CURRICULUM VITAE

Mark D. Jacobson
Professor
Department of Mathematics
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PROFESSIONAL EDUCATION

Ph.D. in Electrical Engineering, May 1996
University of Colorado, Boulder, Colorado

M.S. in Electrical Engineering, May 1985
University of Colorado, Boulder, Colorado

B.S. in Electrical Engineering, June 1980
Montana State University, Bozeman, Montana

Teacher Certification in Secondary Mathematics and Physics**,** July 2005
Montana State University Billings, Billings, Montana

TEACHING EXPERIENCE

University and College Teaching

Department of Mathematics, Montana State University Billings, Billings, Montana

Full Professor: 2014
Chair: 2015 – present

Associate Professor: 2010 – 2014
(Tenured)

Assistant Professor: 2004 – 2010
(Tenure Track)

Fall 2016: teaching one M 172 Calculus course and one M 121 College Algebra course.

Summer 2016: taught one on-line M 121 College Algebra course.

Spring 2016: taught one M 121 College Algebra course, one M 333 Linear Algebra course, one M 472 Complex Analysis course, and one M 110 Mathematica course.

Fall 2015: taught one M 172 Calculus course and one M 121 College Algebra course.

Summer 2015: taught one on-line M 121 College Algebra course.

Spring 2015: taught one M 333 Linear Algebra course, one M 472 Complex Analysis course, one M 110 Mathematica course, and one on-line Statistics 216 course.

Fall 2014: taught one M 171 Calculus course, one M 172 Calculus course, one M 110 Mathematica course, and one on-line Statistics 216 course.

Spring 2014: taught one M 333 Linear Algebra course, one M 472 Complex Analysis course, and one on-line Statistics 216 course.

Fall 2013: taught one M 171 Calculus course, one M 172 Calculus course, one M 110 Mathematica course, and one on-line Statistics 216 course.

Spring 2013: taught one M 172 Calculus course, one M 333 Linear Algebra course, and one on-line Statistics 216 course.

Fall 2012: taught one M 171 Calculus course, one M 172 Calculus course, one M 110 Mathematica course, and one on-line Statistics 216 course.

Spring 2012: taught one M 172 Calculus course, one M 333 Linear Algebra course, and one on-line Statistics 216 course.

Fall 2011: taught one M 171 Calculus course, one M 172 Calculus course, one M 110 Mathematica course, and one on-line Statistics 216 course.

Spring 2011: taught one M 172 Calculus course, one M 333 Linear Algebra course, one EE/PHYS 206 Circuits I Lab course, one M 110 Mathematica course, and one on-line Statistics 216 course.

Fall 2010: taught one M 171 Calculus course, one Statistics 216 course, and one on-line Statistics 216 course.

Spring 2010: taught one M 172 Calculus course, one M 333 Linear Algebra course, and one EE/PHYS 206 Circuits I Lab course.

Fall 2009: taught one M 171 Calculus course, one Statistics 216 course, and one on-line Statistics 216 course.

Spring 2009: taught one Math 113 Calculus course, one on-line Statistics 241 course, and one EE/PHYS 206 Circuits I Lab course.

Fall 2008: taught one Math 112 Calculus course, one Statistics 241 course, and one on-line Statistics 241 course.

Spring 2008: taught one Math 113 Calculus course and one on-line Statistics 241 course.

Fall 2007: taught one Math 113 Calculus course, one Statistics 241 course, and one on-line Statistics 241 course.

Spring 2007: taught one Math 113 Calculus course and one on-line Statistics 241 course.

Fall 2006: taught one Math 112 Calculus course, one Math 121 Finite course, one Statistics 241 course, and one on-line Statistics 241 course.

Summer 2006: taught one on-line Statistics 241 course.

Spring 2006: taught one Math 107 Precalculus course, two Statistics 241 courses, and one on-line Statistics 241 course.

Fall 2005: taught two Math 121 Finite courses, one Statistics 241 course, and one on-line Statistics 241 course.

Summer 2005: taught one Math 202 course, and one on-line Statistics 241 course.

Spring 2005: taught one Math 121 Finite course, two Statistics 241 courses, and one on-line Statistics 241 course.

Fall 2004: taught two Math 121 Finite courses, one Statistics 241 course, and one on-line Statistics 241 course.

Part-time instructor, Department of Mathematics, Academic Support Center, College of Technology (COT), Montana State University Billings, Billings, Montana:

Spring 2002 – Spring 2004: taught Math 106 College Algebra, Math 105 Intermediate Algebra, Math 101 Beginning Algebra, CTMA 122 Technical Math, CTMA 104 Business Math (in-class and on-line), tutored students in math and physics.

Other college teaching and tutoring:

Fall 2001: Mathematics Tutor, Front Range Community College, Broomfield, Colorado: tutored in the areas of math and physics.

Fall 1982 – Spring 1983: Teaching Assistant, University of Colorado, Boulder, Colorado: taught an undergraduate circuit laboratory, assisted in an undergraduate microwave laboratory.

Public School Teaching

Fall 2001: Substitute Teacher, Adams Twelve Five Star Schools, Northglenn, Colorado: taught math for secondary and middle schools.

PROFESSIONAL EXPERIENCE

Electronics and Electrical Engineering

Electronics Engineer, United States Department of Commerce, National Oceanic and Atmospheric Administration, Boulder, Colorado: Played an integral role in the design and implementation of a 400 MHz phased-array antenna for wind profiling. Supervised technicians involved in a variety of engineering activities, authored engineering and scientific papers, and performed technical presentations. Operated and maintained microwave and infrared radiometers and 13/26 MHz radars. Participated in various field experiments designed to study the atmosphere and oceans and assisted in the litigation of a lawsuit surrounding a failed procurement for a microwave antenna. Increased the understanding of the atmosphere and oceans through the implementation of microwave and infrared radiometry to measure water vapor, cloud liquid, cloud temperature, ocean surface wind speed and direction, and ocean surface temperature. Coordinated the antenna pattern measurement for a microwave airborne antenna at the National Institute of Standards and Technology's near-field range. Implemented a 10 GHz polarimetric radiometer for measuring the ocean wind vector. May 1983 – November 1999.

Electrical Engineer, International Business Machines, Tucson, Arizona: Responsible for the design of analog and digital electronics for magnetic recording on computer tape drives. Improved the performance of existing low-density magnetic recording hardware and created test reports designed to document design and test results. August 1980 – March 1982.

PROFESSIONAL ACHIEVEMENT AND GROWTH

Publications

Jacobson, M.D. Potential for Estimating the Thickness of Freshwater Lake Ice by GPS Interferometric Reflectometry. Journal of Geography and Geology **2015**, vol. 7, no. 1. doi:10.5539/ jgg.v7n1p10, URL: http://dx.doi.org/ jgg.v7n1p10, Online published: 25 January 2015.

Jacobson, M.D. Estimating Snow Water Equivalent for a Slightly Tilted Snow-Covered Prairie Grass Field by GPS Interferometric Reflectometry. EURASIP Journal on Advances in Signal Processing **2014**, 2014:61, doi:10.1186/1687-6180-2014-61, Published: 6 May 2014.

Jacobson, M.D. Snow Water Equivalent Estimation for a Snow-Covered Prairie Grass Field by GPS Interferometric Reflectometry. *Positioning*, **2012**, 3, 31-41, doi:10.4236pos.2012.33005, Published Online August 2012 (http://www.SciRP.org/journal/pos).

Jacobson, M.D. Inferring Snow Water Equivalent for a Snow-Covered Ground Reflector Using GPS Multipath Signals. *Remote Sens.* **2010**, *2*, 2426-2441; doi:10.3390/rs2102426.

Jacobson, M.D. Snow-covered lake ice in GPS multipath reception – theory and measurement. *Adv. Space Res.* **2010**, 46, 221 – 227, DOI: 10.1016/j.asr.2009.10.013.

Jacobson, M.D., "Dielectric-Covered Ground Reflectors in GPS Multipath Reception – Theory and Measurement," *IEEE Geosci. Remote Sens. Lett.*, vol. 5, no. 3, pp. 396 – 399, July **2008**.

Snider, J.B., D.A. Hazen, A.J. Francavilla, W.B. Madsen, and M.D. Jacobson. Ground-based radiometric observations of atmospheric water for climate research. Proc., Atmospheric Radiation Measurements Science Team Meeting, Charleston, SC, February 28 - March 4, 1994, Department of Energy, Washington, D.C. (1999).

Snider, J.B., D.A. Hazen, A.J. Francavilla, W.B. Madsen, and M.D. Jacobson. Island- and ship-based radiometric measurements of water vapor, cloud liquid, and solar flux during ASTEX. NOAA Technical Memorandum (1999).

Jacobson, M.D., and W.M. Nunnelee. Design and performance of a spinning flat reflector for millimeter-wave radiometry. *IEEE Transactions on Geoscience and Remote Sensing*, GE-35(2):464-466 (1997).

Jacobson, M.D., W.J. Emery, and E.R. Westwater. Oceanic wind vector determination using a dual-frequency microwave airborne radiometer - theory and experiment. Proc., IGARSS '96, Lincoln, NE, May 26-June 1, 1996, Institute of Electrical and Electronic Engineers, New York, NY, 1138-1140 (1996).

Jacobson, M.D., and W.M. Nunnelee. Performance evaluation of a spinning flat reflector for millimeter-wave radiometry. Proc., IGARSS '96, Lincoln, NE, May 26-June 1, 1996, Institute of Electrical and Electronic Engineers, New York, NY, 1678-1680 (1996).

Jacobson, M.D. Theory and measurement of oceanic wind vector using a dual-polarized microwave airborne radiometer. NOAA Technical Memorandum ERL ETL-270, 165 pp. (1996).

Jacobson, M.D. Theory and measurement of oceanic wind vector using a dual-frequency microwave airborne radiometer. Ph.D. Thesis, Dept. of Electrical and Computer Engineering, University of Colorado, Boulder, April 1996.

Hazen, D.A., W.B. Madsen, and M.D. Jacobson. Aircraft liquid/vapor radiometer operating at 23.87 GHz and 31.65 GHz. NOAA Technical Memorandum ERL ETL-257, 75 pp. (1995).

Snider, J.B., D.A. Hazen, A.J. Francavilla, W.B. Madsen, and M.D. Jacobson. Comparison of observed and theoretical millimeter wave emission. Implications for remote sensing of atmospheric water. Proc., IGARSS '95, Firenze, Italy, July 10-14, 1995, Institute of Electrical and Electronic Engineers, New York, NY, 1129-1132 (1995).

Shaw, J.A., J.B. Snider, J.H. Churnside, and M.D. Jacobson. Comparison of infrared atmospheric brightness temperatures measured by a Fourier transform spectrometer and a filter radiometer. *Journal of Atmospheric and Oceanic Technology*, 12(5):1124-1128 (1995).

Shaw, J.A., J.B. Snider, J.H. Churnside, and M.D. Jacobson. Equivalent filter-radiometer brightness temperatures from a Fourier Transform Spectrometer. Proc., 6th Topical Meeting on Optical Remote Sensing of the Atmosphere, Salt Lake City, UT, February 6-10, 1994, Optical Society of America, Washington, D.C., 102-104 (1995).

Jacobson, M.D., J.B. Snider, and E.R. Westwater. Radiometric observations of atmospheric attenuation at 20.6 and 31.65 GHz: The Wave Propagation Laboratory data base. Proceedings, NAPEX XVII (NASA Propagation Experimenters Meeting and ACTS Propagation Studies Mini-Workshop), Pasadena, CA, June 14-18, 1993. National Aeronautics and Space Administration/Jet Propulsion Laboratory, Hampton, VA/Pasadena, CA, 61-79 (1993).

Jacobson, M.D., L.S. Fedor, D.A. Hazen, W.B. Madsen, M.H. Francis, and D.P. Kremer. A dual-frequency mm-wave radiometer antenna for airborne remote sensing of atmosphere and ocean. *Microwave Journal* (September, 1994).

Jacobson, M.D., and W.M. Nunnelee. A spinning flat reflector for millimeter-wave radiometry. NOAA Technical Memorandum ERL ETL-238, 20 pp. (1994).

Snider, J.B., M.D. Jacobson, R.H. Beeler, and D.A. Hazen. Comparison of OLYMPUS beacon and radiometric attenuation measurements at Blacksburg, Virginia. Proceedings, 15th NASA Propagation Experimenters Meeting (NAPEX XV), London, Ontario, Canada, June 28-29, 1991, Jet Propulsion Laboratory, Pasadena, CA and NASA, Hampton, VA 116-122 (1991).

Smith, W.L., H.E. Revercomb, H.B. Howell, H.M. Woolf, R.O. Knuteson, R.G. Decker, M.J. Lynch, E.R. Westwater, R.G. Strauch, K.P. Moran, B.B. Stankov, M.J. Falls, J.R. Jordan, M.D. Jacobson, W.F. Dabberdt, R. McBeth, G. Albright, C. Paneitz, G. Wright,

P.T. May, and M.T. Decker. GAPEX--A ground-based atmospheric profiling experiment. *Bulletin of the AMS*, 71(3):310-318 (1990).

Snider, J.B., M.D. Jacobson, and R.H. Beeler. Observations of attenuation at 20.6, 31.65, and 90.0 GHz-preliminary results from Wallops Island. Proceedings, NAPEX XIII, San Jose, CA, 29-30 June 1989, NASA/Jet Propulsion Laboratory, Pasadena, CA, 138-144 (1989).

Jacobson, M.D., J.B. Snider, and D.C. Hogg. Comparison of two multisheet transmission windows for millimeter-wave radiometers. *IEEE Transactions on Antennas and Propagation*, 36(4):535-542 (1988).

Fedor, L.S., M.D. Jacobson, A.J. Bedard, E.R. Westwater, D.C. Hogg, and R.T. Nishiyama. Dual-channel microwave radiometer for airborne meteorological applications. NOAA Technical Memorandum ERL WPL-157, 29 pp. (1988).

Snider, J.B., M.D. Jacobson, M.J. Falls, and J.R. Jordan. Comparison of temperature measured by three colocated microwave radiometers and radiosonde. NOAA Technical Memorandum ERL WPL-151, 39 pp. (1988).

Jacobson, M.D., D.C. Hogg, J.B. Snider. Wet reflectors in millimeter-wave radiometry--Experiment and theory. *IEEE Transactions on Geoscience and Remote Sensing*, GE-24(5):784-791 (1986).

Book Reviews

Tan, S. T., (2006). Finite Mathematics, 8th edition, Thomson Brooks/Cole Publishing Co.

Schafer, D., (Prospectus), (2005) How to Evaluate Statistical Arguments, John Wiley & Sons, Inc, Hoboken, New Jersey.

Moore, D. and Notz, W., (2004). Statistics: Concepts and Controversies, 6th edition, W.H. Freeman and Company Publishers, New York.

Paper Reviews

Sajad Tabibi; Felipe G. Nievinski; and Tonie van Dam (2016). SNR-based multipath reflectometry for snow depth estimation: GPS, GLONASS, and optimal multi-GNSS weighted combinations. IEEE Trans. on Geoscience and Remote Sensing.

Wang Xiaolei1; Zhang Qin; and Zhang Shuangcheng (2016). GNSS-MR Snow Depth Retrievals Considering Surface Tilt. Advances in Space Research Journal, Earth Sciences.

Wang Xiaolei1; Zhang Qin; and Zhang Shuangcheng (2016). GNSS-MR To Inverse Snow Depth Considering Surface Tilt. Advances in Space Research Journal, Earth Sciences.

Larson, Kristine; Small, Eric (2015). Estimation of Snow Depth Using L1 GPS Signal to Noise Ratio Data. Journal of Selected Topics in Applied Earth Observations and Remote Sensing.

Franziska Koch, Monika Prasch, Lino Schmid, Jürg Schweizer and Wolfram Mauser (2014). Measuring snow liquid water content with low-cost GPS 8 receivers. Sensors Journal, MDPI.

Xuerui Wu A, Shuanggen Jin (2014). Simulation study of GNSS-R polarimetric scattering from the bare soil surface based on the AIEM model. *Adv. Space Res. ASR-D-14-00358.*

A. Alonso-Arroyo, A. Camps, Fellow, D. Pascual, R. Onrubia, and F. Martin (2014). Retrieval of Significant Wave Height and Mean Sea Surface Level Using the GNSS-R Interference Pattern Technique: Results from a three-month Field Campaign. IEEE Trans. on Geoscience and Remote Sensing.

Nasser Najibi and Shuanggen Jin (2013). Physical Reflectivity and Polarization Characteristics for Snow and Ice-covered Surfaces Interacting with GPS Signals. Remote Sensing Journal, MDPI.

Xuerui Wua and Shuanggen Jin (2013). GNSS-Reflectometry vegetation polarization scattering properties and modeling. Advances in Space Research Journal, Special Issue: Beidou/Compass.

Jonathan Munoz, Jose Infante, Tarendra Lakhankar, Reza Khanbilvardi, Peter Romanov, Nir Krakauer and Al Powell (2013). Synergistic Use of Remote Sensing for Snow Cover and Snow Water Equivalent Estimation. British Journal of Environment and Climate Change (BJECC).

Valencia, Enric; Zavorotny, Valery; Akos, Dennis; Camps, Adriano (2012). Using DDM Asymmetry Metrics for Wind Direction Retrieval from GPS Ocean-Scattered Signals in Airborne Experiments. IEEE Trans. on Geoscience and Remote Sensing.

Christine Chen, Tarendra Lakhankar, Peter Romanov, Sean Helfrich and Reza Khanbilvardi (2012). Comparison of NOAA-IMS Snow Cover Maps with Ground-7 Based Data over Continental United States. Remote Sensing Journal, MDPI.

Masaru Ozeki and Kosuke Heki (2011). GPS Snow Depth Meter with Geometry-free Linear Combinations. Journal of Geodesy.

Gutmann, Ethan; Larson, Kristine; Williams, Mark; Nievinski, Felipe; Zavorotny, Valery (2011). Snow measurement by GPS interferometric reflectometry: an evaluation at Niwot Ridge, Colorado. Hydrological Processes.

Qiang Xing, Zhen Li, Shi yin Liu, Jianmin Zhou, and Lei Huang (2011). Monitoring thickness and volume changes (1969-2000) of the Dongkemadi Ice field on Qinghai-Tibetan Plateau using multi-source remote sensing data. Journal of Applied Remote Sensing (JARS).

Gleason, S. (2010). Sensing Sea Ice Concentration From Space With Reflected GPS Signals, Special Issue: Global Positioning Systems (GPS) and Applications, Remote Sensing Journal, MDPI.

Conferences - Presentations

Jacobson, M.D. "New Mathematics Endorsement at MSUB". Also led a discuss on "Alternative Teacher Licensure: How does Montana handle it?". Symposium on Montana Mathematics Teaching (SUMMIT), Fairmont Hot Springs, MT, May 6 and 7, **2016**.

Jacobson, M.D. "Potential for Inferring Freshwater Lake Ice Thickness by GPS Interferometric Reflectometry", 20 minute talk using Power Point, IEEE APS/URSI International conference, Vancouver, Canada, July 24, **2015**.

For the above talk, I was also the Co-Chair of this session:
FR-UF.1P: Earth & Ocean Remote Sensing
Session Type: Oral
Time: Friday, July 24, **2015**, 13:20 - 15:00
Location: Cypress 2
Session Chairs: V Chandrasekar, Colorado State University and Mark Jacobson, Montana State University Billings

Jacobson, M.D. "Snow Water Equivalent Estimation for a Slightly Tilted Snow-Covered Prairie Grass Field by GPS Interferometric Reflectometry", 20 minute talk using Power Point, IEEE IGARSS International conference, Quebec City, Canada, July 17, **2014**.

Jacobson, M.D. "Estimating Snow Water Equivalent for a Snow-Covered Prairie Grass Field by GPS Interferometric Reflectometry", Poster presentation, MSUBillings ResearchFest 2014, Billings, MT, March 20, **2014**.

Jacobson, M.D. "Estimating Snow Water Equivalent for a Snow-Covered Prairie Grass Field by GPS Interferometric Reflectometry", 20 minute talk using Power Point, IEEE IGARSS International conference, Melbourne, Australia, July 28, **2013**.

Jacobson, M.D. "Estimating Snow Water Equivalent for a Snow-Covered Ground Reflector Using GPS Multipath Signals", Poster presentation, Montana University System, Board of Regents meeting, Billings, MT, September 21 – 23, **2011**.

Jacobson, M.D. "Estimating Snow Water Equivalent for a Snow-Covered Ground Reflector Using GPS Multipath Signals", 20 minute talk using Power Point, IEEE IGARSS International conference, Vancouver, Canada, July 28, **2011**.

Jacobson, M.D. "Lake Ice Thickness Estimation using GPS", 20 minute talk using Power Point, IEEE IGARSS International conference, Honolulu, Hawaii, July 28, **2010**.

Jacobson, M.D. "Lake Ice Thickness Estimation using GPS", Poster presentation, Montana University System, Board of Regents meeting, Billings, MT, September 23 – 25, **2009**.

Jacobson, M.D. "Snow Depth and Lake Ice Estimations using GPS", 20 minute talk using Power Point, Montana Academy of Sciences meeting, Butte, MT, April 11, **2009**.

Jacobson, M.D. "Snow Depth and Lake Ice Estimations using GPS", 20 minute talk using Power Point, American Association for the Advancement of Science, Pacific Division meeting, Waimea, HI, June 18, **2008**.

Jacobson, M.D. "Snow Depth Estimation using GPS", Poster presentation, Montana University System, Board of Regents meeting, Billings, MT, September 19 – 21, **2007**.

Jacobson, M.D. "Snow Depth Estimation using GPS", 1 hour talk using Power Point, Montana State University – Billings Fall 2007 Conference, Billings, MT, August 23, **2007**.

Jacobson, M.D. "Snow Depth Estimation using GPS", 20 minute talk using Power Point, American Association for the Advancement of Science, Pacific Division meeting, Boise, ID, June 18, **2007**.

Jacobson, M.D. "Snow Depth Estimation using GPS", Poster presentation, Montana Academy of Sciences meeting, Butte, MT, April 13 – 14, **2007**.

Snyder, S., W. Wickun, and M.D. Jacobson. "Borealis Project, Atmospheric Research to the Edge of Space," Poster presentation, MBR meeting, Billings, MT, September 21 – 23, **2005**.

Jacobson, M.D. "An Introduction to the Global Positioning System (GPS)", Math Interview Presentation, Billings, MT, April 21, **2004**.

Jacobson, M.D. "Oceanic wind direction using polarized microwave radiometers: Theory and measurement," URSI Meeting, Boulder, CO, January 4, 1999.

Jacobson, M.D., W.J. Emery, and E.R. Westwater. "Oceanic wind vector determination using a dual-frequency microwave airborne radiometer - theory and experiment," IGARSS Meeting, Lincoln, NE, May 29, 1996.

Jacobson, M.D., and W.M. Nunnelee. "Performance evaluation of a spinning flat reflector for millimeter-wave radiometr," IGARSS Meeting, Lincoln, NE, May 28, 1996.

Jacobson, M.D. "Theory and measurement of oceanic wind vector using a dual-frequency microwave airborne radiometer," Ph.D. Thesis Defense, Dept. of Electrical and Computer Engineering, University of Colorado, Boulder, April 4, 1996.

Jacobson, M.D., and W.M. Nunnelee. "Design and performance evaluation of a spinning flat reflector for millimeter-wave radiometry," URSI Meeting, Boulder, CO, January 3, 1996.

Jacobson, M.D., L.S. Fedor, D.A. Hazen, W.B. Madsen, M.H. Francis, and D.P. Kremer. "A dual-frequency mm-wave radiometer antenna for airborne remote sensing of atmosphere and ocean," URSI Meeting, Boulder, CO, January 7, 1995.

Jacobson, M.D., and W.M. Nunnelee. "A spinning flat reflector for millimeter-wave radiometry", URSI Meeting, Boulder, CO, January 6, 1994.

Jacobson, M.D., J.B. Snider, and E.R. Westwater. "Radiometric observations of atmospheric attenuation at 20.6 and 31.65 GHz, NAPEX 17 Meeting, Pasadena, CA, June 15, 1993.

Jacobson, M.D. "IR Cloud Sensing", WPL Seminar, Boulder, CO, April 28, 1987.

Jacobson, M.D., J.B. Snider, and D.C. Hogg. "Multi-Layer Windows in Millimeter-Wave Radiometry", URSI Meeting, Boulder, CO, January 12, 1987.

Jacobson, M.D., D.C. Hogg, J.B. Snider. "Polarization Effects in Microwave Radiometry Subject to Wet Reflectors", URSI/IEEE/AP-S Meeting, Vancouver, Canada, June 18, 1985.

Funded Grants and Monies

NSF Grant # DUE-1432373, $298,102.00, August 14, 2014, 3 – year. PI: Dr. Brock LaMeres, MSU, Electrical Engineering Department, Bozeman, MT and Co-PIs: Dr. Mark D. Jacobson, MSUB, Math Department, Billings, MT, and Dr. Carolyn Plumb, MSU, Director of Educational Innovation and Strategic Projects in the College of Engineering. It is titled, Design and Development Research: Deploying Adaptive Learning Environments to Overcome Background Deficiencies and Facilitate Mastery of Computer Engineering Content. This proposal is within NSF's program of improving undergraduate STEM Education (IUSE).

NSF Grant # DUE-1339919, $1,196,602.00, August 16, 2013, 4 – year. PI: Dr. Ken Miller, Professor of Instructional Theory and Practice (Science Education); Co-PI and STEM Faculty (Science): Dr. Stuart Snyder, Associate Professor of Physics; Co-PI and STEM Faculty (Mathematics): Dr. Mark Jacobson, Associate Professor of Mathematics; Program Coordinator: Dr. David Snow, Assistant Professor of Education (Mathematics); STEM Faculty (Mathematics): Dr. Don Gayan Wilathgamuwa; Independent Evaluator: Dr. Susan Barfield, Professor of Education. It is titled, "MSUB Robert Noyce Scholarship Track Phase 1" . This is under the Robert Noyce Teacher Scholarship Program.

Faculty Development Award #611081, $1350, October 10, 2012

Faculty Development Award #611081, $1800, December 1, 2011

NSF Grant # DUE-1136274, $299,904.00, August 1, 2011, 2 – year duration at Montana State University Billings. PI: Dr. David Davison, Professor Emeritus of Mathematics and Instructional Theory and Practice; Co-PI and Education Faculty: Dr. Kenneth Miller, Professor of Instructional Theory and Practice (Science Education); Co-PI and STEM Faculty (Science): Dr. Stuart Snyder, Associate Professor of Physics; STEM Faculty (Mathematics): Dr. Mark Jacobson, Associate Professor of Mathematics; Evaluator: Dr. Michael Scarlett, Assistant Professor of Educational Theory and Practice; Project Manager: Ms. Jeanie Kalotay. It is titled, "A Plan to Prepare STEM Teachers for Rural Montana." This is under the Robert Noyce Teacher Scholarship Program.

NSF Grant # DUE-0941660, $176,394.00, August 16, 2010. PI: Dr. James P. Becker, MSU, Electrical Engineering Department, Bozeman, MT and Co-PI: Dr. Mark D. Jacobson, MSUB, Math Department, Billings, MT. It is titled, "Student-Centered Learning Strategies for a Face-To-Face and Online Circuits Course." This proposal is within NSF's Course, Curriculum, and Laboratory Improvement (CCLI).

Faculty Development Award #611081, $1800, January 2011

Math Department, GPS books, $500, June 2007

CAS, Dr. Tasneem Khaleel, GPS Receiver, $725, July 21, 2006

RACE Grant #F2006-04, Index # 630714, Snow Depth Estimation Using GPS, $3500, November 20, 2006

RACE Grant # F2004-20, Index # 612073, The Life of an MSUB Student, $900, December 9, 2004

Current Proposals

None.

Rejected Proposals

Team member of a $375,316.00, 3 – year, NSF proposal with MSU-Bozeman's Electrical Engineering Department. It is titled, Deploying Adaptive Learning to Improve Undergraduate Understanding of Digital Circuits for both Live and Online Delivery. It was submitted on January 14, 2013 with NSF Proposal Number 1323334. We were informed on July 10, 2013 that this proposal did not get funded.

Team member of a $398,939.00, 4 – year, NSF proposal with MSU-Bozeman's Electrical Engineering Department. It is titled, A Comprehensive, Vertically Integrated Digital Circuits Track Designed for Wide-Scale Online Adoption. It was submitted on January 12, 2012 with NSF Proposal Number 1225489. We were informed on May 11, 2012 that this proposal did not get funded.

Team member of a $534,475.00, 5 – year, NSF proposal with MSU-Bozeman's Electrical Engineering Department. It is titled, Montana STEM Talent Expansion Program (M-STEP). It was submitted on September 28, 2010 with NSF Proposal Number 1068324. We were informed on March 10, 2011 that this proposal did not get funded.

Team member of a $697,657.00, 5 – year, NSF proposal with MSU-Bozeman's Electrical Engineering Department. It is titled, Montana STEM Talent Expansion Program (M-STEP). STEM is an acronym for Science, Technology, Engineering, and/or Mathematics. It was submitted on September 29, 2009 with NSF Proposal Number 0969295. We were informed on March 29, 2010 that this proposal did not get funded.

Team member of a $1.16 million, 5 – year, NSF proposal with MSU-Bozeman's Electrical Engineering Department. It was titled, the Montana STEM Transfer Readiness Education Program (MSTREP). It was submitted on September 30 with NSF Proposal Number 0856614. We were informed on March 8, 2009 that this proposal did not get funded.

Conferences and Talks - Attended only

2016 Noyce Summit conference. Washington, D.C., July 20 – 22, 2016.

Dr. Mark Nook, MSUB Chancellor, Exploring Space Event, Lecture and sky viewing using telescopes, October 22, 2015.

Dr. Bradford Brooks (IBM Fellow), We live in Exponential Times...Buckle Up!, Billings, MT, October 8, 2015.

Symposium on Montana Mathematics Teaching (SUMMIT), Fairmont Hot Springs, MT, May 1 and 2, 2015.

Praxis II Math review meeting, Helena, MT, February 5, 2015.

Montana's Math Pathways Initiative Event, Helena, MT, May 9, 2014.

Ms. Katey Plymesser, Engineering candidate, teaching and research talks. April 22, 2014.

Ms. Danielle Bond, Engineering candidate, teaching and research talks. April 15, 2014.

Dr. Joshua Schultz, Engineering candidate, teaching and research talks. April 14, 2014.

National Council of Teachers of Mathematics (NCTM) 2014 Annual Meeting and Exposition, New Orleans, LA, April 9 – 12, 2014.

Western Regional Noyce Technology Conference, Fresno, CA March 7 and 8, 2014.

Arizona Mathematical Association of Two Year Colleges (AMATYC) Southwest Region Conference, "Taking Mathematics to Grand Heights," Flagstaff, AZ, June 14 and 15, 2013.

Dr. Bridget Barker, Research Scientist, Montana State University. Her talk is on "Genome Data and Fungal Pathogenesis: a Tale of Two Species." March 22, 2013

Dr. Crystal Richards, Research Scientist at NIH Rocky Mountain Laboratories, Hamilton, MT. Her talk is on "research on the presence of H. pylori in drinking water supplies on the Crow Indian Reservation, in Montana, and the physiological aspects of the bacterium that allow H. pylori to adapt to a drinking water environment." March 19, 2013

Dr. Amaya Garcia Costas, Fixed-term Professor of General Biology and Microbiology Montana State University Billings. Her talk is on "research on the presence of H. pylori in drinking water supplies on the Crow Indian Reservation, in Montana, and the physiological aspects of the bacterium that allow H. pylori to adapt to a drinking water environment." March 15, 2013

Native American Student Advocacy Institute, UCLA, Los Angeles, CA, May 22-23, 2012.

Mr. Jeremy Mangen, LTJG talk is on Train as a Nuclear Engineer, Science Auditorium, March 21, 2012.

Dr. Stuart Snyder's talk is on Fun Things You Can Do In The Dark, Science Auditorium, March 16, 2012.

Dr. Matt Benaquista's talk is on Gravitational Waves and Lasers in Science Building, April 15, 2010.

MSUB Back to School Conference, Billings, MT, MSUB COT campus, August 19 – 20, 2008

Dr. Michael Havens, MSUB professor of psychology: "Neural Networks for Modeling Neurons and Brain Processing", Rocky Mountain College, Billings, MT, February 7, 2008

MSUB Back to School Conference, Billings, MT, MSUB COT campus, August 21 – 24, 2007

Virtual meeting introducing MathXL and MyMathLab, October 30, 2006

Blackboard Content System Presentation, MSUB campus, March 13, 2006

MSUB Back to School Conference, Billings, MT, MSUB campus, August 22 – 24, 2006

Starting Student Space Hardware Programs IV: A How-To Workshop, Boulder, CO, University of Colorado campus, July 14 – 16, 2005

MSUB Distinguished Lecture Series: "Jesus in the Gnostic Gospels: How Newly Discovered Texts Are Changing Our View of Early Christianity", Dr. Marvin Meyer (Griset Professor of Bible and Christian Studies in the Department of Religious Studies at Chapman University in Orange, California), April 22, 2005

Online Presentation, "Development of a Successful Online Model and Lessons Learned", by Ms. Vivian Zabrocki (ASC) and Mr. Richard Pierce (COT), Billings, MT, MSUB COT campus, December 17, 2004

eCollege Workshop, Billings, MT, MSU-B campus, November 19, 2004

MSUB Science Colloquium series: "Gravitational Radiation Studies in Italy: A Physics Fulbright", Dr. Matt Benaqista, November 17, 2004

MSUB Mathematics Colloquium series: "Cryptography and Schur's Conjecture", Dr. Michael Fried, October 21, 2004

Teachers Fair, Billings, MT, MSU-B campus, April 30, 2004

eCollege Workshop, Billings, MT, MSU-B campus, October 15, 2002

Curriculum Development

Spring 2016: Attended a Pearson MyMathLab learning session on January 14, 2016 at MSUB

Spring 2013: Attended a Pearson MyMathLab learning session on March 28, 2013 at MSUB

Fall 2011: Attended a Mathematica Seminar on October 10, 2011 at MSUB.

Spring 2011: Attended a meeting in Dr. Michael Barber's office on February 23, 2011 about the MyLabs Plus environment. This is a Pearson Textbook Company product which is hosted in eCollege.

Fall 2010: Attended a MathXL learning session on August 19, 2009 at MSUB

Pearson Textbook Company, Sponsored trip to Spokane, WA on February 26 – 27, 2010. Two day conference on "Math Technology Professional Development Forum." We use many of their textbooks for our Math and Statistics courses.

Fall 2009: Attended a MathXL learning session on August 25, 2009 at MSUB

Fall 2008: Attended several D2L learning sessions. D2L is replacing eCollege in 2009

July 2008 – present: Continued co-development with Dr. Maggie McBride an on-line course and assessment for STAT 241 Statistical Methods using eCollege and CourseCompass (MyMathLab/MathXL) software; began using new enhanced software in Fall 2008

June 2007 – Spring 2008: Co-developed with Dr. Maggie McBride an on-line course and assessment for STAT 241 Statistical Methods using eCollege and CourseCompass (MyMathLab/MathXL) software; began teaching course in Fall 2007

December 2002 – present: MathXL internet homework and tests for courses Math 104, 105, 107, 112, 113, 121, and 202 and STAT 241

July 2005 – present: Co-developed with Dr. Maggie McBride an on-line course and assessment for STAT 241 Statistical Methods using eCollege software; began teaching course in Spring 2006

December 2002 - January 2003: Developed an on-line course and assessment for CTMA 104 Business Mathematics using CourseCompass and eCollege software; taught the course from Spring 2003 – Spring 2004. This course is currently being taught by Ms. Andrea Payne of the ASC

COMMUNITY SERVICE

Memberships

Institute of Electrical and Electronics Engineers (IEEE)

Geoscience and Remote Sensing Society (GRSS)

Professional Engineer (PE) in Colorado

Sub-Commission 4.6: GNSS Reflectometry & Applications, IAG commission 4 "Positioning and applications" 2011 – 2015

Montana Academy of Sciences 2007 and 2009

National Academy of Science, National Research Council, Committee on Radio Frequencies, 1998 – 1999

United States National Committee, International Union of Radio Science Commission F, 1997 – 1999

Tau Beta Pi Engineering Honorary Society

University Non-Teaching Activities

Fall 2016 Chair of Math department.

Summer 2016 Served on the Search committee for the Full time, Fixed-Term, Assistant Professor of Biology position, Search #F00064P. The close date was June 12, 2016.

Math Chair.

Spring 2016 Served as an outside member for the College of Arts and Sciences Department for Retention and Tenure Committee (DRTC) for Dr. Brian Dillon's 5th-year post tenure review.

Attended a Noyce Scholarship Program exhibition combining art and Arduino programming on January 23 from 2 – 4 p.m. at MSUB.

Fall 2015 Chair of Math department.

Summer 2015 Math Chair for first half of summer.

GPS Research conference trip.

Spring 2015 I was selected by Dr. Mary Susan Fishbaugh, Dean of College of Education, to be a reviewer for the ETS Praxis II Mathematics Content Knowledge Test. This meeting took place at Carrol College in Helena, MT on February 5 from 9 a.m. – 12 p.m. (noon).

Taught Dr. Katey Plymesser's "Introduction to General Engineering" class about the basics of Mathematica on January 29 at City College in room A070.

Serving as an outside member for the Biological and Physical Sciences Department for Retention and Tenure Committee (DRTC) for several faculty members.

Chair of Math Scholarship committee.

Fall 2014 Attended demonstration of the final project for the Introduction to Engineering class on December 11. The two teams gave a short explanation of their trebuchet (catapult) designs and competed to see who can get closest to launching an egg (hard-boiled) into a frying pan. Dr. Katey Plymesser, Assistant Professor of Engineering, organized this event.

Attended the Noyce Scholarship dinner and event meeting in room COE 122 on December 5.

Served as an outside member for the College of Health and Human Performance's Department for Retention and Tenure Committee (DRTC) for Dr. Kathe Gabel and Dr. Suzette Nynas.

Attended the Noyce Scholarship Fall Retreat and Advising Session meeting in room COE 122 on October 13.

Presented a talk titled: Estimating Snow Water Equivalent by using GPS signals to Dr. Katey Plymesser's PHYX 294 Introduction to General Engineering course on September 16.

Attended the NSF Noyce Scholars welcome meeting at MSUB's COE building on September 3.

Summer 2014 GPS Research and conference trips. Dr. Katey Plymesser officially accepted the Engineering position at MSUB.

Spring 2014 Attended the Eighty-Seventh Annual Commencement for MSU-B graduates, May 3.

Attended the College of Arts & Sciences Convocation on May 2.

Recipient of 10 Years of Service at MSUB at Faculty Excellence Awards Banquet, April 3

Served as an outside member for the College of Education's Department for Retention and Tenure Committee (DRTC) for Dr. Ken Miller, Dr. David Snow and Dr. Rachael Waller.

Fall 2013 Attended the NSF Noyce Scholarship Phase I grant kick-off meeting at MSUB's extended campus in downtown Billings on November 8, 2013.

Served as an outside member for the Biological and Physical Sciences Department for Retention and Tenure Committee (DRTC) for Dr. Neil Suits' tenure application.

Attended a STEM event in COE 122 on September 12. STEM majors and faculty showed up for this event. It included a social hour, dinner and STEM challenge. Dr. Dave Snow organized this event.

Serving as Chair on the Search committee for the Tenure-Track Faculty of Engineering position. This position was advertised in December 2013 and has a close date of February 28, 2014.

Coordinated the efforts in modifying the Math programs.

Summer 2013 GPS Research, conference trips and coordinated the efforts in modifying the Math programs.

Spring 2013 Attended the Eighty-Sixth Annual Commencement for MSU-B graduates, May 4.

Attended the College of Arts & Sciences Convocation on May 3.

Attended a meeting on April 23 that was coordinated Dr. David Snow (College of Education, Math). This meeting involved Dr. Snow, three MSUB secondary education students, a number of Math teachers from Billings School District 2, four MSUB Math professors (Dr. Maggie McBride, Dr. John Hoover, Dr. Gayan W., and myself). The purpose of this meeting was to better connect the Billings School District 2 Math teachers with MSUB's Math faculty and Math students.

Completed NSF survey of Doctorate Recipients on March 21

Member, Committee (Dr. Jim Barron, Dr. Mark Fenderson and myself) selected a student to receive the College of Arts & Science Alumni Excellence Award Scholarship of $500, March 1

Member, Committee (Dr. Maggie McBride, Dr. John Hoover, Mr. Rick McIntyre, Dr. Gayan W. and myself) selected a student to receive the Oliver W. Peterson Math Endowed Scholarship of $1,500, and a student to receive the Math Scholarship of $500 on February 22

Served on the Search committee for the Full time, Tenure Track, Assistant Professor of Biology position, Search #1394DEC. The close date is February 1, 2003.

Served as an outside member for the Biological and Physical Sciences Department for Retention and Tenure Committee (DRTC) for several faculty and part time instructors.

Fall 2012 Judged two student groups in Dr. Gayan Wilathgamuwa's STAT 341 class on December 7, 2012. The presentations were (a) Beyond the Z Curve: A Research Paper on Assessing Normality and (c) Relations of Statistical Approximations to Distributions.

Served as an outside member for the Biological and Physical Sciences Department for Retention and Tenure Committee (DRTC) for Dr. Stuart Snyders's promotion to Full Professor. We met in October.

Attended and contributed to a New and Untenured Faculty meeting on October 24.

Served as the CAS faculty representative on the College of Education Council.

Attended the New Student Welcome for CAS at 11:00 a.m. in LA 205. There were two students in Math (one Pre-Engineering and one Computer Science).

Appointed by the Academic Senate Committee on Committees to serve on the General Education Committee for term 2012 – 2014.

MSUB advisor to a National Science Foundation /Science Partnership grant titled, "Montana Partnership with Regions for Excellence in STEM (MPRES)". STEM is the acronym for science, technology, engineering and math, key areas of education that will position the state and nation to compete in a global economy. The success of this grant is the continuing work by Dr. Ken Miller (director of Educational Programs at the MSU Billings College of Education) and a new partnership with Montana Tech. It is a 3-year, $1 million grant that will train, support, and equip classroom teachers across Montana to excite young minds in the areas of science, technology, engineering and math.

Coordinated the efforts in modifying the Math programs.

Summer 2012 Served as Chair on the Search committee for the Tenure Track, Assistant Professor of Math position. This position was advertised in July and has a closed date of October 15, 2012.

Served on the Search committee for the Full time, Tenure Track, Assistant Professor of Accounting position. The close date was July 15. Position was filled.

Worked with Dr. Jim Becker (Associate Professor in Electrical Engineering at MSU Bozeman) on developing a new circuit lab. NSF grant: Student-Centered Learning Strategies for a Face-To-Face and Online Circuits Course.

Spring 2012 Attended the Eighty-Fifth Annual Commencement for MSU-B graduates, April 28.

Attended the College of Arts & Sciences Convocation on April 27.

Attended Dr. Dixie Metheny's retirement celebration at the COE on April 17.

Member, Committee (Dr. Jim Barron, Dr. Mark Fenderson and myself) selected a student to receive the College of Arts & Science Alumni Excellence Award Scholarship of $500, February 28

Member, Committee (Dr. Maggie McBride, Dr. John Hoover, Mr. Rick McIntyre, Dr. Gayan W. and myself) selected a student to receive the Oliver W. Peterson Math Endowed Scholarship of $1,000, February 17

Served as Chair on the Search committee for the Tenure Track, Assistant Professor of Math position. This was a failed search since Dr. Christina Hayes turned down the job offer. Paper work was completed on July 12, 2012.

Served as DRTC Chair, Math Department for Dr. John Hoover's 5th year post tenure review. His performance met expectations as outlined in Dr. Khaleel's letter dated on February 16, 2012.

Served as an outside member for the Health and Human Performance department for Retention and Tenure Committee (DRTC) for several faculty. We met in January.

Served as an outside member for the Biological and Physical Sciences Department for Retention and Tenure Committee (DRTC) for several faculty and part time instructors. We met in January.

Served as an outside member for the English, Philosophy and Modern Languages department for Retention and Tenure Committee (DRTC) for Dr. Tom Regele. We met in January.

Fall 2011 Serving on the Search committee for the Full time, Tenure Track, Assistant Professor of Sociology/Criminology position. The close date was November 30. Position was filled.

Attended and contributed to a New and Untenured Faculty meeting on October 26

Served on the Search committee for the Full time, Tenure Track, Assistant Professor of Health and Human Performance position. The close date was October 24. Position was filled.

Attended a College of Arts and Sciences meeting with Dr. Mark Pagano on October 17

Served as an outside member for the Biological and Physical Sciences Department for Retention and Tenure Committee (DRTC) for Assistant Professor, Dr. Matthew Marlow's second year extended review. We met on October 13

Attended the Inauguration of Dr. Rolf Groseth on September 20

Attended the 2011 Chancellor's Scholarship Reception on September 12

Mentor for Cassandra Darlinton. She received the Haynes Foundation Merit Scholars award

I am chair of Sub-Commission 4.6: GNSS Reflectometry & Applications IAG commission 4 "Positioning and applications" for WG 4.6.4 Soil and Cryosphere detection by GNSS-R for 2011 – 2015. This is an international committee. I accepted this position on September 2

Summer 2011 Worked with Dr. Jim Becker (Associate Professor in Electrical Engineering at MSU Bozeman) and Jacob Scott (MSUB student). NSF grant: Student-Centered Learning Strategies for a Face-To-Face and Online Circuits Course.

Spring 2011 Attended the Eighty-Fourth Annual Commencement for MSU-B graduates, April 30

Attended the College of Arts & Sciences Convocation on April 29

Member, Committee (Dr. Jim Barron, Dr. Mark Fenderson and myself) selected a student to receive the College of Arts & Science Alumni Excellence Award Scholarship of $500, March 15

Member, Committee (Dr. Maggie McBride, Dr. John Hoover, Mr. Rick McIntyre and myself) selected a student to receive the Oliver W. Peterson Math Endowed Scholarship of $1,000, March 15

Served on the Search committee for the Tenure Track, Assistant Professor of Math position. This position was filled by Dr. Don Gayan Wilathgamuwa. He starts in Fall 2011.

Served on the Search committee for the Fixed-term, Assistant/Associate Professor of Finance position.

Fall 2010 Attended the 2010 Chancellor's Scholarship Reception on September 20

Mentor for Jenna Breshears. She received the Haynes Foundation Merit Scholars award

Donor, Donated some money to MSUB Foundation

Outside member for approval of Tenure and Promotion of Dr. Kurt Toenjes and Tenure for Dr. Thomas Lewis. Both are in the department of Biological and Physical Sciences

Completed NSF survey of Doctorate Recipients

Summer 2010 Worked with Dr. Kristine Larson, University of Colorado, Aerospace Department, Boulder, Colorado. GPS reflection research. May 17 - 19

Spring 2010 Recipient of the ASMSUB 2010 Outstanding Faculty Award for the College of Arts and Sciences, March 11

Member, Committee (Dr. Jim Barron, Ms. Tami Haaland and myself) selected a student to receive the College of Arts & Science Alumni Excellence Award Scholarship of $500, February 16

Member, Committee (Dr. Maggie McBride, Dr. John Hoover, Dr. Jerzy Czyz and myself) selected a student to receive the Oliver W. Peterson Math Endowed Scholarship of $1,000, February 16

Attended the Eighty-third Annual Commencement for MSU-B graduates, May 1

Attended the College of Arts & Sciences Convocation on April 30

Attended talk by Dr. Waded Cruzado, the President of the Montana State University at the COT's HSB, January 26

Selected to serve on the Search committee for the Tenure Track, Assistant Professor of Chemisty position. This position was filled by Dr. Matthew Marlow. He starts in Fall 2010.

Selected to serve on the Noel-Levitz Retention Committee for the CAS, January 8

Fall 2009 Attended the 2009 Chancellor's Scholarship Reception on September 21

Mentor for Amy Tackett. She received the Haynes Foundation Merit Scholars award

Appointed to serve on the Undergraduate Curriculum Committee, for term 2009 – 2012

Donor, Donated some money to MSUB Foundation

Spring 2009 Met with Dr. Jim Peterson, Dr. Jim Becker, Dr. Rob Maher, Dr. Tom Gibson and other MSUB personnel on May 11, 2009 to discuss items relating to the debriefing of EE/PHYS 206 Circuits I course. We also discussed offering the following two EE courses at MSUB in 2010: EE/PHYS 207 Circuits II and EE/PHYS 261 Introduction to Logic Circuits

Attended the Eightieth Annual Commencement for MSU-B graduates, May 2

Attended the College of Arts & Sciences Convocation on May 1

Attended the Faculty Excellence Awards dinner on March 13, 2009 to receive my 5 years of Service Certificate of Recognition at MSUB

I agreed to serve on the search committee for the math faculty position at MSUB COT for Fall 2009. The position was not approved as a tenure track position, so no search occurred. Six other COT personal were on this committee including Barb Pedula as the chair

Member, Committee (Dr. Jim Barron, Ms. Tami Haaland and myself) selected a student to receive the College of Arts & Science Alumni Excellence Award Scholarship of $500, February 20

Met with Dr. Jim Peterson, Dr. Jim Becker, Dr. Rob Maher, Dr. Tom Gibson and other MSUB personal on January 9, 2009 to discuss items relating to the upcoming EE/PHYS 206 Circuits I course

Fall 2008 Donor, Donated some money to MSUB Foundation

Nominated, Applied for the Winston and Helen Cox Fellowship

Met with Dr. Jim Peterson on November 12 to transfer MSU-Bozeman EE circuit equipment to MSUB and to discuss other items related to the upcoming EE/PHYS 206 Circuits I course

Met with Dr. Jim Peterson and other MSUB personal, former EE professor from MSU-Bozeman, on September 15 to discuss items for the Spring 2009 EE/PHYS 206 Circuits I course

Attended the 2009 Chancellor's Scholarship Reception on September 15

Mentor for Brook Murphy and Toby Wahl. They both received the Haynes Foundation Merit Scholars award

Attended the Montana Palladium Research Initiative at MSUB on August 14

Elected to serve as the Chair on the Undergraduate Curriculum Committee, for term 2008 – 2009

Spring 2008 Attended the Eighty – First Annual Commencement for MSU-B graduates, May 3

Attended the College of Arts & Sciences Convocation on May 2

Attended the dedication and community celebration of the Montana State University Billings College of Technology Health Sciences Building on March 13

Member, Committee (Dr. Jim Barron, Ms. Tami Haaland and myself) selected a student to receive the College of Arts & Science Alumni Excellence Award Scholarship of $500, February 22

Member, Committee (Dr. Maggie McBride, Dr. John Hoover, Dr. Jerzy Czyz and myself) selected a student to receive the Oliver W. Peterson Math Endowed Scholarship of $1,000, February 14

Selected to serve on the Search committee for the Tenure Track, Assistant Professor of Physics position. This position was not funded

Fall 2007 Member, Committee (Dr. Mike Fried, Dr. David McGinniss, Dr. Christy Low and myself) on Assessment-Retention at MSUB. Began discussions on assessment and retention at MSUB. Discussions with this committee ended in January 2008

Selected to serve on the Math Dual Credit mentoring staff

Selected to serve on Salary Compression Task Force

Appointed to serve on the Academic Computing and Allied Technology Committee, for term 2007 – 2009

Elected to serve as the Alternate Chair on the Undergraduate Curriculum Committee, for term 2007 – 2008

Spring 2007 Attended the Eightieth Annual Commencement for MSU-B graduates, May 5

Attended the College of Arts & Sciences Convocation on May 4

Member, Committee (Dr. Maggie McBride, Dr. John Hoover, Dr. Jerzy Czyz and myself) selected a student to receive the Oliver W. Peterson Math Endowed Scholarship of $1,000, February 23

Member, Committee (Dr. Jim Barron, Ms. Tami Haaland and myself) selected a student to receive the College of Arts & Science Alumni Excellence Award Scholarship of $500, February 27

Fall 2006 Attended the 2006 Chancellor's Scholarship Reception on September 13

Mentor for Logan Eaton. He received the Haynes Foundation Merit Scholars award

Received $3500 from RACE for proposal "Snow Depth Estimation Using GPS" on November 20

Appointed to serve on CQI's Retention Task Force Committee, for term 2006 – 2008

Appointed to serve on the Undergraduate Curriculum Committee, for term 2006 – 2009

Summer 2006 Received $725 from Dr. Tasneem Khaleel for proposed GPS research on July 21, 2006

Spring 2006 Attended the Seventy-Ninth Annual Commencement for MSU-B graduates, May 6

Attended the College of Arts & Sciences Convocation on May 5

Attended the Faculty Excellence Awards on March 30

Member, Committee (Dr. Maggie McBride, Dr. John Hoover, Dr. Jerzy Czyz and myself) selected a student to receive the Oliver W. Peterson Math Endowed Scholarship of $1,000, February 23

Member, Committee (Dr. Jim Barron, Ms. Tami Haaland and myself) selected a student to receive the College of Arts & Science Alumni Excellence Award Scholarship of $500, March 2

Fall 2005 Assisted professors and students in various electrical engineering aspects of the Borealis High Altitude Balloon Program

Attended the 2005 Chancellor's Scholarship Reception on September 14

Mentor for Austin Duncan. He received the Haynes Foundation Merit Scholars award

Appointed to serve on the Academic Computing and Allied Technology Committee, for term 2005 – 2007

Summer 2005 Assisted professors and students in various electrical engineering aspects of the Borealis High Altitude Balloon Program

Participated in a joint MSU Bozeman-Billings Borealis high altitude balloon launch at Big Timber on July 9

Spring 2005 Attended the Seventy-Eight Annual Commencement for MSU-B graduates, May 7

Attended the College of Arts & Sciences Convocation on May 6, 2005

Lectured for half a period in Dr. Jerzy Czyz's Math 113 Calculus II class concerning Fourier Series analysis as pertaining to music, April 21

Lectured for two days in Dr. John Hoover's Math 113 Calculus II class concerning first-order differential equations as pertaining to electric circuits, March 25 and 26

Nominated myself to the Arts and Sciences Curriculum Council

Designed, built and tested a circuit that converts temperature, humidity and pressure to Transistor Transistor Logic (TTL) voltage levels (0 – 5 volts), this is for the Borealis High Altitude Balloon Program

Assisted professors and students in various electrical engineering aspects of the Borealis High Altitude Balloon Program

Member, Committee (Dr. Maggie McBride, Dr. John Hoover, Dr. Jerzy Czyz and myself) selected a student to receive the Oliver W. Peterson Math Endowed Scholarship of $1,000, March 4

Member, Committee (Dr. Jim Barron, Ms. Tami Haaland and myself) selected a student to receive the College of Arts & Science Alumni Excellence Award Scholarship of $500, February 25

Project Director, RACE funded proposal, College of Education/ Department of Business/Department of Mathematics

Fall 2004 Project Director, RACE funded proposal, College of Education/ Department of Business/Department of Mathematics

Member, committee examines current contractual descriptions for requirements for teaching, service, and research for retention and tenure

Member, What Do You Know? Mathematics Colloquium

Member, Continuous Assessment Office

Member, Instructional and Developmental guidelines for online teaching, Department of Mathematics

Member, Campus Selection Committee for selecting recipients to College of Arts & Sciences Alumni Excellence Scholarship

Member, Campus Selection Committee for selecting recipients to Oliver W. Peterson Math Scholarship

Donor, Donated some money to Math Scholarship Fund

Nominated, Applied for the Winston and Helen Cox Fellowship

Assisted parents whose daughter is a prospective MSU-B student with a pre-engineering plan

Assisted professors and students in various electrical engineering aspects of the Borealis High Altitude Balloon Program

Assisted (as necessary) a Ph.D. candidate in physical therapy under the direction of Professor Russell Lord

Non-University Activities

Fall 2015	None
Spring 2015	Participated in judging the Billings Clinic Research Center Science Expo, March 27
Fall 2014	None
Spring 2014	Participated in judging the Billings Clinic Research Center Science Expo, March 28
Fall 2013	None
Spring 2013	Participated in judging the Billings Clinic Research Center Science Expo, March 22
Fall 2012	None
Spring 2012	Participated in judging the Billings Clinic Research Center Science Expo, March 23
Fall 2011	None
Spring 2011	Participated in judging the Billings Clinic Research Center Science Expo, March 25
Fall 2010	None
Spring 2010	Participated in judging the Billings Clinic Research Center Science Expo, March 26
Fall 2009	None
Spring 2009	Participated in judging the Billings Clinic Research Center Science Expo,

March 27

Fall 2008 Attended an orientation meeting for being a juror in the Billings Municipal Court on August 25. I was called to report on September 11 and November 20. The trials were settled before the court date, so I did not serve

Spring 2008 Attended Barack Obama's town hall meeting at Billings West High School on May 19

Attended the 40th Annual Inter-Tribal Indian Club Pow Wow at the Billings Outlaw Sports Plex, April 12

Participated in judging the Billings Clinic Research Center Science Expo, March 28

Participated in manning the Math booth for the "Chicks in Science" event on the MSUB campus on February 16. This event introduces Billings-area girls from 4th through 8th grades and their moms to various scientific professions

Fall 2007 None

Spring 2007 Participated in judging the Billings Clinic Research Center Science Expo, March 23

Gave statistical consultation to Andrew Bobst, Hydrologist for the United States Bureau of Land Mangement in Miles City, MT, for his report: "Water Year 2006 Overview of Surface Water Monitoring Data for SC, SAR and Flow in the Tongue River Watershed"

Fall 2006 Guided Melissa Norman, a senior attending Buffalo High School in Wyoming, on some pre-engineering items

Spring 2006 Participated in judging the Billings Clinic Research Center Science Expo, March 17

Fall 2005 Mentored Ken Aycock, senior at Skyview High School, on GPS project for upcoming Science Expo

Spring 2005 Participated in judging the Deaconess Billings Clinic Research Center Science Expo, March 18