

MARC NEWS

Maximizing Access to Research Careers Summer 2015



SAN DIEGO STATE
UNIVERSITY

Message from the Director

I am pleased to say that the MARC program has been on the SDSU campus for over 25 years, and we have a wonderful history with our students, mentors and friends. We are excited to launch our first issue of the *MARC NEWS* newsletter as our way of keeping in touch and sharing what has been going on in our program during the year. As you can see, the Minority portion of our program's name has been changed to *Maximizing*; continuing with this change is a new logo (will be shown next issue) created by recent MARC graduate, Gerardo Soriano. Through extensive evaluation efforts we have continued to improve the program. Our renewal included new workshops, redesigned research seminars and specialized coursework to encourage professional development; enhance quantitative skills and oral and written communication. As a result of our successes and plans to continue to evaluate and improve the MARC program, we have garnered renewal funding through 2018! Each year in the *MARC NEWS* we will let you know about these continued successes, our current students, graduating seniors, current events and the Pre-MARC program, which had its debut in 2010. In each issue we also plan on highlighting a MARC mentor and MARC alum in the Alumni Corner. We hope you enjoy this new way to keep you informed about the SDSU MARC program. We would appreciate it if you could send us any news you may want to share with the rest of the MARC family to add to the newsletter. Any feedback to help us improve as well as suggestions for future issues is greatly appreciated. Enjoy!

Cathie Atkins Ph.D.
Associate Dean for Academic
& Faculty Affairs
Professor of Psychology
Program Director & PI



Diversity on the Mesa

Congratulations to our MARC Director, Dr. Cathie Atkins, on being a recipient of the SDSU annual Faculty Diversity Award for her commitment to diversity, inclusion and social justice. She and other honorees were honored at a ceremony on April 29, 2015 in Montezuma Hall at the Conrad Prebys Aztec Student Union. We at the SDSU MARC program and the College of Sciences are very proud of the excellent work that she has done. Congratulations!

You can watch a YouTube video of Dr. Atkins discussing the importance of diversity at <https://www.youtube.com/watch?v=mR1Hv9qbhHQ> or visit http://newscenter.sdsu.edu/sdsu_newscenter/news_story.aspx?sid=75520 to read an article in the *SDSU News Center*.

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Coming Attractions

SACNAS National Conference in Maryland	Oct 29-31, 2015
ABRCMS Conference in Seattle, Washington.....	Nov 11-14, 2015

*The SDSU Maximizing Access to Research Careers Undergraduate Student Training in Academic Research (MARC U*STAR) is a predoctoral research training program that seeks to prepare and assist underrepresented undergraduates who wish to pursue graduate studies leading to a Ph.D. or M.D./Ph.D. program in the biomedical or behavioral sciences. The program is funded by a 3-year continuation grant (5T34GM008303-26) by the National Institutes of Health, General Medical Sciences (NIH/NIGMS).*

Congratulations

Babgen (Bobby) Manookian presented his research at the ABRCMS conference in San Antonio, Texas in November 2014. Babgen's poster presentation entitled "Explicit Vibrational Analysis of the Alkyne-Vinylidene Isomerization on a Heterocyclic Ruthenium Catalyst" discussed his research conducted in the lab of his faculty mentor Dr. Andrew Cooksy and won the Outstanding Poster presentation in chemistry.

Charles Moreno presented his research at the Council of University Directors of Clinical Psychology (CUDCP) Diversity Clinical Psychology held in Albuquerque, New Mexico in January 2015. Charles poster presentation entitled "Recognition Discriminability Changes During Premanifest Stages of Huntington's Disease: Evidence from the California Verbal Learning Test" won the Outstanding Research Poster award. Charles' research was conducted in the lab of his faculty mentor Paul Gilbert.

Gerardo (Jerry) Soriano presented his research at the ABRCMS conference in San Antonio, Texas in November 2014. Jerry's poster presentation entitled "A Theoretical Study on the Isomerization of the Cyclooctatetraenyl Radical", won the Outstanding Poster presentation award. He also orally presented this research at the 2015 SDSU Student Research Symposium and was awarded the President's award which gave him the opportunity to present and compete at the CSU Research Competition at CSU San Bernardino, in May 2015. Jerry's research was conducted in the lab of his faculty mentor Dr. Andrew Cooksy.

Meet the Graduates

A heartfelt congratulation to our MARC graduates. They have reached an important goal by hard work and perseverance. We know they will take that work ethic into graduate school and have great success. We wish them well for the future.

Kent Kurashima (BS: Mechanical Engineering) will start the Ph.D. program in Mechanical Engineering in Fall 2015 at the University of Colorado, Boulder.

Alterra Sanchez (BS: Biology) will start the Ph.D. program in Environmental Chemistry in Fall 2016 at the University of Maryland College Park after she works for a year as a chemist at the USDA Agricultural Chemistry Laboratories.

Gerardo (Jerry) Soriano (BS: Chemical Physics) will start the Ph.D. program in Chemistry & Biochemistry at UCSD in fall 2015.

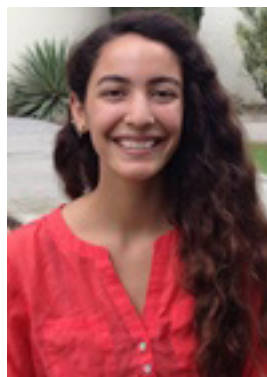
Sally Casanova Awards

Congratulations to MARC scholars **Babgen (Bobby) Manookian**, **Carlos Nowotny** and **Alexis Romero** for receiving the California Pre-doctoral Fellowship (Sally Casanova) for the 2015-2016 academic year. For more information about the CA Pre-doctoral Fellowship visit <http://www.calstate.edu/predoc/scholars/>.

Program Publications

Cowles, M.W., Omuro, K.C., Stanley, B.N., **Quintanilla, C.G.**, & Zayas, R.M. (October 2014). COE Loss-of-Function Analysis Reveals a Genetic Program Underlying Maintenance and Regeneration of the Nervous System in Planarians. *PLOS Genetics*. DOI: 10.1371/journal.pgen.1004746.

Pre-MARC Highlights



The Pre-MARC program is an enrichment program for freshman and sophomore students majoring in STEM. The overall goal of the program is to increase the number of well-prepared students majoring in STEM disciplines who will be outstanding applicants to the MARC program, and who will be most academically prepared to complete their B.S. degree and apply to Ph.D. programs. It introduces Pre-MARC students to research, and are paired in a mentoring relationship

with IRACDA (Institutional Research and Academic Career Development Award) post-doctoral fellows at UCSD. It also gives them the opportunity to participate in a 6-week summer science enrichment program that will introduce them to courses in writing, math, chemistry and research design as well as to participate in hands-on laboratory research experience.

Sara Torres-Robles, a Pre-MARC student majoring in Biochemistry, was featured in an article in the *SDSU Aztec Parent, Experience Magazine*. The short article entitled "Leaving a MARC" covers how MARC provides hands-on research experience and mentorship to underrepresented students. To read the article written by Whitney Mullen and Kimberly Lamke Calderon visit: <http://sci.sdsu.edu/marc/wp-content/uploads/2015/02/The-Aztec-Experience.pdf>.

For eight weeks this summer Sara worked in the laboratory of Plasma Membrane and Nuclear Signaling with Dr. Shige Yoshimura in the Graduate School of Biostudies at Kyoto University. At the end of the program, she presented a poster on her research at the Annual Research Symposium in Tokyo. She and 21 other students from around the world (including U.S., Indonesia, United Kingdom, Thailand, Vietnam, Israel, and other countries) were chosen to participate in this program from more than 500 applicants.

During the 2015-2016 academic year, Sara will also be studying Mandarin Chinese at the Xiamen University to fulfill most of the requirements for her Chinese minor.

We also congratulate Sara for receiving the new Conrad Prebys Research award, which among other study areas provides scholarships for students in biomedical research.

MARC Mentor Highlights

Dr. Kelly Doran



Kelly Doran, MARC faculty mentor, was featured on the 2015 spring issue of *360 Degrees: The Magazine of San Diego State University*. The article explores how bacteria infiltrates the blood-brain barrier causing deadly bacterial meningitis. In her lab, Dr. Doran and her students study how these bacteria slide through the brain's defenses by "exploring the cellular mechanism that the bacteria exploit in order to gain entry to the brain". She is

experimenting with different models to find out how these cells fool the brain into letting them through the barrier. To uncover this mystery, she is collaborating with UCSD researchers "in which she and her colleagues can watch in real-time as group B streptococcus bacteria infiltrate the blood-brain barrier of see-through zebrafish larvae. By experimenting with specially grown strains of zebrafish, the researchers are able to "turn off" various genes to see what effect that has on the bacteria's ability to cross the barrier."

Dr. Doran is a respected researcher in her field of biology and enjoys her work, but her true passion is preparing the next generation of scientists and doctors. "She measures her success by how well she is able to involve students in her research and whether they achieve their own research victories". She is highly regarded as a great mentor by the MARC scholars who have worked in her lab and the most current scholar is now in her second year at Harvard University. To watch a video and read the entire article written by Michael Price, video by Jeneene Chatowsky visit http://newscenter.sdsu.edu/sdsu_newscenter/news_story.aspx?sid=75509.

Dr. Kelly Doran is also the recipient of the *INSIGHT Into Diversity* magazine 2015 Inspiring Women in STEM Award. This award is being presented to Dr. Doran as a tribute to the inspiring work she has done and continues to do as a woman in the STEM field. She will be recognized in the upcoming September STEM issue of *INSIGHT Into Diversity* magazine as one of the 100 women who will also be honored.

We congratulate Dr. Doran for her contribution and for inspiring so many. She is "an inspiration to all of us who are working so diligently to make a difference in the lives of others".

Training Opportunities

Summer is a great time for MARC scholars to work with different mentors and research projects as well as to experience life outside of SDSU. This summer, five MARC scholars were accepted to summer programs to conduct research at universities around the country. We look forward to learning about their experiences when they return to campus in August. Here's where they will be attending.

Mirae Dong, biology major, is attending the Collaborative Undergraduate Research in Energy (CURE) REU Program at UCLA.

Babgen (Bobby) Manookian, chemistry major, is attending Collaborative Undergraduate Research in Energy (CURE) REU Program at the University of Massachusetts.

Charles Moreno, psychology major, is attending the NIH Training in Gerontechnology; Gerontechnology-Focused Summer Undergraduate Research (GSUR) at Washington State University.

Carlos Nowotny, biochemistry major, is attending the Life Sciences Summer Undergraduate Research Program (LSSURP) - The Heart, Lung & Blood - Pre-MSTP at the University of Minnesota.

Alexis Romero, physics major, is attending the MIT Summer Research Program (MSRP) at MIT.



Alumni Corner

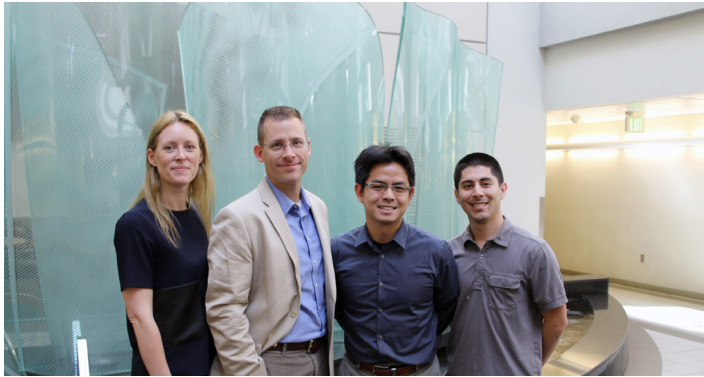
Kristian Brown, M.D., Ph.D., got his first opportunity to do biomedical research in Dr. Paul Paolini's lab in 1998 when he was accepted to the MARC program. After MARC he earned a medical degree and then a Ph.D. in engineering. Today he is both a transplant surgeon at Sharp Memorial Hospital in San Diego, CA and an assistant adjunct professor of biomedical engineering at Wayne State University. He has co-written more than 11 scholarly papers and has won numerous awards including the SDSU Monty award presented to distinguished alumni as a symbol of achievement and success. In 2012 *Diverse* magazine also named him one of the National Top 12 Emerging Scholars under 40.

Edward Stevens Jimenez, Ph.D., currently Principal R&D Scientist and Engineer Computer Science at Sandia National Laboratories was named a 2014 HENAAC award winner as Most Promising Engineering/Advanced Degree by *Great Minds in STEM*. HENAAC honors the best STEM minds in the country. Nominees are peer-reviewed and chosen by representatives of industry, government, military and academic institutions. Dr. Jimenez said winning the HENAAC was "humbling and a high point in his career".

Dr. Jimenez was also featured in a video of the New Mexico PBS Science Central where he answers the question “Why did you become a scientist?” To hear him answer this questions check the video at the MARC website at <http://www.sci.sdsu.edu/marc/>.

As part of giving back to MARC, Dr. Jimenez also mentored a MARC student for the student’s summer research experience.

Lacy Olson, Ph.D. (MARC 2007-2009) just completed her Ph.D. in Clinical Psychology from Florida State University in Tallahassee and in July 2015 started a postdoctoral fellowship at the UCSD VA Hospital in La Jolla, CA.



A. Junker-Jensen, E. Clausen, J. Lai & G. Solis

Greg Solis (MARC 2010-2012) Ph.D. doctoral student at the Scripps Research Institute in La Jolla, CA is a founder and current president of Scripps Consulting Club (SCC), a graduate student and post-doc run club at The Scripps Research Institute with a mission to provide training and resources for those interested in pursuing management consulting or business in science as a career. SCC leads biotech and pharmaceutical current event case studies and also hosts business-focused workshops led by professionals from industry. The number of available positions as a faculty or bench scientist is significantly limited, so SCC aims to bridge the gap between business and science to expose and better prepare Ph.Ds. for alternative, business-related careers in the scientific industry.

If you’re in San Diego and want to attend one of their events, check out SCC’s website at www.scripps.edu/california/scc.

Events

Post Ph.D. Panel

The 10th annual Post Ph.D. panel was held on April 20th, 2015 in the GMCS building. The panel shared the challenges and opportunities they faced after graduate school to the nearly 50 students in attendance. During the first hour, panelists addressed broad issues and shared information that applied to all students. Then the panel separated into discipline-specific groups to allow students to address more specific issues in a more intimate setting. MARC alumni were among this year’s panelists.

Desiree Byrd (MARC 1992-1994), Ph.D. in Clinical Neuropsychology, UCSD/SDSU Joint Doctoral Program, currently Assistant Professor at Mt. Sinai School of Medicine Psychiatry and Neurology.



Post Ph.D. Panelist, 2015

Cesar Contreras (MARC 2000-2002), Ph.D. in Chemistry, University of Florida, is currently a postdoctoral Research Scientist at NASA Ames Research Center, Moffett Field, CA.

Khanichi Tape Charles (MARC 2001-2003), Ph.D. in Biology Harvard University, is currently teaching science at Marlborough School.

Cecilia Larrosa (MARC 2005-2007), Ph.D. in Aerospace Engineering, Stanford University, is currently Senior Associate at Exponent Analysis Associates.

Sinead Younge (MARC 1998-2000), Ph.D. in Counseling Psychology, Michigan State University, is currently Assistant Professor at Morehouse College.

Kristian Brown (MARC 1998-2000), M.D./Ph.D. is currently a transplant surgeon at Sharp Memorial Hospital in San Diego, CA, attended the panel as a guest and then proceeded to answer questions to a small group of students eager to learn about his experiences as an M.D./Ph.D.

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