



WALTER MAXWELL GIBSON
**COLLEGE of SCIENCE
 & ENGINEERING**

VOLUME VII

**SPECIAL POINTS
 OF INTEREST**

- Student Spotlight
- New Science Center
- \$6M Endowment

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COSE Student Spotlight - Brandon K. Wiggins, Mathematics

Brandon, a Mathematics major with a minor in Physics, is from New Harmony and is quite the exceptional student. Read on to find out more about this dynamic and engaging force to be reckoned with.

Why did you choose SUU?

SUU's beautiful, proximate location and small size were major appeals to me. Some of my siblings had attended SUU and I saw how close they were to their professors and the type of education they got. SUU seemed like a good, natural choice that I will never regret!

Do you feel your experience and background here at SUU has prepared you for success?

Absolutely. There are experiences which I had at SUU which prepared me for graduate work and for my career which I could not have had if I had chosen to attend a larger institution. I was able to quickly find a professor who was excited to do research with me in an area that I loved. I gained personal experience working with state of the art research equipment at SUU including the new supercomputer on campus. Between opportunities to teach, research, present and publish findings and then to get a very competitive degree at SUU, I have felt very prepared to take on the challenge of rigorous studies in my dream field.

Why did you choose to major in Mathematics? My situation is somewhat unique.

My original plan was to pursue astrophysics, but such a program was not available. With the special resources available at SUU, you can turn to an undergraduate education in pure mathematics into competitive preparation for study in your dream field of astrophysics.

(Continued on next page)



Q&A

Student Spotlight - Brandon K. Wiggins

BRANDON WIGGINS

Mathematics Graduate

2011-2012 Awards:

- ◆ 2012 Valedictorian - College of Science and Engineering
- ◆ Recipient of the prestigious High Impact Doctoral Research Award (HIDRA) Grant at Brigham Young University
- ◆ College of Science and Engineering's Outstanding Research Award in Physical Science
- ◆ Recipient of the SUU Board of Trustees' Scholarship
- ◆ Research has received recognition from the Department of Undergraduate Research at SUU in the category of Physical Science.
- ◆ Appointed delegate for the Education without Borders International Conference of 2011 held in Dubai.

Q. Would you recommend studying mathematics to women?

"One of the most gifted professors and teachers on campus, Dr. Gretchen Rimmasch Meilstrup, has her doctorate in math. Women definitely have a lot of offer in this field. I would certainly recommend the study of math to anyone, especially to women."

"In one math class, Dr. Seth Armstrong even adjusted his course to include topics from quantum mechanics (a topic in physics) because he knew I was in his class!"

Was there anyone in your life that influenced you to pursue astrophysics?

My late scientist grandfather, Dr. Sheldon Kerry Grant, inspired my love of the sciences and my dream to one day study astronomy. If anyone could teach curiosity, Grandpa could! It was through our extended conversations and early associations that I realized at a very early age that I wanted to be an astronomer.

Please tell me about your research.

During my first semester as an undergraduate, I began working with Professor Brent Sorensen on a research project involving the motion of galaxies in a galaxy cluster and the General Doppler Equation as derived in Einstein's Theory of Relativity. This research project led to a study on the kinematics of galaxy clusters in general and then on to research in relaxation and the velocity structure of cold dark matter halos. As part of our research, we utilized the new supercomputer at SUU to simulate the motions of many thousands of particles representing colliding dark matter halos to better understand how merger scenarios between clusters of galaxies might appear from Earth. Later, we studied and simulated the shape of the Iron K α line resulting from various configurations and illumination patterns of accretion disks around supermassive black holes.

Are you going to go to graduate school?

I am currently studying galaxy mergers and evolution as a graduate student at BYU with Dr. Victor Migenes. We are studying a particular pair of colliding galaxies, IC 694 and NGC 3690 which are exhibiting heavy star formation and which appear to contain dual



supermassive black holes. It's an exotic system which may contain clues regarding some standing questions in astrophysical masers. In the coming months we will be writing research proposals to look for similar systems using radio telescopes around the country and world. The Department of Physics and Astronomy at BYU seems very excited to have a mathematician on board, and I am very excited to offer

what I can to their program. Dr. Migenes, with his connections around the globe, will not only be able to offer me a first class experiential education but also be able to place me well.

What do you do in your spare time for fun?

When I am not doing research or schoolwork, I enjoy spending time with my wonderful wife. I also enjoy composing music, writing and reading good books.



KENDRA DAVIS

Integrated Engineering Graduate

2011-2012 Awards:

- ◆ Elaine C. Southwick
Thunderbird Award
- ◆ 2nd Place in SUU 2011 Fall
Bouldering Competition,
Women's Beginner Division
- ◆ 3rd Place in CAD Shootout
Competition - Engineering
Week
- ◆ Outstanding Leadership in
Engineering
Award
- ◆ Outstanding Engineering
Student Award
- ◆ Outstanding Service to the
Engineering Club
Award
- ◆ Outstanding Engineering
Scholar Runner-
Up
- ◆ Dean's List - Fall &
Spring
- ◆ 1st place in SUU 2011 Fall
Bouldering Competition,
Women's Beginner Division

What senior capstone project did you choose to complete your IE degree?

We chose to build a rock climbing wheel, which is a rotating climbing surface designed to provide continuous and realistic climbing training. It resembles a giant hamster wheel with climbing holds on the outside.

Who was involved in the project?

My design partners Jared Tanner and Logan Butt were the most heavily involved. Dr. Morton was our project advisor and the entire IE faculty was involved in helping. Dr. Longhurst helped with funding and budget, as well as material selection and dynamics. Dr. Penny conducted the structural analysis, and Dr. Murray graciously helped with the electrical design elements. Roger Greener helped support all the machining efforts for the actual build. Rob Myers, Coordinator of SUU Outdoor Recreation and Education, provided input and feedback from a climber's perspective, and many of the teams' friends and family helped with the manual labor. Many of our donors went above and beyond by donating supplies. Administrative perspective was given by Associate Dean Freden and Dean Eves.

What was the most challenging portion of the project?

Learning how to work as a team was probably the most challenging part of our capstone project. Technically our team was very competent and prepared. Our skill sets balanced each other well. However, with other school demands, work, and various interests pulling at each of us, learning how to adequately communicate and prioritize became a crucial element, and definitely the hardest part to effectively execute.

What have you been doing since graduation?

I moved to Salt Lake City where I now work as an Associate Engineer for Moog. I work in test and development in the Aircraft group. I help them design test equipment for airplane control systems and execute and document the tests. I really enjoy my job so far. Work has already taken me to California and I get to work with people from all over the world including India, the Philippines and England.

What advice would you give incoming freshman?

Make sure you love whatever you choose as your major, because it is going to get hard. Make sure to not procrastinate so that you have time to think about problems. Remember, it's about learning not about grades; and be kind.

What is one of your favorite memories from your time here at SUU?

Just one?! That is the hardest question on here. I really liked when my roommates and I would have conversations about our classes and they would say "today I waited for something to boil in chemistry lab" or "we learned about the phases of early childhood development" and I would get to say things like "Today I busted apart a concrete cylinder to learn about its compressive strength" or "I designed a propeller and then fabricated it using a 3D printer." It is pretty hard to find a major that is more fun than engineering.

Q. What was the best part of your senior year?

"Definitely building my senior project, the rock-climbing wheel. If nothing else because the hardest things in life bring you the most joy."

NAMING OF THE COLLEGE



Walter Maxwell
Gibson College of
Science & Engineering
May 3, 2012



Largest Gift in SUU History: \$4 Million from Gibson Family

Southern Utah University recently announced the largest single gift in its 115-year history: \$4 million from Walter M. and Alice Gibson. The funds are designated for the College of Science and Engineering (COSE) and will help fund an endowment for student and faculty research initiatives and scholarships.

"This is truly a game-changing gift for one of our largest and most dynamic colleges," stated SUU president Michael Benson. "We are extremely grateful to the Gibson family for their commitment to and support of the advancement of science at SUU. Their generosity will benefit the educational pursuits for countless students for generations. This is truly amazing."

In recognition of this historic donation, SUU will be naming the College of Science and Engineering in honor of the late Walter Maxwell Gibson, who graduated from the Branch Agricultural College (now SUU) in 1952 with an associate's degree in chemistry.

Gibson and his family originally pledged \$3 million in 2007 for the construction of the new Science facility at SUU. However, Dr. Gibson's valiant struggle with cancer and his untimely death prevented the family from completing the pledge during the construction of the building.

Walter's son and president of XOS, David Gibson, worked tirelessly to see that his father's initial pledge was fulfilled. When he called Benson to inform him of the forthcoming gift, he had a caveat: the original pledge of \$3 million would now be a gift of approximately \$4 million, and would be placed in an endowment to benefit students and faculty for years to come.

"The Walter Maxwell Gibson College of Science and Engineering has long been a pillar of academic quality at SUU. Our post-BS acceptance rates into professional and graduate studies are exemplary, and the feedback we receive from the programs in which our students are placed suggests that our students are as well, or better, prepared than their peers coming from much larger, more visible BS programs. We have been able to accomplish all of this with somewhat limited resources, and now, thanks to these generous gifts, we will have significantly greater resources to apply to our most pressing needs. The significance of these two gifts cannot be over stated. They will bless the academic lives of students in the College for generations into the future. We are so grateful for the commitment of the Gibson family and the ALSAM Foundation to excellence in the preparation of SUU students."

- Dean Robert Eves



ACTIVITY HIGHLIGHTS 2011-2012

- ◆ Sep 15: Homecoming Cardboard Boat Race hosted by [ETCM](#)
- ◆ Feb 20-24: [Engineering Week](#)
- ◆ Mar 23: SUU Hosted the [Science & Engineering Fair](#)
- ◆ Mar 28: Herbal Fair hosted by Department of Nursing
- ◆ Mar 29-31: 12 COSE students presented at the [National Conference of Undergraduate Research](#) at Weber State University.
- ◆ Apr 23-24: [Technology Fair](#)

SUU's Homecoming Parade September 16, 2012

The Department of Agriculture & Nutrition Science Club won the Best Float Award!



College of Science & Engineering 3rd Annual [Undergraduate Research Symposium](#) November 7, 2011

This is an opportunity to showcase student-faculty research in the College of Science and Engineering.

- ◆ 21 Poster Presentations
- ◆ 25 Oral Presentations given

Academic Awards Night April 11, 2012

This was a night of recognizing excellence achieved by students, staff, clubs and organizations within the College of Science & Engineering.

Four students from each of the eight departments were recognized for their hard work and dedication to their field of study.

The following [Clubs and Organizations](#) were recognized.

- ◆ *Agriculture Club* - Bret R. Yardley
- ◆ *Kappa Omicron Nu* - Cavan J. Cochrane
- ◆ *National Science Teachers Association Student Chapter Professional Initiative Award* - Kandace Hugentobler
- ◆ *Outstanding Rural Health Scholar* - Austin Reese
- ◆ *Sigma Gamma Epsilon Tarr Award* - Skyler May
- ◆ *SUU Chapter of the Student Nurse Association* - Angie Edwards



The always popular Cardboard Boat Race was held during Homecoming and again during Technology Fair 2012.

Student Achievements

The Blueprint For Success: [Construction Management Students Win Big](#)

The students took their skills on the road and competed in the Associated Schools of Construction regional tournament in Reno, NV recently. Rising above the competition from other universities in the West, SUU's team was awarded first place in the 'mixed-use' category.

The competition is a rigorous challenge that tests the skills of students in nearly every phase of construction, from start to finish.



NURSING AT SUU • CEDAR CITY

CONGRATULATIONS to our May 2012 graduates!



100% NCLEX-RN EXAM PASS RATE
FIRST TRY • THIRD CONSECUTIVE CLASS

When the department chair of [SUU Nursing](#) received a text message from one of her students reading, "Prepare to be amazed", Donna Lister knew it could only mean one thing: her students had done it again.

And for the second time in the past year (the first was for a 98% pass rate), the entire Southern Utah University community would like to congratulate SUU Nursing for a [100-percent first-time NCLEX-RN pass rate](#) among its most recent class of graduates.

Lister is, obviously, thrilled with her students' success and is proud of what this says for SUU's Nursing program at large:

"It shows that our graduates are very well prepared to pass this exam," Donna says, "which is an important barometer of a graduate's preparation for their chosen line of work."

SUU took 16 students to the [Utah State Skills USA](#) competitions March 29-30, 2012 at Salt Lake Community College and came back with 12 medals! 3 Gold, 7 Silver and 2 Bronze.

Collin Rogow,
Telecommunications Cabling

Bronze Medalists:
Cameron Avery, *Technical Drafting*
Jacob Tatton, *Electronics Technology*

*Student competed at National Competition
** Student placed 3rd in the nation at National Competition

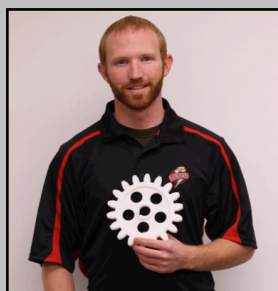


Gold Medalists:

Sean McGwire, *Electronics Technology**
Justin Wilkins, *Computer Programming**
Jialiang Zhou, *Industrial Motor Control***

Silver Medalists:

Jacob Porter, *Mechatronics*
Alex Taylor, *Mechatronics*
Tyler Richardson, *Carpentry*
Cameron Holiman, *Computer Programming*
Colton Steele, *Computer Maintenance Technology*
Levi Sjoblom, *Electronics Technology*



Efficient and Robust Gear Design

Lane G. Gardner, Engineering Technology

Lane competed in the CATIA Operators Exchange Conference in Las Vegas, NV this past April against the likes of Purdue, Cal State LA, Ferris State and international universities. He coded a program that would build a 3D robust gear that can be used in a doubler transfer case for rock crawling. His innovative idea and creation won him Runner-up in this prestigious competition and a \$500 scholarship.



DEDICATION CELEBRATION Center for Health & Molecular Sciences

September 16, 2011

[College of Science Receives \\$1 Million for New Science Center from the ALSAM Foundation](#)

"We could not be more appreciative to The ALSAM Foundation and the Skaggs Family for their generosity and commitment," said President Michael T. Benson. "This extraordinary gift is crucial to completing the new science facility. The gift also establishes an endowment that will provide much needed support for student scholarships and research. What a red-letter day for the University and for our community."

The ALSAM Foundation was founded by and is named in honor of L.S. "Sam" and Aline W. Skaggs. The Foundation is committed to improving the lives of people around the world through its broad support of deserving causes and organizations.

C.A.R.A.T

[Center for Applied Research and Advanced Technology](#)



April 19, 2012

Dr. Derrick Haslem is a St. George native who began his studies at Dixie College and completed a Bachelors in Mathematics at SUU in 2000. His phenomenal presentation, "**Medicine: A Great Career for Anybody**" gave great insight into the many diverse areas graduates can contribute to in the field of medicine.

January 19, 2012

Dr. Jeff O'Driscoll was a crowd favorite when he presented on "**Technology in Medicine: Twenty Years of Change**" in the Hunter Conference Center. He is an accomplished author, public speaker and emergency physician. He has also spoken and written on medical topics and is about to submit a patent on a revolutionary medical device.

February 23, 2012

Edward Cash Stokes presented about the "**Evolution of Engineering Projects and Project Management**" during SUU's Annual Engineering Week. He is a graduate of SUU and was awarded an Honorary Doctorate from SUU in 2011. Mr. Stokes worked for more than 35 years with the Bechtel Corporation, known throughout the world as a leader in engineering, construction and project management. He rose to become a Corporate Senior Vice President and Partner in the corporation. He managed some of the largest and most complex energy-related engineering projects in our planet's history.

March 22, 2012

DeLoss S. Hammon's presentation, "**Past, Present and Future Trends of Residential and Commercial Construction**" gave students a unique look into large-scale land development projects. He is a Professional Engineer and is the managing partner of Alliance Consulting, a Engineering Consulting firm located in Washington, Utah.



GRADUATE STATS

INTERESTING FACTS YOU
MAY NOT KNOW ABOUT THE
CLASS OF 2012

COSE's Class of 2012 is 261 strong and has earned:

- 22 Associate of Applied Science degrees
- 1 associates of Pre-Engineering degree
- 1 Bachelor of Arts degree
- 19 Bachelor of Interdisciplinary Studies degrees
- 144 Bachelor of Science degrees
- 65 Bachelor of Science in Nursing degrees
- 9 Certificates
- 3 students graduated with double majors.
- The Class of 2012's average GPA is 3.50
- It has taken the average student 10.13 semesters to graduate.



College of Science & Engineering Convocation May 4, 2012

College of Science & Engineering Valedictorian

Brandon K. Wiggins, Mathematics

College of Science & Engineering Outstanding Staff

Karen Lopez, Computer Science & Information Systems

Outstanding Science & Engineering Students

Billie Jean Reed, Agriculture & Nutrition Science

David Dobbs, Biology

James Shakespear, Computer Science & Information Systems

Nathan Tilley, Engineering Technology & Construction Management

Kendra J. Davis, Integrated Engineering

Katlyn Cox, Mathematics

Chanda Hutchings, Nursing

Roger E. Leavitt, Physical Science



SUU's 13th Annual Student-Faculty Scholarship Day April 12, 2012

The thirteenth annual Student-Faculty Scholarship Day (SFSD) is intended to encourage and promote scholarship among faculty and students. The conference honors and showcases the cooperative efforts between members of both groups to enhance their academic, professional, and personal growth.

Faculty Publications & Presentations



Associate Professor
Connie W. Nyman
 SUU's 113th Annual
 Commencement Marshal

Adams, R.C.; **Hildebrand, T.**;
Spruell, P. "Identification of
 Bacteria Found in Water Samples
 Extracted from Primary Irrigation
 Waterways in Iron County, Utah"
*National Council of Undergraduate
 Research (NCUR)*, March 29-31
 2012, Ogden UT

Armstrong, S. "A Nonstandard
 Discretization Method for
 Numerical Analysis of a Lotka-
 Volterra Food Web Model" *MAA
 Intermountain Section Meeting*; April
 2012, Salt Lake City UT

Bahi, S. "Dimensions of Service
 Quality in Higher Ed: Underlying
 Structure of Students and Faculty
 Perception" *MAA Intermountain
 Section Meeting*; April 2012, Salt
 Lake City UT

Bancroft, B.A.; Lee, W.; Wright,
 R. "The Effects of Thyroid
 Hormone on Tadpole Growth and
 Development in the Amphibian
Rana catesbeiana" *National Council of
 Undergraduate Research (NCUR)*,
 March 29-31 2012, Ogden UT

Bancroft, B.A.; Slabaugh, K.E.;
 Hunt, J.; Ferrin, J; Limb, Z. "The
 Effects of Temperature Change
 and Water Fluctuation on Growth
 in Amphibian Larvae" *National
 Council of Undergraduate Research*

(*NCUR*), March 29-31 2012,
 Ogden UT

Barker, N.; Nyman, C. "Test
 Time vs. Test Performance"
WorldComp (FECS '11), July 18, Las
 Vegas NV

Beal, K.; Laursen, T.; **Pillitteri, P.**
 "Coaches Opinions on the use of
 Genetic Screening for Assessment
 of Collegiate Athletes" *National
 Council of Undergraduate Research
 (NCUR)* March 29-31 2012, Ogden
 UT

Brandt, J.; Rimmasch, G.
 "Doing Mathematics: Perspectives
 from Mathematicians and
 Mathematics Educators", *15th
 annual Conference on Research in
 Undergraduate Mathematics Education*,
 February 2012, Portland OR

Brandt, J.; Rimmasch, G.
 "Small Group Discussion and
 Student Evaluation of Presented
 Proofs", *15th annual Conference on
 Research in Undergraduate Mathematics
 Education*, February 2012, Portland
 OR

Brown, S. "Numerical Analysis
 for the Relaxation of a Nonlocal
 Allen Cahn Equation" *American
 Mathematical Society Western Section
 Meeting*, October 2011, Salt Lake
 City UT

FACULTY ACHIEVEMENTS 2011-2012

Dezhi Wu

*Association for Information
 Systems SIGHCI Outstanding
 Service Award, 2011*
*National Science Foundation
 Fellowship, UC Berkeley, 2012*

Betsy Bancroft

*2012 SUU Distinguished
 Educator*

Lee Wood

*2012 SUU Distinguished
 Educator*

Nica Clark

*2012 SUU Service-Learning
 Fellows*

External Grants

David Maxwell

- CPGESU Zion and Bryce Canyon NP Archeological GIS support (**\$48,000 over two years**)
- Perkins CTE - Technology Education (**\$15,000**)
- Fire Mapping/TA Agreement, BLM (**\$2,500**)

Radhika Nair

- Western Alliance to Expand Student Opportunities grant, "Platinum Schiff Base Complexes Derived from Purines and Pyrimidines". (**\$3,256**)

Faculty Publications & Presentations - *continued*

FACULTY ACHIEVEMENTS

2011-2012

External Grants (Continued)

Terri Hildebrand

- NPS Grant through Colorado Plateau Cooperative: Ecosystem Studies Unit (CPCESU) Correlation between Wetland Vegetative and Microbial Community Diversity of Bryce Canyon National Park's Southern Region. May 2011 - December 2012. **(\$9,997)**
- NPS Grant through Colorado Plateau Cooperative: Ecosystem Studies Unit (CPCESU) Targeted Vegetation Survey and Preparation of NPS Technical Report on the Flora of the Grand Canyon-Parashant National Monument, AZ – Phase II. June 2010 - April 2012. **(\$49,893)**

Jana Lunt

- NSF (S-STEM) Student scholarships and academic support for science, engineering, and math majors. August 2012 - May 2017. **(\$580,000)**

Chisholm, J.R. "A Recipe for Seeds: Growing SMBHs from PBHs", Section meeting of the *American Physical Society*, October 21-22 2011, Tucson AZ

Chisholm, J.R. "Clustering of Primordial Black Holes. II. Evolution of Bound Systems", *Physical Review D*, 2011 **84**, 124031.

Clement, B.; **Barker, N.** "Using Microsoft Kinect to improve CNC machining cuts and reduce the loss of raw material" *National Council of Undergraduate Research (NCUR)*, March 29-31 2012, Ogden UT

Colberg, M. "New Constraints on the Paleoproterozoic Assembly of the Southwestern Margin of Laurentia: High (ultra-high?) Pressure Metamorphism in the Mojave-Yavapai Suture, Utah, Nevada and Arizona", *Geological Society of America, Annual Meeting*, October 9-12, 2011 Minneapolis, MN

Cole-Rasch, J.; **Karpel, J.** "Application of Medium-Throughput Mutagenesis Techniques in the Molecular Laboratory Environment", *18th International C. elegans Conference*, June 22-26 2011, UCLA

Conner, G.; Grant, C.P.; **Meilstrup, M.** "A Sharkovsky Theorem for Non-locally Connected Spaces, *Discrete and*

Continuous Dynamical Systems –Series A, October 2012 **10**, 3485-3499

Cozzens, R. "Bringing Creativity into the Classroom" *15th Annual Meeting of the American Association of Behavior and Social Sciences*; February 2011, Las Vegas NV

Cozzens, R. "Social Media: An Effective Web-Based CAD Training Tool" *EthicComp 2011*; September 2011, Sheffield UK

Cozzens, R. "SolidWorks Applied to Dome Architecture" *SolidWorks World 2012*; February 2012, San Diego CA

Cozzens, R. "YouTube: An Effective CAD Training Resource" *119th Annual Conference of the American Society for Engineering Education*; June 2012, San Antonio TX

Edwards, M. "Raising the Standard of Living in Underdeveloped Countries: Can Technology Help?" *EthicComp 2011*; September 2011, Sheffield UK

Freden, E. "From Indexed Languages to Generating Functions", *AMS/MAA Joint Mathematics Meeting*, January 2012, Boston MA

Faculty Publications & Presentations - *continued*

Freden, E.; Robertson, R.; Wu, D. "Empowering Patients through Mobile Patient Education Systems" *EthicComp 2011*; September 2011, Sheffield UK

Gasser C.; "Managing the Beef Cow Biological Cycle", *4th Annual Cowman's Reproduction Workshop*, September 22 2011, Alton UT

Grady A. "ChooseMyPlate - Updates, Background and Resources" *Utah Association of Family & Consumer Sciences Conference*, November 5 2011, Midway UT

Grady, A. "Reflections: Taking Steps" *Diabetes Forecast*, 2012: 65(2); 76.

Grady, A.; Horrocks, S.; **Schmidt, M.**; Steffanof, N. "Perceived Body Image of Middle School Age Children in Rural Southern Utah" *Utah Association of Family & Consumer Sciences*, November 5 2011, in St. George, UT

Grady, A.; Reed, B.J.; Platt, J.; **Schmidt, M.**; Ulloa, N. "Student Perceptions of Overweight and Obese Individuals as Measured on the Fat Phobia Scale". *Utah Academy of Nutrition and Dietetics Annual Meeting*, March 29 2012, South Jordan UT

Han, J. "A Numerical Approximation for a Nonlocal Evolution Equation with Kac Potentials" *MAA Intermountain Section Meeting*; April 2012, Salt Lake City UT

Hansen, L. S. "Autodesk Inventor" 1st Edition, *McGraw-Hill* 2013, ISBN-13 9780073522708

Hanson, D. "Introductory Microbiology" 2011 *Fountainhead Press*, ISBN 978-1-59871-463-0

Hargrave J. "Fossil Avifauna of the Pleistocene Fossil Lake Formation (Oregon): Can Birds be Used as a Proxy to Determine Paleoclimatic Conditions?" *Society of Vertebrate Paleontology 71st Annual Meeting*, November 2-5 2011, Las Vegas NV

Haslem, L.H.; Jarvis, D.A.; Phillips, J.D.; **Steffensen, M.B.** "Synthesis and Structural Determination of Novel Macromolecular Architectures" *243rd National Meeting of the American Chemical Society*, March 27 2012, San Diego CA

Hein, D. "On Decompositions of λ Kin", *Midwest Conference on Combinatorics, Cryptography and Computing*, October 2011, Las Vegas NV

FACULTY ACHIEVEMENTS

2011-2012

External Grants (Continued)

John Taylor

- NPS (CPCESU)
Implement cooperative study to understand bat ecology of Pipe Spring National Monument and the Kaibab Paiute Reservation. September 2010 - December 2013.
(\$40,000)
- Title II, Part B.
Mathematics and Science Partnership. Teachers as Scientists Program. Taylor, J.R., D. Merrell, D., A. Johnston. July 2011 - September 2012.
(\$104,000)
- CFDA Title: Fish, Wildlife, and Plant Conservation Resource Management. Cedar City Field Office Bat Habitat Inventory and Population Monitoring. September 2011 - November 2012.
(\$20,000)

Faculty Publications & Presentations - *continued*

Heyborne, W.H.; Fast, M.; Goodding, D.G. "How-to-do-it: The Madagascar Hissing Cockroach: A New Model for Learning Insect Anatomy" *The American Biology Teacher* **74** #3 (2012)185-189.

Kesar, S. "Management of Information Security from Criminologist Perspective" *13th Annual Global Information Technology Management World Conference*, June 18, 2011 Bangalore India

Kesar, S. "Underlying Reasons for Gender Imbalance in Computing" *13th Annual Global Information Technology Management World Conference*, June 18, 2011 Bangalore India

Kesar, S.; Sharma, N. "Lessons Learnt from Working for Families Project in Scotland" *EthicComp 2011*; September 2011, Sheffield UK

Larson, P.R.; **Lohrengel, C. F.** "Teaching Climate Classification Using the Köppen System" *Annual Meeting of the Association of American Geographers*, March 28 2012, New York NY

Leavitt, R.E.; May, S.B.; **MacLean, J.S.** "Extent of Footwall Shear Adjacent to the Ruby's Inn Thrust Fault, Southern Utah" *Geological Society of America Annual Meeting*, October 9-12 2011, Minneapolis MN

Leavitt, R.E.; May, S.B.; **MacLean, J.S.** "Preliminary Field Investigation into the Relationship Between Hoodoo Formation and Footwall Shearing of the Ruby's Inn Thrust Fault, Bryce Canyon, Utah" *Geological Society of America Annual Meeting*, October 9-12 2011, Minneapolis MN

Liu, C.; **Monson, C.F.;** Yang, T.; Pace, H.; Cremer, P. S. "Protein Separation by Electrophoretic-Electroosmotic Focusing on Supported Lipid Bilayers" *Anal. Chem.* 2011, **83**, 7876-7880.

Longhurst, G.R. "Enhance the Teaching of Engineering" *119th Annual Conference of the American Society for Engineering Education*; June 2012, San Antonio TX

Longhurst, G.R.; Tsuchia, K.; Dorn, C.H.; Folkman, S.L.; Fronk, T.H.; Ishihara, M.; Kawamura, H.; Tranter, T.N.; Rohe, R.; Uchida, M.; Vidal, E. "Managing Beryllium in Nuclear Applications" *Nuclear Technology* December 2011 **176**, 430-441



Faculty Publications & Presentations - *continued*

Lunt, J. "The Effects of Teachers Understanding of Addition and Subtraction Word Problems on Student Understanding", *The North American chapter of the International Group for the Psychology of Mathematics Education*, October 2011, Reno NV

MacLean, J.S. "A Trisected Environmental Geology Course" *Geological Society of America Annual Meeting*, October 9-12 2011, Minneapolis MN

May, Skyler B.; Leavitt, Roger E.;

MacLean, J.S. "Extent and Mechanism of Footwall Shear Adjacent to the Ruby's Inn Thrust Fault, Southern Utah" *The Compass: Earth Science Journal of Sigma Gamma Epsilon* 2012, **84**, no. 1, Article 5

Meilstrup, M. "Archipelago Groups" *Workshop on the Topology of Wild Spaces and Fractals*, July 2011, Strobl Austria

Milne, L.; Losee, B.; Harris, J.; **Hargrave, J.E.**, "Can I Bi-a-Valve? Investigating Origins of Mysterious Casts Found in the Moenave Formation at the Dinosaur Discovery Site, St. George Utah" *National Council of Undergraduate Research (NCUR)*, March 29-31 2012, Ogden UT

Morton, T. "How to obtain velocity fields from observed streamline patterns" *Journal of Scientific and Mathematical Research* February 2012, 64-65

Murray, J. "Taking it to the Streets: Sustainable Communities for the 21st Century" *American Society for Engineering Education Region IV Conference*, March 2012, Ogden UT

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