

pH Reading from the President

Dear ARCS Foundation - Orange County Chapter members and friends,

The ARCS Orange County Chapter begins its 17th year as an organization that was started by our Chapter founders, Mary Cesario, Mary Lou Furnas, and founding president Patricia Beckman. ARCS Orange County continues their vision to support advances in science and technology in the United States with financial awards to academically outstanding US Citizens studying to complete degrees in science, engineering and medical research at University of California, Irvine.



ARCS Orange County Chapter is one of 16 chapters across the United States. During 2015-16, 631 ARCS Scholars from 50 colleges and universities received \$4,764,269 in scholar awards. The Orange County Chapter works in close collaboration with the University of California, Irvine, recognizing future leaders in science and engineering fields by supporting promising scholars in the startup stage of their work and discovery.

Welcome to our 2016-17 Board Members and a big thank you to our outgoing board members, Ana Chu, Linda Crans, Mary Lou Furnas, Arzu Osborne, Jackie Rojas, and Martha Unickel, A president can only be successful with the support of current and past leadership and I thank you for your support and dedication to the ARCS OC Chapter.

In this newsletter we feature two scholar alumni, Kristine Arquero and Andrew Newman. I hope you find their success stories inspiring.

We also invite you to SAVE THE DATE to attend OC Chapter's Annual ARNOLD O. BECKMAN FAMILY SCIENCE LECTURE AND DINNER, on Monday, November 7, 2016, with guest lecturer Dr. Harold Federoff speaking on "Predicting Who Will Get Alzheimer's".

We would like to welcome new members Dr. Andrea Tenner, Dr. Dharini Patel, and Ms. Kiran Jain. We always look forward to welcoming new members to the ARCS Orange County Chapter and invite you to pass this newsletter along to colleagues and friends. To learn more about ARCS Orange County Chapter, sponsor a scholar, donate, or become a member, please contact a member or visit the ARCS Orange County web page.

I look forward to seeing you on Nov 7, at the Arnold O. Beckman Family Science Lecture and Dinner.

Chandra Jain, President

ARCS Foundation Announces 2015-2016 Achievements

During 2015-16, 631 ARCS Scholars from 50 colleges and universities received \$4,764,269 in scholar awards, a record setting dollar amount in the history of ARCS Foundation. Since the funding of our first scholar in 1958, ARCS Foundation has granted scholar awards totaling \$100,958,274 and has funded 16,956 years of ARCS Scholar support.

The above resulted from the hard work undertaken during 2015-16 by our dedicated 1,354 colleagues from 16 Chapters in partnership with our 51 eligible institutions and their 596 departments and with our incredible ARCS Scholars and ARCS Scholar Alumni. We can all take great pride in what ARCS Foundation has achieved thus far, and we recognize that our past success now inspires and fuels our future collective efforts to advance science in America.

Empower More Scholars - Get involved in the ARCS OC Chapter

Since ARCS Orange County Chapter was formed in 1999, 223 scholar awards totaling over \$2,000,000 were presented to UCI graduate students studying to complete degrees in the UCI Schools of Biological Sciences, Engineering, Physical Science, Medicine and Information and Computer Sciences.

To sponsor a scholar, donate or become a member of the ARCS Orange County Chapter, contact an ARCS OC Chapter member or go to our [Becoming a Member](#) information page on the web.

Featured News & Events

ARCS Foundation
Announces 2015-2016
Achievements

Empower More Scholars -
Get involved in the ARCS

Arnold O. Beckman Family
Lecture and Dinner, Nov 7

ARCS OC Chapter's -
Annual General Member
Meeting and Potluck

Membership and Renewal

Featured Scholars

Kristine Arquero - UCI
School of Physical
Sciences

Andrew Newman - UCI
School of Medicine

Board of Directors

2016-2017

Arnold O. Beckman Family Lecture and Dinner - Mark your Calendar

You are invited to join us on Monday, November 7, 2016, for the ARCS OC Chapter's annual Arnold O. Beckman Family Lecture and Dinner.

Tuesday, November, 7, 2016 at the UNIVERSITY CLUB on the UCI campus, 801 East Peltason, Dr., Irvine, CA 92617

Reception 6PM | Dinner 6:45 PM | Program 7:45 PM

Guest Speaker: Dr. Howard Fedroff, Professor of Neurology. Vice Chancellor for Health Affairs,
CEO of UCI Health Systems

Lecture Topic: "Predicting Who Will Get Alzheimer's"



Prior to joining the UCI faculty in July 2015, Dr. Federoff was Executive Vice President for Health Sciences at Georgetown University and Executive Dean of the School of Medicine. He describes himself as a translational and clinical neuroscientist. His research interests include gene therapy and neurodegenerative diseases such as Parkinson's and Alzheimer's diseases. The research carried out by his group led to a new therapeutic trial in Parkinson's disease, now in progress. The research he will present to us describes the discovery and validation of the first highly accurate peripheral blood biomarkers to identify preclinical Alzheimer's disease patients.

All proceeds from this event benefit the ARCS Foundation Scholar Awards Fund

For sponsorship information and reservations, contact Event Chair Barbara Hamkalo at bahamkal@uci.edu

ARCS OC Chapter Membership and Renewal

The ARCS Foundation Orange County members - renew your membership for 2016-17.

Members, YOU are making a significant contribution to advancing science and technology. The need has never been greater as America faces ever increasing challenges from abroad and declining funding within. We ask for your continued support. Membership dues are due July 1. Check your email for the membership renewal form or download the

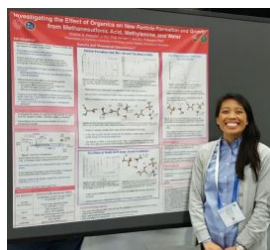
Membership Renewal Form from the web site by clicking the button below.

[Orange County Chapter Membership Renewal Form](#)

New members: We always look forward to welcoming new members to the ARCS Orange County Chapter and invite you to consider becoming a member and supporting future STEM leaders through ARCS scholar support. 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.

To learn more about ARCS Foundation Orange County Chapter and become a member, please visit our [ARCS Foundation Orange County web page](#).

Featured ARCS OC Chapter Scholar - Kristine Arquero, UCI School of Physical Sciences



Kristine Arquero earned her B.S. in chemistry with honors from the University of California, Berkeley. After college she taught high school chemistry in the South Bronx for three years while earning her M.S.Ed. in science education at the City University of New York, Lehman College. Currently she is a Ph.D. candidate at the University of California, Irvine in the Finlayson-Pitts group. She is the recipient of the Ford Foundation Predoctoral Fellowship, the UC Irvine Pedagogical Fellowship, and the Michael E. Gebel award.

At UCI, Kristine's research aims to understand the mechanism and kinetics of how gases in the atmosphere form and grow particles. Atmospheric particles pose a public health risk in urban environments where pollution can exceed air quality standards due to human activity. When inhaled, fine particles ($\leq 2.5 \mu\text{m}$) can reach deep into the lungs and can cause serious health issues for our most vulnerable citizens. Particles in the atmosphere also absorb and reflect solar radiation, can act as cloud condensation nuclei, and affect cloud properties; these processes greatly influence visibility and climate on a global scale. Despite their critical role in affecting climate and public health, the formation and growth of these particles from gases in the atmosphere is not fully understood. Using a custom-built flow system, Kristine studies the effect of organics on the reaction of a sulfur based acid called methanesulfonic acid, amines, and water, which has been shown to form particles efficiently. Organics are ubiquitous in air and are predicted to grow small particles. However, it is not known how the identity and chemical properties of organics contribute to particle growth. Preliminary results surprisingly suggest that particle formation is correlated to the extent of proton transfer to the amine. It is necessary to identify gas-phase precursors of atmospheric particles and elucidate the chemistry of their formation and growth in the atmosphere. Parameterization of these fundamental chemical

processes and inclusion in models will help better quantify and predict the full impact particles have on the world's climate.

As a new mom Kristine enjoys chasing after her son, Joaquin, and exploring Irvine's many neighborhood parks. In her (little) free time she likes biking and discovering Orange County's best eats. Kristine also has great interest in the mentorship and education of young women, which influences both her personal and professional paths.

Thanks to the Massen Greene Foundation and ARCS Foundation, Kristine has been able to work on her professional development as a young chemist. She became a member of the American Geophysical Union, the American Chemical Society, and Iota Sigma Pi, a national honor society for Women in Chemistry. She has also attended and presented at multiple conferences. Kristine was able to purchase a new laptop for her use in data analysis, which greatly improved her research. And, she was also able to return to the lab quickly following the birth of her son. Being an ARCS Scholar has provided Kristine with access to resources and opportunities for professional growth that she could not afford alone. Kristine is grateful to the inspirational women of the ARCS community for their generosity and support.

Featured ARCS OC Chapter Scholar Alumnus - Andrew Newman, UCI School of



Andrew is co-founder and Vice President of Business Development and Planning of Vivreon Biosciences, an oral immune therapeutics company that is currently developing drugs that target neuroinflammatory diseases, like Alzheimer's Disease. Andrew notes the many benefits of being an ARCS Foundation Scholar and shared the following:

"Having the honor of being an ARCS Foundation Scholar was truly a blessing during my graduate school career. The financial support relieved a great deal of burden, but more important were the connections and experiences I had that helped shape my career path. In conversations with the

other scholars I was exposed to different fields and project goals; medical students were conducting research in clinical settings and engineers were working towards developing a product.

The ARCS Foundation Orange County Chapter also hosted a number of dinners and receptions with keynote speakers from all areas, some of whom had taken research discoveries in academic settings and translated these into businesses. Being a biologist, I knew about the importance of basic research, but was excited to hear about the different obstacles and success stories of those who had founded companies; it definitely piqued my entrepreneurial spirit.

I began to think of ways in which my own and my colleagues' research could be turned into products and we began to start formulating a plan for our own business. The support from ARCS has continued even after graduating as I have stayed in contact with my donors, France and Richard Campbell, who have provided encouragement and have been willing to open up doors whenever possible.

It's safe to say that the ARCS Foundation has played a critical role in my decision to found Vivreon Biosciences and I will forever be grateful for everything they have done for Vivreon and me."

For more information on Vivreon Biosciences, visit the company's web site <http://www.vivreonbiosciences.com> or email vivreonbiosciences@gmail.com.

ARCS Orange County Chapter Board of Directors 2016-2017

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- President Elect: Patsy Janda
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