > 4$ ”, University of Sevilla, Spain, March 14, 2013.
- (*) “Busemann G-spaces, Part III: The Busemann Conjecture in Dimensions $n = 4$ ”, University of Sevilla, Spain, March 13, 2013.
- (*) “Busemann G-spaces, Part II: Critical Developments in Topology”, University of Sevilla, Spain, March 12, 2013.
- (*) “Busemann G-spaces, Part I: Fundamental Properties and the Busemann Conjecture in $n < 4$ ”, University of Sevilla, Spain, March 11, 2013.

2012

- (*) “Detecting Codimension One Manifold Factors with the Piecewise Disjoint Arc-Disk Property”, Workshop in Geometric Topology, Corvallis, Oregon, June 29, 2012.
- (*) “Applications of Topology to Geometric Structures: The Case $n \geq 5$ ”, University of Ljubljana Topology Colloquium, Ljubljana, Slovenia, May 9, 2012.
- (*) “Applications of Topology to Geometric Structures: The case $n=4$ ”, University of Ljubljana Topology Colloquium, Ljubljana, Slovenia, May 4, 2012.
- (*) “Applications of Topology to Geometric Structures: Early Results”, University of Ljubljana Topology Colloquium, Ljubljana, Slovenia, April 25, 2012.
- (*) “The Busemann Conjecture”, Utah Valley Department Colloquium, Orem, Utah, March 30, 2012.

2011

- (*) “Anomalies in High Dimensional Topology and the Fabric of Space-Time”, Utah Valley Department Colloquium, Orem, Utah, November 4, 2011.
- (*) “Survey on the Generalized R.L. Moore Problem”, Geometry in Odessa 2011, Odessa, Ukraine, May 25, 2011.
- (*) “Survey on the Generalized R.L. Moore Problem”, University of Ljubljana Topology Colloquium, Ljubljana, Slovenia, May 20, 2011.

2010

- “Local G-homogeneous Busemann G-spaces”, Workshop in Geometric Topology, Colorado Springs, Colorado, June 11, 2010.
- (*) “Geometric Topology of Buseman G-Spaces: Challenges in the High Dimensional Cases”, University of Ljubljana Topology Colloquium, Ljubljana, Slovenia, May 2010.
- (*) “Geometric Topology of Buseman G-Spaces: History and Classical Results”, University of Ljubljana Topology Colloquium, Ljubljana, Slovenia, May 2010.
- (*) “Geometric Topology of Buseman G-Spaces: Implications and Relationships to Other Manifold Recognition Problems”, University of Ljubljana Topology Colloquium, Ljubljana, Slovenia, May 2010.

2009

- (*) “Two famous manifold recognition problems in topology”, University of Ljubljana Mathematics Colloquium, Ljubljana, Slovenia, May 18, 2009.
- (*) “Busemann G-spaces, G-Homogeneity, and Homogeneous Metric Spheres”, The Spring Topology and Dynamics Conference 2009, University of Florida, Gainesville, Florida, March 9, 2009.

2008

- “The Bing-Borsuk and Busemann Conjectures”, Workshop in Geometric Topology, Park City, Utah, June 28, 2008.
- “The cell-like approximation theorem in dimension 5”, International Conference Analysis and Topology, Lviv, Ukraine, June 4, 2008.
- (*) “Anomalies in high dimensional topology”, University of Ljubljana Mathematics Colloquium, Ljubljana, Slovenia, May 2008.
- (*) “The cell-like approximation theorem in dimension 5”, University of Ljubljana Mathematics Topology Seminar, Ljubljana, Slovenia, May 2008.
- (*) “Topology and the fabric of space-time”, Theory Group in Physics Seminar, BYU Physics Department, April 2008.

2007

- (*) “Detecting codimension one manifold factors with topographical techniques”, Joint PTM-AMS Meeting, Warsaw, Poland, July 31-August 3, 2007.
- “Detecting codimension one manifold factors with the plentiful singular 2-manifold property”, 24th Annual Workshop in Geometric Topology, Grand Rapids, Michigan, June 28-30, 2007.
- (*) “The Busemann Conjecture: A survey”, University of Ljubljana Mathematics Colloquium, Ljubljana, Slovenia, May 18, 2007.
- “Survey on length minimization problems on non-planar surfaces”, Spring Topology and Dynamical Systems Conference, Rolla Missouri, March 29-31, 2007.

2006

- (*) “Detecting codimension one manifold factors with general position properties”, Institute of Mathematics, Physics, and Mechanics, Ljubljana, Slovenia, August 23, 2006.
- “Second Order Microstructure Sensitive Design and Topological Considerations” Computational Homology and Materials Science Workshop, Georgia Tech Global Learning & Conference Center, Atlanta, Georgia, February 2-4, 2006. Presented with Brent Adams (main author).

2005

- “General Position Properties of codimension one manifold factors”. International Conference and Workshops on Geometric Topology, Mathematical Research and Conference Center, Bedlewo, Poland, July 3-10, 2005.
- “Detecting codimension one manifold factors with 0-stitched disks”. The Twenty-Second Annual Workshop in Geometric Topology, The Colorado College Colorado Springs, Colorado, June 9-11, 2005.

2004

- (*) “The proof of the Cell-like Approximation Theorem in dimension 5”. Special Session on Geometric Topology in Honor of John Bryant at the 99th AMS Meeting, Tallahassee, Florida, March 12-13, 2004.

- "Approximating cell-like maps by cellular maps". Twenty-first Annual Workshop in Geometric Topology, University of Wisconsin-Milwaukee, June 10-12, 2004.

2003

- (*)"Bizarre spaces whose product with a line is a manifold", Miniworkshop on Exotic Manifolds, Oberwolfach, Germany, June 29 – July 4, 2003.

2002

- "Area minimizing minimal graphs over non convex domains", Special Session on Area-Minimization and Minimal Surfaces, AMS Conference, Salt Lake City, Utah, October 26-27, 2002.

2001

- "2-ghastly spaces with the disjoint homotopies property: the method of fractured maps", Spring Topology and Dynamics Conference, Morelia, Mexico, 2001.
- "The method of delta-fractured maps and 2-ghastly spaces with the disjoint homotopies property", 18th Annual Workshop in Geometric Topology, Oregon State University, Corvallis, OR, 2001.

2000

- "Linearly opaque homeomorphisms of $\mathbb{R}^n$ ", Spring Topology and Dynamics Conference, San Antonio, TX, March, 2000.

1998

- "Applications of the disjoint homotopies property", The International Conference on Geometric Topology. Dubrovnik, Croatia, 1998.
- "Ghastly Generalized Manifolds with the Plentiful 2-Manifolds Property", Fifteenth Annual Workshop in Geometric Topology. Park City, Utah, 1998.
- "Disjoint homotopies results for generalized manifolds", Spring Topology and Dynamics Conference, Fairfax, Virginia, 1998.

Grants

EXTERNAL GRANTS RECEIVED

- NSF Grant, "Mechanisms on Developable Surfaces", Funding Period: May 2017 – April 2020, Date Submitted: September 2016. Principal Investigator: Larry Howell. Co-Investigators: Spencer Magelby, Denise Halverson (\$425,001).
- EFRI-ODISSEI: Uniting Principles of Folding and Compliant Mechanisms to Create Engineering Systems with Unprecedented Performance. Funding Period: September 2012 – August 2016. Date Submitted: Mar 30, 2012. Principal Investigator: Larry Howell. Co-Investigators: Spencer Magelby, Lisa Barrager, Denise Halverson, David Morgan (\$2,000,000).
- European Union Travel Grant (Slovenia Ministry of Science Grant for Visiting Professors), covered full travel and stay for a three week research visit to Slovenia in April-May 2012.
- Special Slovenian Government Travel Grant (Slovenia Ministry of Science Grant for Visiting Professors), covered full travel and stay for a three week research visit to Slovenia in May 2010.

- NSF Grant, “REU Site: Brigham Young University Undergraduate Research Experiences in Mathematics” for summers 2008-2011. Principal Investigator: Michael Dorff. Co-Investigators: Denise Halverson, Gary Lawlor, and Scott Glasgow. (\$336,504)
- NSF Grant, “EMSW21-MCTP: Center for Mentoring Undergraduate Research in Mathematics”. Principal Investigator: Michael Dorff. Co-Investigators: Jeffrey Humphreys, Denise Halverson, Tyler Jarvis. (\$1,284,208)
- NSF Grant, “REU Site: Brigham Young University Undergraduate Research Experiences in Mathematics” for summers 2005-2008. Principal Investigator: Michael Dorff. Co-Investigators: Gary Lawlor, Denise Halverson, and Scott Glasgow. (\$159,000)
- Travel Grant to the American Institute of Mathematics, “Workshop on Moduli Spaces of Properly Embedded Minimal Surfaces”, California, Palo Alto, California, June 6-10, 2005. Trip fully funded (est. \$1200)
- Travel Grant to Clay Mathematics Institutes Summer School on “The Global Theory of Minimal Surfaces” at the Mathematical Sciences Research Institute (MSRI) in Berkeley, California, June-July 2001. (\$1867)

INTERNAL GRANTS RECEIVED

- BYU CPMS College HITS Grant, November 2021-October 2022. “Decision-Based Learning Course Development”, Principle Investigator: Denise Halverson. (\$7,000)
- BYU Mentoring Environments Grant, “Geometric Optimization, Analysis, and Design” for the academic year 2014-2015. Principal Investigator: Denise Halverson. (\$20,000)
- BYU Mentoring Environments Grant, “Mathematical research on geometric optimization problems” for the academic year 2006-2007. Principal Investigator: Denise Halverson. Co-Investigators: Gary Lawlor, Michael Dorff. (\$14,316)
- BYU Mentoring Environments Grant for “Mathematical research on geometric optimization problems” for the academic year 2003-2004. Principal Investigator: Denise Halverson. Co-Investigators: Gary Lawlor, Michael Dorff. (\$18,750)
- BYU Mentoring Environments Grant for “Undergraduate research experience in geometry” for the academic year 2003-2004. Principal Investigator: Michael Dorff. Co-Investigators: Gary Lawlor, Denise Halverson. (\$14,150)

Awards

2014	Mathematics Department Teaching Award
2010	Mathematics Department Citizenship Award
2005	College of Physical and Mathematical Sciences Teaching Award
1998	Dorethea and Edgar D. Eaves Teaching Award for Outstanding Graduate Teaching