

Capital Edition



Fall, 2011

Metropolitan Washington Chapter

ARCS® MISSION

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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From our President

We are well into the beginning of another ARCS MWC year, and the good news and positive energy started early on: Dr. Ralph W. Shrader, CEO, Chairman of the Board, and President of Booz Allen Hamilton, will honor us by accepting our Eagle Award at our 2012 Gala on April 14 at the Congressional Country Club. "Imagine the Future" is the exciting theme of our event. Please turn the page and read all about Dr. Shrader's many accomplishments. And while you're at it, please mark your calendars, invite your friends, and join us in welcoming Dr. Shrader.

Our 2012 Scholar Awards Reception will return to the National Academy of Sciences building! October 18 is the date. We'll look forward to again honoring our scholars there and to enjoying the results of the two-year long renovation.

We are grateful to The George Washington University for again hosting our Scholar Awards Reception on October 20. We enjoyed another fabulous evening under the very able leadership of Karen Meyers and Alice Laning. Former astronaut, Dr. Kathryn C. Thornton, Associate Dean, School of Engineering and Applied Science, and Professor at the University of Virginia, was our Keynote Speaker. Speaking of scholars, this year, our Chapter awarded \$270,000 to 18 graduate scholars and an additional \$10,000 to two undergraduates.

We began a new tradition at our well-attended September General meeting by featuring a Guest Speaker. Dr. Mary L. Cleave enthralled us by relating the rigors of becoming a PhD engineer and scientist. Her accomplishments as one of the first female NASA astronauts are extraordinary.

During the summer and early fall, many of our Board members were hard at work chairing Council meetings and laying the groundwork for new initiatives. Resulting from the Finance Council meeting chaired by Eva Lamb, we decided to reapportion our membership fee to allow more funds to cover operating expenses. We have established a Whistleblower Policy to encourage reporting, to protect from retaliation, and to learn how to report. Our insurance policies have been evaluated and updated to benefit our Chapter, thanks to Toni Schierling.

As a result of the Endowment Council meeting chaired by Karen Stoner, work has been initiated to update our Endowment policies and to begin the process of interviewing professional asset managers.

Development Council chair, Lynn Dillon reports that 14 participating members are beginning a terrific and enthusiastic team effort. Their work resulted in representatives from ten different corporations and foundations attending the Scholar Awards Reception.

Our Board Restructuring endeavor, initiated in January of this year, is progressing nicely. At board meetings, Lynn Dillon leads members in brainstorming sessions on topics such as Membership, University Relations, etc. The idea is to energize our Chapter and to learn how to encourage more members to participate in Chapter efforts.

The new ARCS Website went live in September and several board members participated in training sessions. Some members have accepted the new challenge of keeping the Chapter site current by regularly uploading up-to-date information. Website tests are still on-going. Thank you to Ginny Lukasik, our website advisor and director, and her assistant, Renée Fontenot!

Many thanks to all! Please continue reading about our scholars, the new Honor Roll list of donors, our Winter General Meeting speaker, and much more. Also, be on the lookout for potential members to help us pursue our compelling and critical mission. The innovation and advances created by our scholars' research strengthen our nation's future.

See you at the Holiday Party!

Angie



2012 ARCS EAGLE AWARDEE - Dr. Ralph W. Shrader



Dr. Ralph W. Shrader
*Chairman, Chief Executive Officer (CEO)
and President of Booz Allen Hamilton*

Dr. Ralph W. Shrader is Chairman, Chief Executive Officer (CEO) and President of Booz Allen Hamilton. Under Dr. Shrader's leadership, Booz Allen has had a significant period of growth and strategic realignment which strengthened its position as a leading strategy and technology consulting firm. Since becoming Chairman & CEO in 1999, the firm has asked him to extend his tenure twice. His previous personal consulting practice focused on the global communications industry. Prior to his election, he brought a wealth of experience from heading Booz Allen's technology division focusing on telecommunications, information technology, command, control and communication, computing, and intelligence.

Dr. Shrader is the recipient of numerous awards: In 2009, he was inducted into the prestigious Washington Business Hall of Fame. In 2010, he was named Executive of the Year by the Greater Washington Government Contractors Council. He has served as past chairman of the board of the Armed Forces Communications and Electronics Association (AFCEA), which bestowed on him its highest honor, the David Sarnoff Award.

Dr. Shrader has been a strong proponent of opportunities for women and minorities. He sponsored a board-level diversity initiative, has been an active supporter of employee forums, and received a special award from employees on the firm's Workforce Diversity Council. As Chairman of AFCEA International, he led efforts to improve opportunities for women and minorities in the communications and electronics fields. The Association has established a scholarship program in Dr. Shrader's name to assist women and minority students pursuing graduate degrees in these fields of study.

He is active in charitable organizations: Dr. Shrader serves on the Board of ServiceSource, the largest community rehabilitative program in Virginia, and is past Chairman of the Board of The Neediest Kids, Inc. charity. He has spoken at major international conferences and graduate business schools in the United States and throughout the world.

Dr. Shrader holds a B. S. degree in electrical engineering from the University of Pennsylvania and his M. S. and PhD degrees in electrical engineering with minors in mathematics and nuclear physics from the University of Illinois.

Since 2002, Booz Allen has been a faithful and generous supporter of \$15,000 each year to a Chapter scholar. Their 2010-11 Named Scholar was George Washington University student Brenton Duffy; their 2011-12 Named Scholar is Johns Hopkins student Christopher Kelley.

We are honored to welcome Dr. Ralph W. Shrader as our ARCS 2012 Eagle Awardee.

2nd USA Science and Engineering Festival

Our Metro Washington Chapter has again been selected to participate on April 28 – 29, 2012, at the Expo, the capstone of the 2nd USA Science and Engineering Festival. As in 2010, our students will provide hands-on, science-related activities to excite the passers-by.

Our Chapter has also been singled out for another honor: 3 of our members have been selected to participate in the Festival's "Nifty-Fifty X2" program! During the two week-long Festival, they will be part of 100 renowned scientists and engineers selected to speak at DC area schools to excite students to pursue careers in science and engineering. Mary Cleave and Kathie Olsen will represent ARCS, and Mary Snitch, outgoing ARCS National President, and 2003-06 MWC former President, will again represent Lockheed Martin. All three actively contribute to ongoing science and educational outreach!

Mary L. Cleave was first selected as an astronaut in 1980. Dr. Cleave has had a long and productive history with the National Aeronautics and Space Administration (NASA), retiring in 2007. Her varied accomplishments include missions on the orbiter Atlantis; work in NASA's Laboratory for Hydrospheric Processes on an ocean color sensor; and service as Deputy Associate Administrator (Advanced Planning), Office of Earth Science, NASA Headquarters. Mary was the featured speaker at the ARCS MWC Fall Meeting.

Kathie L Olsen, a neuroscientist, is the founder and managing director of Science Works. She has also served in senior leadership positions with several U.S. Government agencies, including the National Science Foundation, NASA, and the Office of Science and Technology Policy in the Executive Office of the President. Kathie has held several academic positions. An integral, ongoing facet of Dr. Olsen's work has been her active promotion of science advocacy and policy.

Our Chapter is honored to have such distinguished members. Congratulations to all three!



WHAT'S HAPPENING

Annual Holiday Party, Saturday, December 3, 2011: *Home of Bev and Dave Herrington*

Embassy Bridge Party, Friday, December 9, 2011: *Residence of the Ambassador of Belgium*

Winter General Meeting, Thursday, January 19, 2012: *Cosmos Club*

Guest speaker, H. Thomas Watkins, President, CEO, Human Genome Sciences, Inc.

Annual Benefit & Silent Auction, Saturday, April 14, 2012: *Congressional Country Club*

Our gala theme is "Imagine the Future!" Our Eagle Awardee is Dr. Ralph W. Shrader, Chairman, President and CEO of Booz Allen Hamilton. Please use the attached auction contract and begin collecting Silent Auction items.

2nd Annual United States Science & Engineering Festival EXPO, April 28 – 29, 2011: *D.C.*

"The ARCS Foundation invests in innovation. Our venture philanthropy approach provides a unique, cost-effective, and quality-assured mechanism through which corporate, civic and philanthropic organizations, as well as individuals, can impact American scientific and technological capacity, a primary engine of national economic growth and a cornerstone of our quality of life."

Jeanne Berdik (ARCS Foundation National President)

CONGRATULATIONS RENÉE FONTENOT! ARCS LIGHT 2011-2012



Renée Fontenot
*Metropolitan Washington
ARCS Light Award Recipient*

The ARCS Light award is a distinguished honor given annually to a Metropolitan Washington member who has been notable for her outstanding service to ARCS over a long period of time. She is selected by a committee of members who have been honored previously as an ARCS Light.

Renée Fontenot has been a very active member right from the get-go since she joined us in 1992. For years, she was our youngest member and used all her youthful energy to benefit our Chapter. She still enthusiastically approaches all requests for help! When asked to take on a responsibility, she always responds with a big smile and immediately goes to work.

She has been our go-to person for anything related to computers and the Internet, including keeping our website up-to-date. Renée has worked tirelessly to make our Newsletter the slick professional publication we now enjoy. Producing our Scholar's Brochure is a piece of cake for her. She also used her computer talents to bring the Silent Auction effort into the 21st century and to a new level of success.

Renée has served on the board in numerous positions almost every year since she became a member. She received this passion for ARCS from her mother, who, in her time, was a very active member in the Los Angeles Auxiliary Chapter. As a tribute to Renée's dedicated, behind-the-scenes accomplishments, she was honored as an ARCS Angel in 2003.

We are delighted to name Renée as Metropolitan Washington Chapter's ARCS Light! She will be honored throughout the year and at the NAM in May-June 2012 in Denver, Colorado.

IN MEMORIAM

Marian Hosmer	(9/11/2010) - <i>Founding Member, 1968</i>
Shirley Oliver	(1/23/2011) - <i>Member since 2005</i>
Jo Tape	(3/14/2011) - <i>Member since 1970 (Honorary)</i>
Genevieve B. Wimsatt	(6/23/2011) - <i>Member since 1982 (Honorary)</i>
Christiane (Chris) Patton	(7/17/2011) - <i>Member since 1968 (Founding/Honorary)</i>
Eugenia (Jeanne) V. Sears	(8/25/2011) - <i>Member since 1992</i>

SCHOLAR AWARDS RECEPTION, OCTOBER 20, 2011



Our Chapter's annual ARCS SAR was held at the Jack Morton Auditorium of The George Washington University. Eighteen graduate and two undergraduate scholars were honored. Representatives of the five universities introduced the scholars and gave a brief description of each student's research project. One student from each university displayed their work on impressive and detailed posters.

Our Guest Speaker was the eminent Dr. Kathryn Thornton, Assistant Dean and Professor, School of Engineering and Applied Science, of the University of Virginia. Selected as an astronaut in 1984, Dr. Thornton is a veteran of four space shuttle flights between 1989 and 1995, including the maiden flight of *Endeavor* and the first Hubble Space Telescope Service Mission, 1993.

Dr. Thornton warmly congratulated the scholars noting that celebrating science is our nation's most promising perpetuating legacy. Applauding ARCS, she confirmed the importance of supporting education in the sciences. The innovations of our scholars, she continued, are testament to the value of our investment in the future. In concluding her engaging presentation, she recounted the important contribution to furthering our nation's scientific progress in a very competitive world.



Our Scholars: In Their Own Words



Stephanie Fraley, former ARCS MWC scholar at Johns Hopkins University upon being named a Siebel Scholar:

“Thank you for the congratulations! This month has been a whirlwind for me. In September, upon returning from a three-month internship with ASEE/NSF where I worked on diagnostics development at Becton Dickinson Technologies in Durham, NC, I discovered I was chosen for the Siebel award.”

[Note: Stephanie is one of 85 graduate students named to the 2012 Class of Siebel Scholars from prestigious universities located in the United States and China. The students are applying the latest advances in biology and technology to the prevention and treatment of cancer and brain disorders. The merit based program provides \$35,000 to each student for their final year of graduate studies]

“The Siebel Foundation is based on the concept that gathering innovative, forward-thinking and socially-conscious graduate students as they transition into their careers forming a kind of think-tank and permanent network, fosters tangible outcomes for improving our world. I will participate in their annual conference, which focuses this year on synthetic biology from a scientific, social, and political perspective.

On October 4, I successfully defended my thesis. I will still be at Hopkins a bit longer to finish a paper on how collagen architecture drives cancer cell motility.

On a related note, a few colleagues and I ventured into the world of start-up companies. We developed some ideas for novel high-throughput cancer diagnostics and treatment pre-testing from my graduate research using 3D collagen gels. We will also use another student’s work on high-throughput image processing of biopsies that we’re currently pursuing with collaborators at Hopkins’ hospital. Right now we’re still in the “incubation” stage to complete validation studies and acquire funding. It is quite promising.

All of you at ARCS are so wonderfully supportive. I truly appreciate you and am reminded of all of the wonderful times we’ve had! I had a ton of fun with you ladies at the USA Science and Engineering Festival in DC last year. If you ever need a hand, please know I am always more than happy to help out.” Stephanie.

Eric Patterson, current scholar at Georgetown University.

“During this past year, while conducting a field season in Shark Bay, Western Australia, we made an exciting new discovery: We finally determined the underlying basis of wild dolphin tool use. This study, part of my larger PhD project focusing on dolphin foraging, was recently published in *PLoS One* and was also featured in the *New York Times*. Having observed bottlenose dolphins use marine basket sponges as tools to help them forage, my advisor, Dr. Janet Mann and I decided to see how it works for ourselves. After hours of diving and pushing a sponge along the seabed to ferret out fish, we found that dolphins use these tools because their prey is invisible to their echolocation. Most of the fish that Shark Bay dolphins scare up lack gas filled chambers called swimbladders, making the fish invisible to dolphins’ sonar. However, when dolphins use a sponge, these fish are easily and reliably scared up.

This study highlights the importance of considering the environment, in this case the dolphin’s echolocation, when discussing tool use and how tools came to be. Since humans are indeed the quintessential tool users, studying how tool use has arisen in other animals, helps us understand our own technological history.

None of this research would have been possible without the ARCS Foundation’s continued support during the past three years of my graduate work at Georgetown. The Washington Chapter of ARCS really has felt more like an extended family during my graduate career, always supportive of my work and confident in my abilities.

The sciences keep us moving forward and ARCS has been an invaluable asset in keeping me moving forward during my graduate career. I am forever grateful.” Eric



2010-2011 ARCS Foundation Honor Roll

\$50,000-\$100,000

Estate of Arlene and George Hesse

\$25,000-\$49,999

Lockheed Martin Corporation

\$10,000-\$24,999

Booz Allen Hamilton

General Dynamics

Hoernig Family Fund

Mars Foundation

Paula and Gerald McNichols Foundation

Joyce Pratt and Jeffrey Harris

Raytheon Company

\$5,000-\$9,999

Aerospace Corporation

Anonymous

Association of Universities for Research in Astronomy (AURA)

Computer and Communications

Industry Association (CCIA)

Vinton G. Cerf

Ileene and Gary Hoffman

Joanne and Peter Powers

\$2,500-\$4,999

American Institute of Aeronautics and Astronautics (AIAA)

Anonymous

Lynn and John Dillon

Dominion Jewelers

SiloSmashers

Virginia and Paul Wright

\$1,000-\$2499

Bodman Family Foundation

Sonja and Raj Boveja

Jan and Charles Boyer

Antoinette and Lawrence Delaney

Karen and William Meyers

Andrea and William Purple

Carole and John Sanders

Antonia and Hans Schierling

Susan and Robert Trice

UVAS Foundation

\$500-999

Marguerite Adams

Barbara and Hollister Cantus

Lynn Heebner

Jeanne Leavitt

Sandra and Bruce Werness

On behalf of all members of ARCS/MWC and our scholar recipients, the generosity of our donor partners is crucial. It provides critical resources to fund scholar awards, it advances research conducted by the best and brightest of American students, and it serves as an investment in our nation's scientific and technological future.

In terms of giving, ARCS/MWC is fortunate to receive gifts in many forms, including time and effort in support of Chapter activities, in-kind donations for our gala and other events, and donations in support of operating needs. We are appreciative of each and every gift.

This Honor Roll recognizes gifts of \$500 and greater to our Chapter and/or to the ARCS Endowment Fund during our 2011 Fiscal year, (ended 5/31.). Please note that donations to or purchases from the Silent Auction at the ARCS 2011 gala have not been included. Our thanks to all who support ARCS. You truly make the difference!

H. Thomas Watkins, President and CEO of Human Genome Sciences, Inc.

On the evening of January 19, 2012 at the Cosmos Club, ARCS/MWC is pleased to welcome H. Thomas Watkins, President and CEO of Human Genome Sciences, Inc. (Nasdaq - HDSI) as our guest speaker. Tom has been President and CEO of HDSI since 2004, following 20 years with Abbott Laboratories and its affiliates in the United States and Asia. His early career experience was with Arthur Andersen and McKinsey. He has an undergraduate degree in accounting from William & Mary and an MBA from the University of Chicago. He is actively engaged in the community, as Chair of the Life Sciences Advisory Board for the State of Maryland, Chair of the William & Mary Foundation, board member of the National Symphony Orchestra, and a board member of Vanda Pharmaceuticals.

HGSI is a biopharmaceutical company headquartered in Rockville MD, with annual revenues (FY 2010) of \$157 million. The company is focused on the design and implementation of drugs to help those battling serious diseases. In March 2011, the FDA approved the company's lead product, Benlysta, for use in the United States market. This is the first new drug in 50 years to support Lupus patients. The company is also actively working with the U. S. Government (U.S. Strategic National Stockpile) for the production and delivery of raxibacumab, to address the impact of anthrax inhalation.

Please mark your calendar and plan to attend, as this will be a fascinating and enjoyable evening. Tom and his wife Wendy are looking forward to this opportunity to meet with ARCS members and guests.

ARCS® Foundation Inc.
Metropolitan Washington Chapter

Beth Schierling
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ARCS MEMBERS ATTEND JUNO LAUNCH

“Go Atlas, Go Centaur, Go Juno!” That was the rallying cry for the enthusiastic crowd attending the Juno launch on August 5, 2011. Juno was launched from Cape Canaveral on its 5-year odyssey to Jupiter, propelled by an Atlas V 551 rocket, 5 solid rocket boosters, and the Centaur Upper Stage. The NASA guest audience of more than 2000 visitors watching at the Banana Creek viewing area at Kennedy Space Center (KSC) is said to be the biggest yet for an expendable vehicle.

The VIP guests were invited by NASA, the Agenzia Spaziale Italiana, and Lockheed Martin. The Lockheed Martin Space Systems built the spacecraft. More than 30 ARCS members representing a large number of chapters nationwide, their family and friends attended the launch. Joan Jordano, Elli Nesbitt, and Margie and Dick Shanklin from our metro Washington Chapter were among the cheerleaders. All agreed that the event was an unforgettable experience.

