



# Orange County Chapter

February 3, 2015

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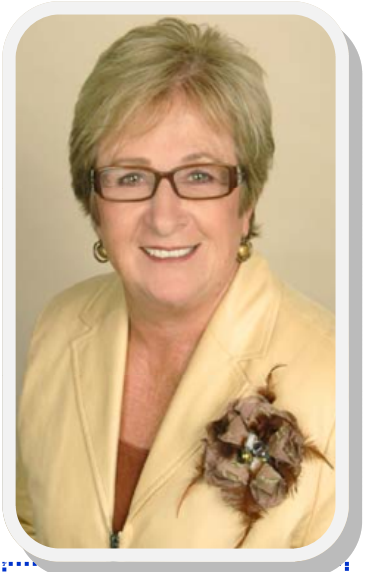


## pH Reading From The President

In January, 2015, Sue Alexopoulos and I attended the National ARCS Board meeting in Phoenix. The weather was cool and the city was in "full construction mode" preparing for the Super Bowl XLIX. However, all Chapter presidents and committee members were hard at work for several days discussing and deliberating many issues that impact local chapters and planning for future ARCS and NAM activities. One of the agenda items included a presentation on how National and Chapters are utilizing social media to promote ARCS national brand and for organizational visibility. Chapters were encouraged to urge members to follow and occasionally tweet about ARCS and to utilize LinkedIn to keep in touch with Scholars or Alums. Also, to "Like" a post on Facebook by scholars or alumni would let them know that we're interested and would encourage them to stay in touch. I know many of us are just beginning to get comfortable with social media and if we can develop some chapter expertise I believe it would be very valuable to the chapter as we move forward.

Another bit of important information is to let all of you know that the 2015 National ARCS Meeting (NAM) will be held in Chicago September 30 - October 3, 2015 at the Continental Hotel. The program and excursions sound exciting and I wanted you to have the dates so if you are interested in attending you can add it to your calendar and begin travel plans. I expect to get more detailed information on the NAM meeting and will send it to everyone in the very near future.

Have a wonderful Valentine's Day with someone you love.



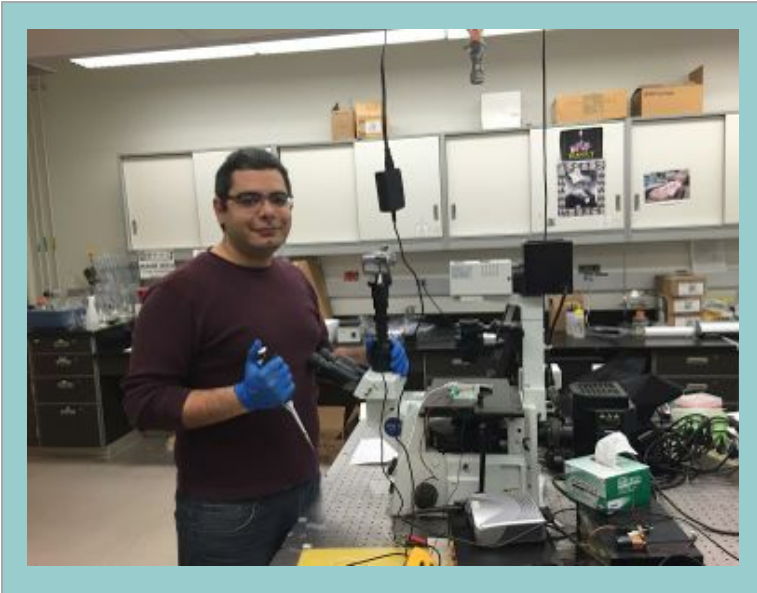
Ellen M. Lewis, MSN, RN, FAAN

Orange County Chapter  
President, 2014-2015

## Upcoming Events

- Lunch With a Scientist 2/13/15  
11:30 AM UCI University Club
- BOD Meeting 2/18/15 3:00-4:30 PM
- Scholar Awards Dinner 3/11/2015
- ARCS All Members Conference  
9/30/15 -10/3/15 in Chicago

# ARCS Scholar Highlight



## Sarkis Babikian

Sarkis Babikian, a Broadcom scholar, is pursuing a Ph.D. in Electrical Engineering and Computer Science at the University of California, Irvine. He received his B.S. in Electrical Engineering at the University of Damascus, where he graduated with honors and first in his class. As an undergraduate, he also received a scholarship to attend Technical University of Ilmenau, where he conducted research on photovoltaic systems and renewable energy. He received his Master's degree at UC Irvine and now is conducting research under the guidance of his advisors Prof. Mark Bachman and Prof. G.P. Li. Sarkis is a recipient of the UC Irvine Electrical Engineering Fellowship Program sponsored by the Broadcom Foundation.

Sarkis enjoys interdisciplinary research. He is particularly interested in microfluidics, a rapidly developing interdisciplinary field at the interface between biology, medicine and engineering. In his dissertation research, Sarkis is developing scalable manufacturing and integration technology to realize highly integrated and highly functional microfluidic devices that are able to analyze small amounts of raw biological samples. Microfluidic devices are often called "Lab on Chip" devices and have important applications in biomedical research and also in Point of Care testing and diagnostics and in wearable health monitoring and drug delivery systems. They promise big advantages over conventional laboratory assays such as small, portable form factor and the ability to process very small samples quickly and in an automated fashion, greatly enhancing analysis, speed and efficiency. As of today, however, microfluidic devices are made of passive polymeric chips with embossed microchannels and microstructures. They cannot function on their own and, in order to perform a biological assay, they require a knowledgeable user and a set of supporting equipment, such as external pump, microscope, and power supply. Turning microfluidic devices from chips in the lab to labs on chip would require the integration of sensors and actuators such as electrodes, micro valves, micro pumps, electrochemical sensors, photo detectors, and light sources in the microfluidic devices. In addition to developing novel processes, Sarkis is bringing already mature electrical engineering technologies, such as the Printed Circuit Board (PCB) and the Surface Mount Technology (SMT), to microfluidics in order to realize a high level of integration between inherently dissimilar components of microfluidic devices, at the same time leveraging the manufacturing infrastructure of the electronics industry for low cost and scaled fabrication of integrated microfluidic devices.

Sarkis is working on a variety of projects, including an electromagnetically actuated bi-stable micro valve integrated with microfluidic PCB devices, flexible microfluidic PCBs for body wearable devices, and a hand held microfluidic PCB device for rapid and simultaneous nucleic acid purification and sequence specific detection. The latter is a collaborative effort with Stanford University and is funded by the NSF sponsored Center for Advanced Design and Manufacturing of Integrated Microfluidics (CADMIM) at UC Irvine. So far, Sarkis's work has resulted in five journal and conference publications. He has presented his work at numerous conferences and workshops.

Sarkis also enjoys mentoring undergraduate students and introducing them to the world of scientific research. Along with his research, he trains and supervises a small team of highly motivated junior and senior level undergraduates who learn new skills by working on small projects in the lab. In his spare time, Sarkis likes road biking and traveling.

Sarkis is extremely grateful for the generous financial and emotional support of the ARCS and Broadcom Foundations. The ARCS award has allowed him to travel and present his work at several conferences and workshops, while the ARCS gatherings provide him with personal support and many, many warm and encouraging words.

# Remembering Margaret Lorraine Sprague

*“Peggie”*



**It is with sadness that we report the death of Peggie Sprague, a long time OC Chapter Member of ARCS Foundation, Inc. Her obituary following was retrieved from the Los Angeles Times and may be viewed online at :**

[http://www.legacy.com/obituaries/latimes/obituary.aspx?n=margaret-lorraine-sprague&pid=173785661&fhid=8513&eid=sp\\_shareobit#sthash.BbmfuVxc.dpuf](http://www.legacy.com/obituaries/latimes/obituary.aspx?n=margaret-lorraine-sprague&pid=173785661&fhid=8513&eid=sp_shareobit#sthash.BbmfuVxc.dpuf)

July 24, 1920 - January 3, 2015 Margaret Lorraine Sprague passed away peacefully on January 3rd, 2015 in her Corona Del Mar, CA home. Margaret, known as Peggie to her many friends, was born in Porterville, CA on July 24th, 1920. She was a dynamic and generous woman, well known for her philanthropy. Margaret grew up in the Porterville area, graduating from Porterville High School and marrying her first husband, James Waggle, shortly thereafter. Together they had one son, Jeff Waggle Cole, before James was lost in WWII. This was the first of several husbands she survived throughout her lifetime. She subsequently married Ben Cole, Mark True and Robert R Sprague. Margaret was a homemaker but her greatest joy was her philanthropic work and community service. She was very active in community activities and organizations, both in Porterville and the Corona Del Mar area, to which she moved when she married Robert Sprague. She was a Porterville park commissioner, and member of the Far West Ski Association, 20 Ands, P.E.O., Visionaries, and a director of the Orange County Museum of Art. Margaret and her late husband, Robert R. Sprague, were generous contributors to UCI, Hoag Hospital, and to CHOC, (Children's Hospital of Orange County), among numerous other charities. In 1998, the Spragues were awarded the UCI Medal, the University's highest honor. And in 2008 they received Orange County's Spirit of Philanthropy Lifetime Achievement Award, from the Orange County chapter of the Association of Fundraising Professionals. Surviving Margaret is her son, Jeff Cole, and wife, Gwen, of Springville, CA and her three grand children; Casey Cole of Santa Rosa, CA, Kelly Deitrick of Alamo, CA and Capt. Derek Cole of Las Vegas, NV, as well as three great grandchildren. Additionally she is survived by her step- children, Dr. Lois M. Sprague, Ph.D., and spouse, Reverend Dr. Gwynne M. Guibord, of Los Angeles and William F. Sprague of Crockett, Texas. Services will be held at the Pacific View Memorial Chapel in Corona Del Mar, CA on January 12th at 10 AM. In lieu of flowers the family requests that donations be made to CHOC, UCI School of Medicine, Hoag Hospital, The Guibord Center in Los Angeles or to the charity of their choice.

We are on the web

[https://www.arcsfoundation.org/orange\\_county/](https://www.arcsfoundation.org/orange_county/)

## Contact Info

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If your personal interests align with ARCS' Mission and you would like information about membership, please email **Linda Crans** at [LLcrans@yahoo.com](mailto:LLcrans@yahoo.com)



## JOIN US FOR LUNCH WITH A SCIENTIST

FRIDAY, FEBRUARY 13, 2015

11:30 AM

UCI UNIVERSITY CLUB, ROOM C

DR. LESLIE M. THOMPSON  
PROFESSOR, PSYCHIATRY &  
HUMAN BEHAVIOR  
AND NEUROBIOLOGY &  
BEHAVIOR

“STEM CELLS AND  
HUNTINGTON’S DISEASE”

RSVP Barbara Hamakalo  
[BAHAMKAL@UCI.EDU](mailto:BAHAMKAL@UCI.EDU)

## Mission Statement

**ARCS- Achievement Rewards for College Scientists**

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.

## Acknowledgements

Thank you Linda Crans, Marie Richman, and Sarkis Babikian for contributing content featured in this newsletter edition.

Donate to ARCS Foundation

Orange County

Why Give?

A gift to ARCS Foundation is an opportunity to contribute to America's scientific and economic future by supporting the best of our nation's science and engineering graduate students. For corporations, foundations and individuals, ARCS Foundation provides a unique and cost-effective method to provide direct support for the most promising scholars at **UC Irvine**.