

SPRING
2011

ACHIEVEMENTS

National Newsletter of ARCS® Foundation



Achievement Rewards for College Scientists

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President's Message

"Great Achievements" Endowment Campaign

Dear ARCS® Foundation Members:

A notice was sent in December to all ARCS Foundation members announcing a 3-year \$1,000,000 funding campaign to build the ARCS Foundation National Endowment Fund.

Since then, we have been working to define the scope and milestones of the campaign and identify bona fide prospective donors in the external corporate and foundations community. In the meantime, the amazing Sandra Matteucci – long-time Phoenix member – presented "Great Achievements" with a gift of \$10,000. Other members have also been very generous. We are already off to a good start before ever sending the first campaign letter!

Why are we launching a campaign of this magnitude? Since October 2009 we have chartered new Chapters in Utah, Minneapolis and Tampa Bay (Florida). National spends approximately \$30,000 to start and support a new Chapter and in every case that investment is returned many times over with significant scholar awards to chapter scholars. We have targeted additional new Chapters in regions which would assist Washington University in St. Louis, Ohio State University, Case Western Reserve in Cleveland, Vanderbilt, The University of Texas at Austin, Tulane, and Louisiana State University. We will continue to add to this target list.

In June 2010 the National Board retained a public relations firm to establish a national identity and brand for the ARCS Foundation national organization and our Chapters -- an extremely critical effort as we continue to grow and to increasingly rely on external resources for support.

And third, ARCS Foundation has just kicked off the largest project ever

in our history. We have selected West Monroe Partners in Chicago to design, develop and operate a vastly upgraded website and database – providing much greater efficiencies to National and our Chapters, and serving to advance ARCS Foundation within the general public.

Given this ambitious agenda, it is evident that we must increase the National Endowment Fund by at least \$1,000,000 by 2014. What this simply means is that we must and will diversify and EXPAND our donor base. Some donors to this campaign will be well-known to ARCS Foundation, but we will also tap new realistic sources of funding and build bridges to a new donor community for support of National initiatives benefiting all Chapters.

Join us at the NAM on June 1-4 on Amelia Island for the official announcement and launch of this very exciting campaign.

Sincerely,

*Mary Snitch,
ARCS Foundation,
National President*



A Special Thanks ... Lifetime Achievers: Sandra Matteucci

(This is the first of a new series to salute our beloved "Lifetime Achievers." Look for the next article in our Fall edition.)

In 1991 Martha Knight invited me as her guest to an ARCS® Foundation luncheon at the Crescent Hotel in Phoenix. She always looked lovely so I tried extra hard and must have done a good job as I was asked to become a member of the Phoenix Chapter.

The first ARCS Foundation event I attended was an overnight field trip to Glen Canyon Dam. Martha arrived at the bus with three pieces of Louis Vuitton luggage and I had my duffel bag. She developed a migraine and I was on my own to socialize, and socialize I did. Now, 20 years later I have held most of the offices in the Phoenix Chapter. It was an honor to have been awarded the Phoenix ARCS Light and to be the first time recipient of the Phoenix ARCS Star.

Ralph Matteucci, my husband, loved ARCS Foundation and encouraged me to further the mission. I am happy to say we now have the Ralph Matteucci Endowment Scholar Award in the Phoenix Chapter. He never missed a NAM meeting. We both became passionate about ARCS Foundation.

Sandra Matteucci, Cruising in Antarctica 2011

The wonderful NAM meetings were instrumental in my becoming active in National. I started attending them from the very beginning. My first was in Chicago in 1993, followed by San Diego, Atlanta, San Francisco, Honolulu, Washington DC, Phoenix, Los Angeles, Lubbock, Las Vegas, Denver, and Seattle. Dottie Simpson of the Seattle Chapter and Nadine Carson of the Los Angeles Chapter were a strong inspiration in my early days. When I served as 2003 NAM chair, Judith Miller was another valuable influence. There are many other National Officers that I respect and I acknowledge their contributions to their Chapters and National.

Serving on the National board with such dynamic women always encouraged me to do more for this organization. Without the support of the Phoenix Chapter, my contributions to National would have been less effective. Every time I have come up with a National idea, the chapter members have been supportive.

ARCS Foundation became my passion some 20 years ago and continues with each passing year. When not ARCSing, I enjoy cruising the seven continents. Looking back on two decades, one sees many changes. There is always discussion on how to better our organization. There are many lessons learned from the past, lessons that will help steer us towards ensuring lasting legacies for generations yet to come...



Sandra Matteucci, Cruising near Glen Canyon Dam 1991

Remember “Ask not what National can do for you but what you can do for National.”

ARCS® Foundation National Annual Meeting to be held June 1-4, 2011 at Amelia Island

The ARCS® Foundation National Annual Meeting: Atlantic Adventure, “Science by the Sea” will be held on Amelia Island, FL, June 1-4, 2011. Excitement is in the air as we showcase one of our newest Chapters, Tampa Bay, which is providing the panelists (an all woman group from the University of South Florida, two of whom are ARCS Scholar alumnae) that will be discussing issues related to Marine Biology.

In addition, we are pleased to have Dr. Chris Palmer giving the keynote address on “Science and Communications” as well as leading workshops on Networking

and Fundraising. Dr. Palmer is an environmental and wildlife film producer from American University and author of the acclaimed book *Shooting in the Wild: An Insider’s Account of Making Movies in the Animal Kingdom*.

Be sure not to miss this interesting meeting which also includes beach time, pool time and opportunities to spend time with a fabulous group of wonderful ARCS Foundation women.

John Evey Shares his Vision for ARCS® Foundation

The ARCS® Foundation National Board was pleased to have John Evey, Vice President for Development at the J. Craig Venter Institute located in San Diego, CA, attend their meeting in Phoenix on February 11, 2011.

John’s background is extensive. He previously served the Scripps Institution of Oceanography as Assistant Director of Scripps and Executive Director of Development for Marine Sciences at the University of California, San Diego. Before that, he was Vice President for Institutional Advancement at the University of the Pacific and spent more than a decade as Director of Development for Oregon State University where he was responsible for the entire charitable gift development program. His accomplishments are many and we were delighted to have him share a positive vision for the ARCS Foundation goals in the years to come. John emphasized that we have the perfect organization to set up a campaign that will enhance our entire organization’s ability to fund raise.

John is a long time friend of the San Diego ARCS Foundation Chapter and has known many of their ARCS Scholars. We are honored to have John Evey as our advocate and friend. We thank him for speaking at our National Board Meeting.



Mary Snitch and John Evey

Project Mercury ARCS® Foundation Website Redesign Underway

On March 1, 2011, the ARCS® Foundation "Project Mercury" kicked off with the goal of building a new ARCS Foundation public website and developing a database infrastructure to simplify workflow for the ARCS Foundation Chapters and National office. This is the largest single project ever undertaken by ARCS Foundation in its over 50 year history.

The project name "Mercury" was selected because "Mercury" was the name of the first human space flight program in the United States that ran from 1959-1963 in response to the Russians' launch of "Sputnik". Mercury also symbolizes speed in Greek mythology and is the innermost planet of our solar system, moving faster than any other planet.

The discussion of the need for this project began two years ago and hundreds of hours have been spent on determining the project requirements and selecting the best vendor to join with ARCS Foundation to meet our organizational and project

goals. "This project will not only help us achieve many goals in our long term strategic plan, our hope is that input from each of our 17 Chapters will ensure the end product helps our wonderful chapter based volunteers in their administrative tasks" said Mary Snitch, President of the National Board of ARCS Foundation, Inc.

With the generous financial support of Lockheed Martin Corporation and ARCS Foundation Members, ARCS Foundation was able to enter into contract negotiations with several select vendors. In late February, ARCS Foundation signed a contract with West Monroe Partners/Promet Solutions, a vendor with multi-disciplinary experience as well as capabilities for helping organizations transform the way they communicate with constituents and manage their organizational assets.

During the first several weeks of Project Mercury, ARCS Foundation Chapters and Board Members have participated in the "Discovery Phase", where each Chapter had the opportunity to describe their workflow processes, identify workflow pain points and provide valuable input for the design process.

The next six phases of the project will take place over the next five to six months with a Fall, 2011 date for bringing the new website and database live for users. Several phases will require active participation by the Chapters. These include chapter data migration into the new database, testing for problems prior to the go live date of the new website and also training of ARCS Foundation Chapters on how to use the new website and operational tools.

Many thanks to Mary Snitch, ARCS Foundation National President, Lynda Birkelbach and Jennifer Edstrom, Project Managers, Ellen Richardson, Chapter Relations, Sue Dindia, Chapter Coordinator, Nancy Spetzler, VP Communications, Jackie Henson and Lynne Brickner who conducted legal/contract review, and all members of the ARCS Foundation Information Strategy Committee. Most of all, our thanks go to representatives of each ARCS Foundation Chapter as they provide input and feedback to the Mercury team; this investment of time and talent will help us be sure that our goals are achieved!

ARCS®
Foundation
National
Board
Meeting,
Phoenix,
February
2011



Social Networking for ARCS® Foundation

Come try social networking with us...

ARCS® Foundation is now using social networking to help connect with current, past, and future ARCS Foundation Members and Scholars. Using these new Multi-Way communications capabilities for interaction, feedback, fast responses, and sharing of information, ARCS Foundation is creating its presence on the major platforms. This will support ARCS Foundation Strategic/Marketing Goals of attracting capital, attracting new members, retaining existing members, and establishing its prestigious and professional brand.

We will be expanding our outreach on LinkedIn to encourage discussions among ARCS Scholars and Members. And, we will have a subgroup just for members. Connect and try this professional directory where the top 500 S&P companies business directors are listed. It is a great place to establish professional connections



and find past scholars.

www.Linkedin.com

Let's explore our Group: ARCS Foundation

Facebook is our way to connect on events and activities with ARCS Foundation Members. It is like your personal address book where friends can recommend friends who share personal interests. It also allows sites for groups, events and businesses. In Facebook, you specify the amount of privacy you want. We recommend starting with the strongest privacy settings. So, only share information with your friends (and not friends of friends or the public). You can change these settings at any time.



www.facebook.com

Let's explore our Group: ARCS Foundation

Twitter is a fabulous way to connect with people who are interested in certain topics. For instance, we may want to "Tweet" with people who follow @NASA or @ScienceMagazine, etc. It is organized like the yellow pages, based on categories of topics. Messages are relayed in real-time and there is a maximum of

140 characters per message so it is ideal for quick updates from organizations. In fact, the Red Cross uses twitter to communicate with volunteers and victims.



www.Twitter.com

Let's explore our site: @ARCSFoundation (NO spaces!!)

When composing your tweets, use @Person or @Organization-Name (no spaces) to address your tweet, use #Topic ("Hash tags") to identify your topic, and add links to the ARCS Foundation Website to drive traffic to www.ARCSFoundation.org.

We would like to see all ARCS Foundation Members try social networking, starting with You! The first step is to create your personal page in each site and then connect to ARCS Foundation on each site. You can be active in Chapter "Talk" by connecting to both National and Chapter Sites, inviting others to Chapter Sites, and posting events and activities on the sites.

Please share your experiences with us as you are learning, try new things and have fun!!! For more information, contact Linda Seefeldt, President, ARCS Foundation – Tampa Bay Chapter.

ARCS® Foundation National –

Who are We?

ARCS® Foundation National is an “umbrella” organization – composed of members of a National Board of Directors and established in 1959 to carry out the fund-raising goals initiated by founding Chapter, Los Angeles, across the country and to assure that uniform standards of selecting outstanding scholars and funding outstanding educational institutions continued as new Chapters were organized. National provided the use of a uniform identity to the Chapters and over time oversaw the orderly chartering and funding of new Chapters and maintained the standards of quality across all the Chapters. Indeed, the three main functions of the National Board are: to support existing Chapters; to develop new Chapters; and to maintain uniform standards of excellence among the Chapters

The hallmark of National is the dedication of our tried and tested chapter leaders who now serve on the National Board and who believe in their heads and hearts that the sum is and can be even greater than the parts. They understand that as directors and officers serving on the National Board, they have a fiduciary duty to act in the best interests of National, and not of themselves or their Chapters. All

members of the National Board must be members of a Chapter and all remain very active in their Chapters. The importance of the fiduciary duties of care (to act in the best interest of National) and of loyalty (to put aside one’s personal views and any conflict of interest, including that of one’s Chapter, and to instead place foremost the best interest of National) for the National Board directors and officers cannot be emphasized enough as a principle of corporate law. In our organizational construct, the Chapters have the responsibility for the primary purpose of ARCS Foundation - the support of our Scholars within defined geographic areas. The Chapters are not charged with “overseeing” or directing National’s policies and activities - that is the purview of the National Board, whose members carefully consider the input from the Chapters (usually through their presidents), but whose members ultimately have to make decisions founded on their fiduciary duty to National. Because of these fiduciary duties, the responsible conclusion for a National Board member is to act and to uphold the continued viability of National to engage in its mission and goals as defined by the National Board, and not as “defined” by the Chapters.

To fulfill its mission and goals, National provides items and services to the Chapters, to include: establishing a national brand; funding and supporting

new Chapters; offering models for Governance (bylaws, endowment, etc); providing for our current and new website-in-construction; providing Chapters with print and marketing materials; hosting and collating biennial surveys of our scholars, membership and universities; providing Chapter, University and Membership Handbooks; establishing external relations to promote ARCS Foundation as a national presence; hosting leadership and job specific training for chapter members at the National Annual Meeting; providing individual chapter support as needed or requested; and more. National’s work has been partially funded by modest dues per member (again, initiated by the Los Angeles Chapter) - of which 70% is returned for chapter support. The remainder of chapter support funding – far exceeding income from dues – and support of National activities comes from self-funding, that is, National Board fund development, gifts and the National Endowment

So, who is National? We are YOU. The National Board exists and is organized to serve you and support you, as a Chapter and an individual member. All goals and efforts lead to the same place, to fulfill our collective mission to support our best and brightest scholars to “Advance Science in America.”

Janie Wilson and Lynne Brickner

Building Capacity through Partnerships

There is no doubt about it – ARCS® Foundation women work hard. Our remarkable history tells us that we have accomplished a great deal and we certainly continue to do so. Our mission is vital. Our leaders are dedicated and visionary. Our members are committed. But there are limits! We are volunteers. We are limited in number. We exist in 17 wonderful, but nonetheless only 17, localities at the moment. Given our finite resources, how do we expand our reach and impact?

One of the strategies that is currently being explored involves reaching out to others who share our vision and whose work is similarly focused on supporting STEM (science, technology, engineering and math) education. Key Congressional Committees, federal agencies such as the National Science Foundation and the National Institutes of Health, and national organizations such as The American Association for the Advancement of Science and the Council on Competitiveness are all potential friends and colleagues in our effort to advance science in America and to support the innovation that is the cornerstone of our country's competitiveness. The External Relations Task Force, consisting of nine members of the National Board of ARCS Foundation, has been hard at work since January designing a

strategy for identifying, targeting and developing relationships with these like-minded organizations. Our goal is to strategically position ARCS Foundation nationally for greater impact on STEM-related policy, acquire insights to funding opportunities, and enhance visibility with potential partners and collaborators. This initiative emanates from our 2009-2014 Long Range Plan and was endorsed in recommendations by the Science and Engineering Advisory Council in their June 2010 Report. This Task Force will present their recommendations for action at the NAM in June.

*Jeanne B. Berdik
National President-Elect and Chair,
External Relations Task Force*

Evaluating the Effectiveness of ARCS® Foundation

As part of the National ARCS® Foundation's Long Range Plan, an Evaluations Committee was established to implement a six year cycle of surveying ARCS Scholars, members, and recipient universities, in order to determine our effectiveness and impact on these three groups.

Last fall, a four part survey was administered to all 52 universities where ARCS Scholars study. The survey asked one person at each university, (whose name was provided by the corresponding chapter president and university relations chair) to complete

questions on the institutional profile, the scholar award profile, processes and procedures, and organizational relations.

ARCS Foundation prides itself on supporting the best and brightest American scholars in top-ranked university programs nationwide. The survey asked universities about the ranking of programs and scholars, how scholars are selected, whether awards are used for recruitment or for continuing students, and whether the notification timing works for the institution. Universities were asked whether they preferred a higher dollar amount for each award even if that meant fewer awards, or a lesser dollar amount so more students could be chosen as ARCS Scholars. They were asked to reflect on their relationship with the local Chapter and the annual awards event, as well as communication with the local Chapter and its leadership. The survey asked each university about its familiarity with our mission and to comment on what ARCS Foundation means to them.

Forty three surveys were completed, three were duplicates, and ten were anonymous. We are just beginning to analyze the responses to determine successes, trends, and areas where ARCS Foundation can improve. Later in the spring my co-chair Sheila Larsen and I will have more specific details to share.

*Leslie Workman
Co-Chair, Evaluations*

Dr. Elizabeth Blackburn, Nobel Laureate, Speaks at Northern California 40th Anniversary Celebration

On January 27, 2011, the Northern California Chapter (NCC) of ARCS® Foundation, Inc., celebrated their 40th Anniversary. The cornerstone of the evening was the keynote address by Dr. Elizabeth Blackburn, the 2009 Recipient of the Nobel Prize for Medicine or Physiology for her co-discovery of telomerase, an enzyme that plays a key role in normal cell function, as well as in aging and most cancers

The 40th Anniversary event was a celebration, not only of the successes and impact of the Northern California Chapter, but also of its members, those women

who made the successes not only possible, but fun and memorable!! Special recognition that evening went to the Founding Class, those ladies who had the vision to bring the ARCS Foundation mission to Northern California. In fact, one of the original members, Bev Willis, flew in all the way from Connecticut for the event, earning special recognition and applause for her above-and-beyond dedication to the Chapter.

The Golden Gate Club was an apt location for the celebration given it is an historic building which once housed the Enlisted Men's Club when the Presidio was an active Army base. The floor to ceiling windows overlooking the sun setting under the Golden Gate Bridge was the perfect place to start the evening. Guests who elected to purchase a Nobel Prize Patron level ticket enjoyed a private champagne reception with the engaging and personable

Dr. Liz Blackburn who spent considerable one-on-one time with the attendees.

The main program was ably MC'ed by Sydnie Kohara (San Francisco CBS Channel 5 News Anchor). After current Chapter President, Cynthia Haueter, acknowledged the past Presidents, Judith Miller (past National President), and the many generous contributors to the event (including major underwriting by the Gordon and Betty Moore Foundation), Donna Miller Casey, read a wonderful and humorous letter from her mother, one of the Founders, then Ann Russell Miller, now Sister Mary Joseph of the Trinity. This was followed by a surprise presentation by Dr. Dragutin Petkovic, a naturalized Serb who is currently Chairman of the Computer Science Department at San Francisco State University. Dr. Petkovic's talk "The Story behind Sputnik – the Real Story!"



Betty Alberts, Dr. Elizabeth Blackburn, Nobel laureate keynote speaker, Cynthia Haueter, NCC President



Cynthia Haueter, NCC President, Bev Willis, Member of NCC Founding Class, and guest, Wanda Bubriski

was a fascinating look at how recently revealed facts and history as we knew it don't always match up!!

The highlight of the Program was a conversation between Dr. Elizabeth Blackburn and Dr. Michael Krasny, host of the award-winning NPR talk show, "Forum". The biggest complaint following the event was that the 25 minute conversation wasn't long enough! Apparently Dr. Krasny and Dr. Blackburn felt the same, as the following Monday, Michael Krasny hosted Dr. Blackburn on his radio program, "First Person", which received national coverage! The interview can be found at: [First Person: Nobel Prize-winner Elizabeth Blackburn, www.kqed.org](http://www.kqed.org).

One of the goals of the 40th Anniversary Celebration was to raise one Scholar Award (at \$10K an award) for each of the Northern California Chapter's 6 recipient schools. To accomplish this, each school put together an auction package which showcased something unique about their particular institution. The auction started with a \$10K Presidents' Challenge to the audience (cobbled together by all Northern California Chapter living past Presidents and/or the families of those deceased) and finished with a Fund-A-Scholar which had members actively raising their paddles. The overall net for the evening was an exciting \$79,000 in support of the ARCS Foundation mission!

Chicago Chapter Marks 30 Years of Support to University of Chicago Scholars in the Sciences

An April 5 reception given by the University of Chicago marked the 30th year that the Chicago Chapter of ARCS® Foundation has supported graduate students at the University, including 7 scholars in the 2010–11 academic year.

"The University is grateful to the members of the Chicago Chapter of ARCS Foundation for their extraordinary dedication and generosity to our students over the past three decades," said University Provost Thomas F. Rosenbaum. "It is truly exceptional for a donor to provide such sustained support, yet the well-defined aims of the foundation remain vitally important today. From energy to climate change to health care, society's greatest challenges require scientific understanding and new discoveries. The University is honored to have ARCS Foundation as a partner in developing the scientific leaders of the twenty-first century."

"The mission of ARCS Foundation is to advance science and technology in America," said Sue Dindia, president of ARCS Foundation Chicago Chapter, "and by awarding University of Chicago science scholars over \$775,000 in the past 30 years, we believe we



Jill Kramer, past NCC President, Judith Miller, past ARCS® Foundation National President, Linda Millard, past NCC President, Mary Beth Starzel, past NCC President



Holly J. Humphrey, Pritzker School of Medicine Dean for Medical Education and 1982 ARCS Scholar, Mary Snitch, ARCS Foundation National President, Sue Dindia, Chicago Chapter President, Emily Bethea, Pritzker School of Medicine student and ARCS Scholar, and University Of Chicago, Provost Thomas F. Rosenbaum

are investing in America’s future. We look forward to partnering with the University for many years to come.”

One example of the profound impact ARCS scholar awards can have is the work of Pritzker School of Medicine fourth-year Emily Bethea who wants to improve preventive care. She’s focused on colon cancer. To ensure that more patients are diagnosed before the disease has progressed to an incurable stage, she does research that charts the effectiveness of virtual colonoscopies. “This non-invasive outpatient procedure could be another venue for screening,” said Bethea, “possibly targeting the

population of patients that may fear the optical or more invasive colonoscopy, but may agree to a virtual screening.” A first author on “Comparison of Polyp Size and Volume in CT Colonography: Implications for Follow Up CTC,” published in the *American Journal of Roentgenology* in 2009, she has been able to continue her research throughout her medical school career—in part because of a \$10,000 scholar award she’s received for the past two years from ARCS Foundation, Inc. Bethea is extremely grateful for her ARCS Foundation award: “I wanted to research a topic that readily correlated to patient practice and also focused on preventive care. It’s really nice to have the financial

support, and the scholar award has connected me to a great group of women.”

Past University recipients of scholar awards from the Chicago Chapter of ARCS Foundation include Holly J. Humphrey, MD’83, Pritzker’s dean for medical education, who received the award in 1982. “Medical school has always been an expensive endeavor,” Humphrey says. “The scholar award helped me meet two goals simultaneously: one was to reduce my medical school bills and the second was to dedicate time to pursue an area of research in which I was interested.”

Tampa Bay Chapter's Spring Fashion Show Raises Funds for Science Scholars

On March 18, 2011, ARCS® Foundation Tampa Bay Chapter held its 2nd Annual *Fashion and Fun - Down to a Science* Fashion Show at the Renaissance International Plaza Hotel in Tampa. One hundred and seventy five people attended the event which was chaired by Denise Walthers, president of the DW Group and executive vice president of Kara Vita, and featured the 2011 Spring Collection from Kit's Well Heeled

& Well Dressed. The goal of the fashion show was to raise at least \$30,000 for scholar awards for students enrolled in the Cancer Biology Ph.D. program at Moffitt Cancer Center in the College of Arts and Sciences and the College of Marine Sciences at the University of South Florida. The highlight of the show occurred when a guest offered to be the first Named ARCS Foundation Scholar Award Donor for the Tampa Bay Chapter!

"Our nation's competitiveness depends on our ability to produce greater numbers of scientists and researchers," said Walthers. "Organizations like ARCS Foundation play a key

role in fostering future leaders in science, engineering, and medical research. We're excited to have so many passionate members of our community step up and support young researchers at USF whose work will help change our lives for the better." Denise Walthers serves on the steering committee for the Tampa Bay Chapter of ARCS Foundation and is also the author of *Ten Steps to Success*. She is currently writing her second book, *Ten Steps to Style*, and designed the newly launched Houdini Dress that many of the models are wearing in different wrapped styles.



*Joyce Cotton and
Denise Walthers,
Tampa Bay Chapter
Founding Members*

The Days of Shoveling Out from Blizzards Are Numbered

Minnesota Chapter Volunteers at the Autonomous Snowplow Competition in St. Paul

As parts of the USA were paralyzed by record snowfall this season, college student scientists were at work creating a future where back-breaking shoveling would be obsolete. Students from six Midwestern universities were frantically putting the final touches on the future of snow management – robotic snowplows.

The students' hard work was put to the test at the Institute of Navigation's (ION) Autonomous

Snowplow Competition on January 29 and 30, 2011 in conjunction with The Saint Paul Winter Carnival which was celebrating its 125th anniversary dubbed "The Coolest Celebration on Earth". On a snow course located in downtown St. Paul, the students used GPS, laser, sonar, and camera-based navigation to guide snowplows in this determination of which robotic concept would be the most effective.

Modeled after ION's annual competition which spurred the development of mass-market robotic lawnmowers, it is hoped that the Autonomous Snowplow Competition will be the trigger to drive the development of robotic snowplows. "ION is hard

at work promoting collegiate undergraduate and graduate science, engineering, and math development" says Dr. Suneel Sheikh, ION North Star Section Outreach Chair and an ARCS® Foundation Metro Washington Chapter Scholar Alumnus. "These competitions are integral in the growth of new scientific ideas and concepts which eventually affect the day to day lives of the public."

The schools – University of Minnesota, Dunwoody College of Technology, University of Michigan–Dearborn, Ohio University, Wright State University, and Miami University of Ohio, competed for awards, prize money and recognition in the scientific navigation community. When the



Dr. Suneel Sheikh, ARCS Scholar Alumnus, Jan Hacker Minnesota Chapter Member, Chanel Wright, Jen Grey, Minnesota Chapter Member, Kristen Sheikh Minnesota Chapter Member, Jake Flanagan, and Amy Thul

competition was over the students from Ohio University won first place and also took home the Golden Shovel award for best Student Presentation. Miami University of Ohio took second place and Dunwoody College of Technology won third prize.

This was the inaugural event for the Autonomous Snowplow Competition and the ARCS Foundation Minnesota Chapter was happy to participate. It was a great fit for our young Chapter, combining science and technology with the cold snowy winters of Minnesota. ARCS Foundation members set up a promotion booth at the event to display literature, and meet and talk with the wide-ranging group of spectators who came to the Autonomous Snowplow Competition and the

St. Paul Winter Carnival. Because ARCS Foundation is so new to the area many people had not heard of us and were very interested in learning more about the Chapter. This was a great opportunity to get out, volunteer, and promote ARCS Foundation.

Jenny Edstrom, President of the Minnesota Chapter, was a judge at the opening night student presentations portion of the competition. Jenny, along with eight other judges from the fields of engineering, sat and listened to the in-depth technical presentations by the students. She also spoke to the audience about ARCS Foundation and its involvement in the fields of science and technology.

Along with the Minnesota Chapter members and the competing

teams, our first two ARCS Scholars, Coty Jen and Justin Levandoski, both from the University of Minnesota, were able to participate and walk in the St. Paul Winter Carnival Grand Day Parade proudly wearing their ARCS Foundation medals and carrying the ARCS Foundation banner.

The Autonomous Snowplow Competition and ARCS Foundation have already been asked back by the St. Paul Winter Carnival for the 2012 celebration! Please visit www.autosnowplow.com for more information and to see all the photos, videos, and press coverage from this fun event.

*by Kristen Sheikh
Minnesota Chapter
VP Communications
and Public Relations*



University of Michigan-Dearborn snowplow working the course while the spectators watch.

Los Angeles Chapter Visits Lockheed Martin's Skunk Works

Fifty-six Los Angeles ARCS® Foundation members, their friends, and spouses recently journeyed out to Palmdale to have a tour of Lockheed Martin's Skunk Works. Skunk Works was the super secret facility during WWII where the P38's and other fighter aircraft including the first supersonic Fighters were built. They were constructed under a circus tent right in the middle of a corn field in Burbank at what is now known as the Bob Hope Airport. Knowing the security when we fly now, can you manage a world 60+ years ago where tight security was not needed for these super secret, cutting edge, war winning, aircraft? Lockheed Martin has left their circus tent in Burbank but they have not abandoned the concept

of forward thinking aircraft. Today they are manufacturing the drones that are flying over Iraq and Afghanistan. They also conceived and built the Stealth aircraft which are flying as undetected as possible over war zones. As this is still a top security base, behind all the locked doors we could only imagine the new devices and space craft that many of us will never even read about but are being built to keep us safe. It was quite a day.

April 4th will find the ARCS Foundation Los Angeles Chapter in Pasadena visiting the earthquake lab of Lucy Jones, head seismologist of Cal Tech. Dr. Jones is the woman who has been on TV describing the dynamics of earthquakes following the tragedy in Japan. As our members in Los Angeles live on the Pacific "Ring of Fire," they know the next "Big One" is coming. Hopefully they will gain some greater insight as to what they can do to protect themselves.

Seattle Chapter Visits Washington State University Department of Plant Pathology

Recently, the ARCS® Foundation Seattle Chapter University Relations Committee and other ARCS Foundation members met with department chairs and their assistants at the University of Washington (UW) and Washington State University (WSU) to hear how the universities used their ARCS scholar awards allotment during the 2010 recruiting season.

In general, the top five percent of PhD candidates in each academic discipline receive offers from many highly-ranked universities around the country. ARCS Foundation scholar awards are a crucial part of the package of benefits that the UW and WSU must offer to compete for these top students. Prospective students are eager to learn about ARCS Foundation through our website and are excited about the financial award and the prestige of being named an ARCS Scholar. It signals to them that they are valued by the department. Top students in turn bring many benefits to a department, such as securing national grants to fund their research.

In January, ARCS Foundation Seattle Chapter Board members carpoled to Mt. Vernon to visit the WSU Research and Extension Center and met with local Skagit Valley growers as well as faculty

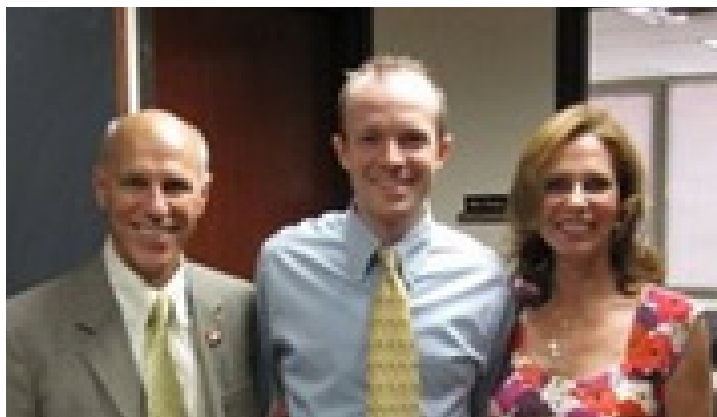


Los Angeles Chapter members and friends visit Lockheed Martin's Skunk Works.

and graduate students in the WSU Department of Plant Pathology.

WSU has research centers in Wenatchee, Prosser, Puyallup and Mt. Vernon, in addition to the main campus in Pullman. At Mt. Vernon, 18 graduate students focus their research on plant diseases, pests and weed science in fresh and processed fruits and vegetables. They provide an invaluable resource to the local growers who harvest over 60 types of specialty crops in the valley and produce 50% of the US supply and 20-50% of the world supply of seed for 35 vegetables.

ARCS Foundation visitors enjoyed a tour of the new center, heard presentations by the Director of the Center and students, and had lunch with faculty, students and local growers. Board members were impressed by the excellence of the Plant Pathology Department and the graduate students who presented their research. The department has been invited to apply to become the fourth department that ARCS Foundation funds at WSU.



Tom Might, Daniel Farrell, ARCS Scholar, Diane Might, Phoenix Chapter Member

Attending a Dissertation Defense Brings Home ARCS® Foundation Mission

By ARCS Foundation Phoenix Chapter Member: Diane Might

At the Phoenix Chapter ARCS® Foundation Awards Dinner attendees receive a great overview of how our scholars intend to push the frontiers of human knowledge. However, if you have the honor of attending a scholar's dissertation defense, you get the opportunity to see what they have actually accomplished, due in part to the ARCS Foundation Scholar Awards.

My husband and I had the honor of supporting Daniel Farrell, a biophysics PhD candidate from Arizona State University. Please see his e-mail below that invited us to attend his dissertation defense. It warms the soul to know that our donation helped him in his enormous undertaking. Daniel's defense was flawless, and his findings have huge implications for protein research. His intelligence, wit, passion and enthusiasm came through clearly. There is no doubt that Daniel will do great good as he goes into the world of his post doc and beyond. We are extremely grateful that ARCS Foundation provides a vehicle to support such deserving young men and women.

Daniel came up with a geometric targeting method to computerize the folding and unfolding of proteins faster and more efficiently than other methods. Proteins are the basis of life, and this ability to examine their atomic pathways via computerization will lead to breakthroughs in the understanding of diseases and cures.



Seattle Chapter visits WSU Department of Plant Pathology.

It was a delight to meet Daniel's wonderful parents, Jill and Daniel. It was immediately clear how Daniel was able to achieve so much after meeting them. Ironically, we lived very near the Farrell's when we were in the Washington D.C. area 17 years ago, but it was ARCS Foundation almost 3000 miles away that brought us together.

Hi, Diane,

This is Dan Farrell, the ASU student that you supported a few years back with an ARCS scholar award. Although it has taken way longer than I wanted, it is now finally time for me to graduate! I will be turning in my dissertation in about a week and a half, and then 2 weeks later I defend my dissertation. The project I've been working on for so long finally worked out, and I have one accepted publication, with another paper submitted and awaiting review, and a third that is in preparation. Also, I found a great postdoctoral research position with Ken Dill at UC San Francisco, a renowned expert in protein research and other theoretical biophysics topics. The research sounds very exciting and I can't wait to move on to new things!

I would like to invite you and Tom to the public portion of my dissertation defense, ... Let me know if you think you might be able to make it!

Dan

San Diego ARCS® Scholar Alumna Spotlight on Cecilia Larossa

ARCS® Foundation members, myself included, are often curious about where our Scholars go after they finish their degrees, and what direction their involvement with science and technology has taken. It is especially interesting to learn about the pathways of our few ARCS Scholars getting undergraduate degrees in engineering since they often go on to further academic study. In the following article, one of our successes tells her story. To be a female Ph.D. student at Stanford in Aerospace Engineering is a stunning achievement in itself, and I am sure she will go on to many more great things. We can all be proud to have helped her in the early stages of her career. Enjoy reading what Cecilia Larossa, 2006-2007 San Diego ARCS Scholar, has to say about her life and her work.

*Candace Kohl, Ph.D.
San Diego Chapter President*

"Our family home was in Uruguay, but I was born in Greenwich, CT, while my mom pursued her Master's degree in New York. After my brother was born, my parents decided to move back home to Montevideo. I lived in Uruguay until I finished high school, and then I chose to pursue Aerospace Engineering. This decision posed a problem, as there is no Aerospace Engineering in Uruguay. Although Uruguay was a good place to grow up, it was time to move on to a place that offered me new challenges. The United States offered me those new challenges that I am now happy to be facing every day. It offers me a place to work and to study in a field that fascinates me, the opportunity to continue the sport I love (surfing), and the ability to learn and interact with people from many different countries.

While working 40-50 hours a week to support myself, I attended San Diego State University for my undergraduate degree in Aerospace Engineering. In my last year at SDSU, I was chosen for the ARCS Scholar Award, which allowed me to stop working and focus on research and graduate school applications. I applied and was accepted into Stanford University! I finished my Bachelor's degree in Aerospace Engineering in May 2007 as an ARCS Scholar. I then completed a Master of Science degree in the Aeronautics and Astronautics Department at Stanford University

in December 2008. During this time, I realized that there is still much more to be learned. That is why I am currently working on my Ph.D. in Integrated Health Management for Composite Structures at the Structures and Composites Laboratory (SACL) at Stanford University.

My research is under Prof. Fu-Kuo Chang. My specific task is to model and simulate damage propagation within composite structures. The main idea is that, given a structure with embedded sensors, we can quantify damage, calculate the new strength of the structure, and simulate future loads to estimate when the structure will fail or need

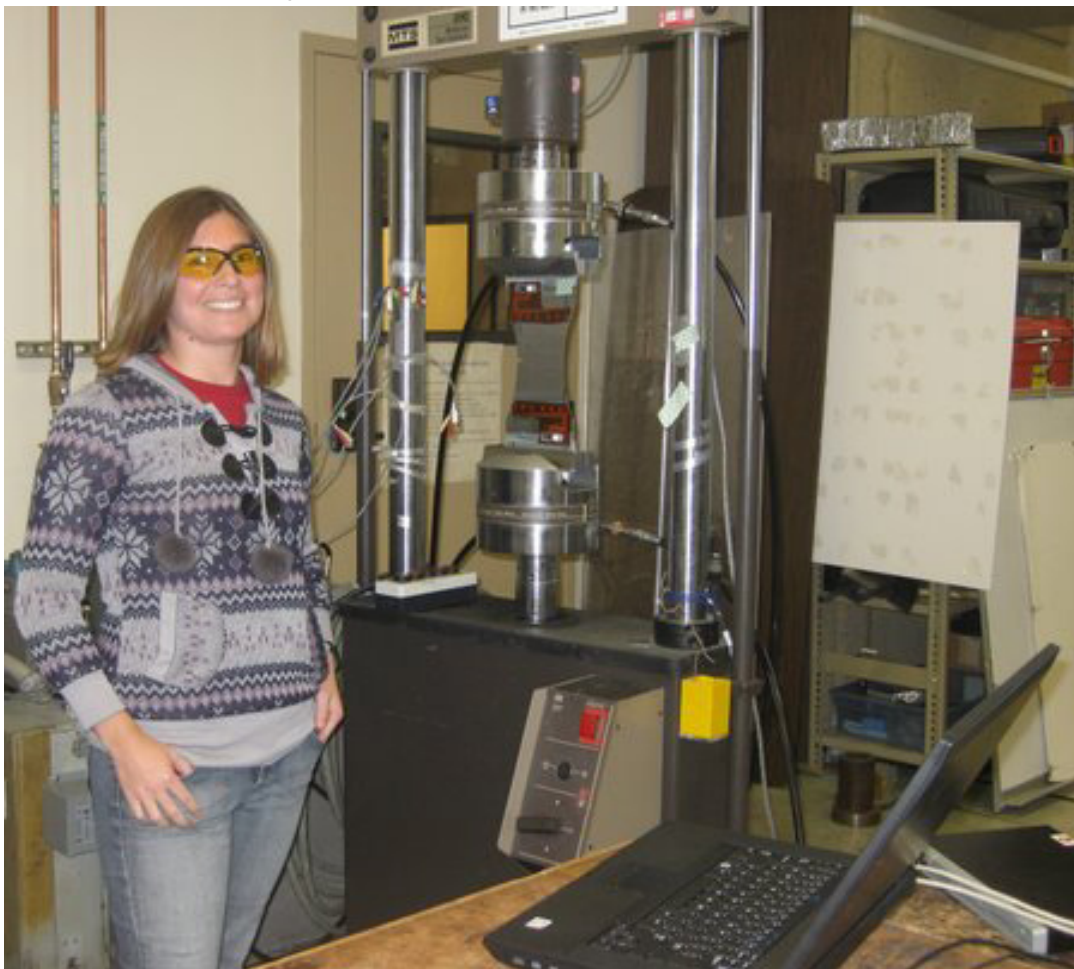
maintenance. In other words, we are developing the tools for a smart structure; it will know when it has been damaged, how the damage will affect performance, and what to do about it.

Here at Stanford, I am involved in the AIAA (American Institute of Aeronautics and Astronautics) student chapter and LEGOS (Latin Engineering Graduate Organization at Stanford) where I organize and attend many social and networking events. In the last few years, I have received a few awards, such as the Stanford Aeronautics and Astronautics Graduate Fellowship, the Robert H. Cannon Junior Summer Doctoral Fellowship from Stanford's Aero/

Astro Department, and I am currently a Zonta International Amelia Earhart Fellow.

As for long-term goals, I believe that the Ph.D. program at Stanford will be the final step toward my pursuit of a career in academia. Discovering new concepts and explanations is meaningless if the knowledge gained cannot be shared with other people. As a professor, I will have the opportunity to conduct cutting-edge research, to mentor and guide students and to promote the importance of science and engineering to the community."

*Cecilia Larrosa
San Diego ARCS Scholar Alumna*



*Cecilia Larrosa
San Diego ARCS
Scholar Alumna*

Atlanta ARCS® Scholar Alumnus Spotlight on Franklin West

If you have ever wondered whether our investments in young scientists were worthwhile, Dr. Franklin West's presentation at the January Business meeting of the ARCS® Foundation Atlanta Chapter would have more than reassured you. How proud we all were to hear from Dr. West about his groundbreaking work in the field of stem cell research! Dr. West received his ARCS Scholar Award in 2002 while pursuing his undergraduate studies at Morehouse College. He completed his PhD in stem cell biology at the University of Georgia (UGA) in 2008. He is now an Assistant Professor in the Regenerative Bioscience Center of the Rhodes Center for Animal and Dairy Sciences at UGA where he works alongside his mentor Dr. Steve Stice.

Presidents and the Pope have publicly commented on the promise of stem cells. Yet in many ways they remain a mystery. Stem cells have the capacity to save and improve lives –



Dr. Robert M. Franklin, President Morehouse College, Dr. Franklin West, ARCS Scholar Alumnus, and Dr. Cheryl G. Franklin, Atlanta Chapter Member

applications include developing disease models, toxicology screening and cell therapy. During our meeting, we were treated to a primer in stem cell and germ cell research learning much about the future and the important work being done by Dr. West at UGA.

Currently, there is not a good model to study germ cells derived from stem cells. Tissues for study are limited and there is no human model. This deficit presents a significant challenge leading Dr. West and his team to seek new means of developing a homogeneous germ cell line. Recently Dr. West's group was able to maintain cells in continual culture through twenty splits over 180 days. This is the first time this has been accomplished! They were also able to create a culture

where over 90% of the cells were germ cells.

There is a long and varied list of problems that can be impacted by this research. Germ cell lines provide real promise for a high percentage of couples experiencing infertility. Screening toxins with stem cell derived germ cells have been used to study toxins like Agent Orange, the Vietnam era toxin that is still causing malformations in Vietnamese children today. Additionally, the Bill and Melinda Gates Foundation supports work in Africa and Asia using domestic livestock stem cells to breed animals who are more resistant to avian and swine flu.

Named by *Georgia Trend* as one of Georgia's best and brightest 40 under 40, Franklin West has

Next Issue

The launch of the “Great Achievements” Endowment Campaign, progress on the Project Mercury Website Redesign, and details of NAM will be featured in the Fall ACHIEVEMENTS Newsletter.

attracted the attention of laymen and scientific leaders throughout the country. He certainly held our rapt attention as he made his research accessible to those of us without scientific backgrounds. Our investment in Dr. Franklin West has already reaped great benefits for mankind and it will

be exciting to follow his progress. Dr. West expressed his heartfelt gratitude for our support and encouraged us to continue to inspire young investigators with our philanthropy.

*by Kathryn Graves
Atlanta Chapter Member*



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