

UTAH CHAPTER
Message from the President



“Scholarships for Scientists”

STEMM funding. Yes, with ARCS (Achievement Rewards for College Scientists) we prefer to add an extra “M” at the end: Science, Technology, Engineering, Math and Medicine.

Our ARCS Utah Chapter is extremely fortunate to have an incredible partnership with the University of Utah College of Engineering and the Moran Eye Center. In conjunction with the original ARCS National initiative of funding U.S. scientists during the Sputnik era, this mission has become even more relevant and has demonstrated its invaluable importance in today’s fast-paced technological world. We are committed to providing financial support to the best and brightest students in the U.S. and here in Utah. To become an ARCS scholar, students need to excel in all aspects of their academic experience in order to be considered the very best.

As a national organization, the ARCS Foundation began in 1958 at the forefront of STEM funding long before the concept or acronym of STEM even existed. We are still at the forefront of STEM funding in 2016 by providing over \$101 million dollars in scholarship awards to over 9500 students since our inception.

To become a member of ARCS, you only need to have a love of or interest in supporting the sciences and the incredible students who will become our future scientists. Named scholarships, corporate donations, and personal membership dues are all welcome to support this dedicated mission. Annual dues for members are \$600, which includes \$100 for chapter support with \$500 going directly to our scholar awards.

We thank you for your interest, investment, support, and commitment to our inspirational future U.S. scientists!



Sincerely,

Laura Springhetti

ARCS Foundation, Inc.
Utah Chapter President

2016 – 2017 ARCS FOUNDATION UTAH SCHOLAR AWARDS



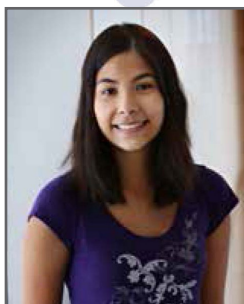
Alex Jafek – Department of Mechanical Engineering

Alex completed his undergraduate degree in mechanical engineering with a minor in mathematics at Brigham Young University. At the University of Utah, he is engaged in microfluidics research with Professor Bruce Gale, where he will be focused on advancing the understanding of exosomes function as a promising approach to cancer vaccines and therapeutic delivery vehicles. Alex hopes to devote his future to research a way of contributing to the world through scientific advancement and discovery. As an undergraduate, Alex worked on submarine acoustics and water surface measurements, intelligence gathering via satellites, and providing humanitarian aid through the development of a low-cost prosthetic limb. He is a member of Tau Beta Pi Engineering Honors Society.



Marcus Perry – Department of Materials Science and Engineering

Marcus Perry was an exemplary student in chemistry at Westminster College. While he always intended to pursue graduate studies, Marcus accepted a position in industry to gain experience and help focus his interests. As a pharmaceutical chemist at Pharmatek Laboratories in San Diego, Marcus discovered his passion for materials science and engineering, especially in the characterization and development of novel materials. In addition to his active engagement in undergraduate research in computational chemistry and molecular modeling at Westminster, Marcus played on the Men's Varsity Basketball Team and was named captain in his senior year. Marcus is currently working with Assistant Professor Taylor Sparks on the on the discovery, synthesis, and characterization of new materials for energy applications.



Amanda Reynolds – Department of Bioengineering

Amanda Reynolds completed a BS in biochemistry at the University of Florida in Gainesville. As an honors undergraduate, Amanda mastered advanced research techniques in fluorescent microscopy where she created protocols and ran her own experiments working as a research assistant in the Materials Science Department and Veterans Affairs Hospital. As a graduate student in Bioengineering, Amanda researches the properties and uses of Collagen Mimetic Peptides in drug delivery and imaging applications. She aspires to a career in pharmaceutical research.

Amanda receives continuing support from the Roche/ARCS Foundation Scholar Award in Life Sciences.



Rebekah Gensure – Department of Ophthalmology

Rebekah Gensure graduated summa cum laude in Biomedical Engineering from Boston University, followed by graduate school at Rutgers University, receiving the PhD degree in Biomedical Engineering in 2013 and MD degree in 2016. Rebekah performed her PhD thesis research with David J. Foran, PhD at The Cancer Institute of New Jersey and the Rutgers University Center for Biomedical Imaging and Informatics. Using 3D tumor characteristics, she developed a prognostic tool for treatment planning and response assessment to radioembolization therapy in patients with liver cancer. Returning to the medical school curriculum, Rebekah served as a Vision Research Scholar in the Wills Eye Hospital Research Department under the direction of Julia A. Haller, MD and Lisa Hark, PhD, where she made significant contributions to a \$3 million grant submission to the Department of Defense for the use of trans-corneal electrical stimulation for improvement of ocular dysfunction in patients with traumatic brain injury. Her remarkable research productivity includes eight peer-reviewed journal articles and 13 conference proceedings /abstracts.

HISTORY OF ARCS FOUNDATION UTAH SCHOLAR AWARDS

The Utah Chapter of the ARCS (Achievement Rewards for College Scientists) Foundation was approved by the National Board in 2009, and is currently in its seventh year of granting scholar awards. During the last seven years, we have raised funds to provide support for 26 ARCS Scholars at the University of Utah – 21 are PhD students in Engineering and 5 are medical residents at the Moran Eye Center. All are doing ground-breaking research which will impact our future.

The 2010-2011 scholars are: Shannon Hanson, Civil & Environmental Engineering; Nicholas Nolta, Bioengineering; and Joshua Sewell, Chemical Engineering. The 2011-2012 scholars are: Daman Bareiss, Mechanical Engineering; Andrew Fisher, Electrical & Computer Engineering; and Shannon Reynolds, Civil & Environmental Engineering. The 2012-2013 scholars are: Jennifer Bauer, Bioengineering; Katherine Lambert, Bioengineering; Megan Prestgard, Materials Science & Engineering; and Brian Zaugg, Ophthalmology. The 2013-2014 scholars are: Mathew Hamilton, Chemical Engineering; Megan Walsh, Civil & Environmental Engineering; Michelle Hromatka, Computer Science; and Brian Stagg, Ophthalmology. The 2014-2015 scholars are: Philip Erickson, Computer Science; Amanda Reynolds, Bioengineering; Alex Szendrei, Materials Science and Engineering; and Eileen Hwang, Ophthalmology. The 2015-2016 scholars are: Amanda Reynolds, Bioengineering; Aniqua Baset, School of Computing; Jocelyn Todd, Bioengineering; and Nikko Ronquillo, Ophthalmology. The 2016-2017 scholars are Alex Jafek, Mechanical Engineering; Marcus Perry, Materials Science and Engineering; Rebekah Gensure, Ophthalmology; and Amanda Reynolds, Bioengineering. It should be noted that Amanda Reynolds is in her third year of funding as a Roche/ARCS scholar.

We are extremely fortunate that both the College of Engineering and the Moran Eye Center have committed to provide funding for the 2nd and 3rd years for these students so that our ARCS Chapter can continue to fund new ARCS Scholars each year. Thus far, the total funds raised by the ARCS Chapter for this important effort is \$15,000 each for 26 scholars for a total of \$390,000 (including the 3rd year of Roche funding for Amanda Reynolds). The second and third year funding for each scholar provided and committed by the College of Engineering and the Moran Eye Center totals \$690,000, (which does not include the 2nd and 3rd years of Roche funding). This brings the grand total of funds provided and committed to \$1,080,000.

All of our ARCS Scholars have expressed appreciation for this support, and many have said they could not have continued their graduate education and research without the ARCS funding.

To date, six of our College of Engineering ARCS Scholars have completed their PhDs. They are: Shannon Hanson, now working in Houston, Texas at Walter P. Moore; Shannon Reynolds now working at Geosyntec in Portland, Oregon; Megan Prestgard who is working at Intel in Portland, Oregon; Andrew Fisher who is working at Sandia National Laboratories; Nicholas Nolta who has moved to California for employment; and Daman Bareiss who is working as a Sr. Software Engineer for Omron Adept Technologies, Inc. in New Hampshire.

It should be mentioned that our ARCS Scholars who are in the residency program at the Moran Eye Center already have their MD degrees, and Eileen Hwang, Nikko Ronquillo, and Rebekah Gensure have their PhDs as well.

We are so very proud of all of our ARCS Scholars, and we are pleased that we have been able to assist them with their education expenses.

MATTHEW MIGHT, PHD LECTURE EVENT

On Tuesday, April 5, 2016, the ARCS Chapter members were treated to a tour of the James L. Sorenson Molecular Biotechnology Building prior to a featured lecture given by Dr. Matthew Might, University of Utah Associate Professor of Computer Science. Dr. Might is also an Adviser to President Obama's Precision Medicine Initiative, and spent time at Harvard Medical School as a Visiting Associate Professor in Biomedical Informatics. He conducts research on cybersecurity, scientific computing and medical robotics on behalf of the Department of Defense, the National Science Foundation and the National Nuclear Security Administration. He received the 2014 University of Utah Presidential Scholar Award, and also received a CAREER Award from the National Science Foundation.



Dr. Might's presentation focused on his research on genomic diagnostic techniques for undiagnosed

patients and on algorithmic treatment strategies for genetic diseases. The title of his presentation is "An Algorithm for Precision Medicine: What do you do when you're the first and only?" He shared with us his personal connection to this research – his son is the first N-Glycanase (NGLY1) – deficient patient ever discovered. He described in detail the research he conducted to determine his son's condition. He is now President of NGLY1.org, a foundation dedicated to understanding, treating and curing the disorder. Dr. Might's son is making progress, which the audience could see from the photos that were shared. The Might family has made connections and meet

annually with other families across the country who have children with this rare disorder. At the end of his presentation, Dr. Might graciously responded to questions from the audience. He was given a standing ovation for his excellent presentation and work.

GOULD DISTINGUISHED LECTURE SERIES - GRETCHEN MCCLAIN



This year's Gould Lecture had the distinct pleasure of hosting Gretchen W. McClain as the keynote speaker on September 21, 2016. Gretchen is an accomplished business leader who thrives on energizing organizations and building businesses by enhancing innovation and developing exceptional leadership talent. McClain has more than 25 years of global experience in both Fortune 500 corporations and government service, including serving as founding CEO of an S&P 500 global water technology company, Xylem Inc., and NASA's Chief Director of the International Space Station. She has been awarded the NASA Distinguished Service Medal and the "Fortune 1000 CEO."

Gretchen McClain shared her insights on the value of creating technologies that have come from our space programs, as well as the many other advances that the space exploration has contributed to business and society – from the ways we innovate and problem solve, to the ways we create social value and collaborate. She shared her experiences overseeing the first joint U.S. - Soviet missions and the building of the International Space Station, and serving as a top business executive, where she saw space technologies and problem solving

advance global business and improve our way of living. She also discussed critical questions on the future of space exploration.

McClain is actively involved in advocating for the technology, water, and environmental spheres, as well as women in STEM. She serves as a member of United Technologies Corporation Innovation Advisory Council; University of Utah College of Engineering National Advisory Council; the Environment and Water Technologies International Advisory Panel for Singapore's Public Utilities Board; and the America's Water Steering committee at the Columbia Water Center at Columbia University. She also serves on the Board of Trustees of the Intermountain Healthcare Central Region.

A graduate from the University of Utah with a Bachelor of Science in Mechanical Engineering, McClain received the University's prestigious Founders Award in 2015. She was inducted into the Utah Technology Council Hall of Fame and is the first woman to have received this honor.

2016 ARCS FOUNDATION LIGHT AWARD – MARGARET NIVER MCGANN



Margaret Niver McGann has been active in ARCS since 2007 when she joined as a founding member of the Utah Chapter of the ARCS Foundation. She has served on the board since 2007 and as president from 2012-2014. She currently serves as VP of Finance/Treasurer of the Utah Chapter. After a family relocation, she also joined the Seattle Chapter in 2015. She serves on the National Board as Secretary of SEAC and on the Governance Committee.

She graduated in 1988 from the University of Virginia with a BA in Rhetoric and Economics and in 1992 from the University of Texas School of Law. She is a shareholder of Parsons Behle & Latimer and focuses her practice on trademark law. Her law firm has been very supportive of the ARCS Utah Chapter since its beginning, providing advice in the development of legal documents, helping keep track of finances, assisting with printed materials, and offering meeting space.

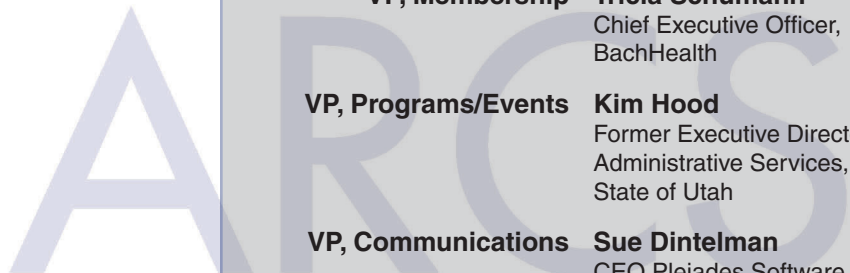
Margaret is married to Dr. Christopher (Chris) J. McGann, a cardiologist, and they are the proud parents of daughter Fiona and son Owen. They enjoy attending Owen's soccer games and supporting Fiona in all of her activities, including studying abroad in Barcelona. Margaret and Chris also like to hike, ski and travel.

DUES REMINDER

If you have not already paid your dues for our 2016-17 fiscal year (it starts in July), you can bring a check to the Scholars Award Luncheon, mail a check to ARCS Foundation, Inc. Utah Chapter, 1338 S Foothill Dr., Suite 324, Salt Lake City, UT 84108 or access our on-line dues payment options at <https://utah.arcsfoundation.org/becoming-member>.

MISSION STATEMENT

The ARCS Foundation advances science and technology in the United States by providing financial awards to academically outstanding U.S. citizens studying to complete degrees in science, engineering and medical research.



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