

WINTER  
2012

# ACHIEVEMENTS

National Newsletter of ARCS® Foundation



Achievement Rewards for College Scientists

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# President's Message

## Leading the Way

*Dear ARCS® Foundation Members and Friends:*



*Jeanne B. Berdik  
National President*

In my first message to you, I touched on the distinct and yet synergistic roles played by the various components – local and national – of this exceptional organization. I also spoke about our future-oriented mission and our shared responsibility to focus on investing in the future that we envision. I would like to spend a few moments today expanding a bit on those thoughts, specifically on the unique leadership role of the National Board in facilitating, promoting, empowering and enhancing the organization's ability to advance science in America.

As I write this message, my desk is still crowded with remnants of our winter National Board Meeting in mid-February. Elsewhere in this Newsletter you will see information on specific business conducted at that meeting and also, I hope, get a glimpse into the rewarding experiencing of actually being there. What you may not get a sense of is the overall energy level, the commitment to a national vision, and the willingness to adapt and change in order to lead that permeated the entire meeting.

The National Board has been spending a good deal of time (some have already cried "Uncle") working on internal "housekeeping issues" and on unexciting but vital topics such as ensuring our long term financial health at the national level. We also, at this most recent meeting, benefited from the presentation and discussion of the results of our first-ever internal assessment of the workings of the National Board. This report laid bare what we are doing well and where we can improve. It gives us REAL data on which to base decisions about the structure of our committees, meetings, education and training of Board

members, and most importantly the National Board's relationship with the Chapters. So, over the coming months, and using this information as a guide, we will continue to "kick the tires," fix what is broken, and refine our internal operations so that we have the capacity and the ability to exercise our critical support and leadership roles across the national organization. Despite the time on our agenda taken-up by these infrastructure issues, what I experienced at the February meeting was people taking the time and making the commitment to explore new ideas, to strengthen our vision, to inspire and educate others, and to build a sense of collegiality and teamwork. I heard conversations about the scalability and capacity of the organization to impact our mission, and about not being afraid of what that might mean 10 or 20 years from now.

From a panel of experts in science, technology, advanced manufacturing and STEM education that joined us for lunch on Friday, we heard that we are experiencing a "second Sputnik moment." How will we respond? We are not a club whose actions are crafted to conform to its members' needs and preferences. We are a mission-driven organization of leaders committed to long-term impact on a critical problem. We can and should make decisions of who we want to be and what actions we want to take, based not on current comfort zones, but on how we might best advance the ARCS Foundation mission. Emerson tells us that the most effective leader "does not go where the path may lead, but goes instead where there is no path and leaves a trail." Leadership by definition MUST be future-oriented. It is not about the immediate or quick fix; nor is it about instant gratification. The true leader, like the true gardener, is one who is willing to invest her own energy, time and resources "to plant a tree in whose shade she will never sit" (origin and author unknown).

Having said that, I am reminded of another one of the most fundamental of leadership precepts – every once in awhile, the leader needs to look around to make sure that someone is actually following! Leaders can't afford to get so far out in front of the group that the people lose heart. So while we are defining and articulating a future-oriented agenda and ways to achieve it, we must also employ some additional leadership wisdom coined by Robert Greenleaf in his work related to Servant Leadership. One of our primary tasks as leaders, whether at the National or Chapter level, is to ask "What do you need? How can we help you? How can we enable your understanding of a shared vision? How can we empower, facilitate and assist you in fulfilling the potential you have to make a difference?" There is a Chinese saying attributed to Lao Tzu that captures the work of the successful Servant Leader as follows: "Go to the people. Learn from them. Live with them. Start with what they know. Build with what they have. The best of leaders exists where, when the job is done, when the task is accomplished, the people will say we did it ourselves."

*Jeanne B. Berdik*  
*National President*

## The Birth of ARCS Foundation

Sputnik! The story of ARCS Foundation begins at a moment when America was startled by a rocket. The Soviet launching on October 4, 1957, of a small satellite into orbit around Earth fascinated and alarmed America. At the height of the Cold War, the USSR's action created a mild panic. For our very freedom and well being, we could not allow any country to surpass us in scientific accomplishments. The stage was set for America to look to science for the answer to its angst.

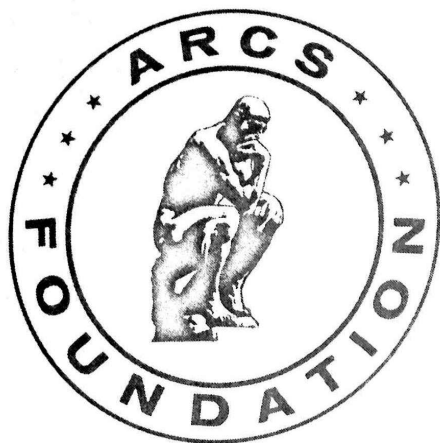
In 1958 a group of women in Los Angeles banded together to challenge this very threat. Under the visionary leadership of founder Florence Malouf, and co-founders Mrs. Franklin Slagel, Mrs. Dean Wooldridge, and Mrs. John Tyler, a group of bright and energetic socialites met with Caltech President Lee DuBridges to discuss what they could do to help. Together they created a unique partnership between Science and Society: Achievement Rewards for College Scientists (ARCS Foundation, Inc.) The immediate goal of ARCS Foundation was announced at the Caltech campus on September 18, 1958: "... raise money for scholarships and fellowships at Caltech...for the support of both undergraduate and graduate students."

Florence Malouf, the leader of this group, gives some insight into the thinking that inspired these women. "Was Sputnik I a 'bauble in the sky,' as some said,

or was it the forerunner of scientific wonders? A few of us looked into the sky and gambled that it was the latter. We put faith, great effort, and money on the line. We started plans to raise funds for scientific scholarships in order that brilliant students would be given every opportunity. We wanted our nation to take the lead in the space program, as it had in other modern achievements."

These early ARCS Foundation members formed a cross-section of Los Angeles society and they used their glamour and prestige to bring attention to the goals of ARCS Foundation. The sparkling formality evident at white-glove teas and country club fundraisers featuring the scientific giants of the day proved a perfect formula for raising community awareness of a need for more scientists and the necessity of raising the funds to support them.

Editor's Note: In the Spring 2011 Issue of *ACHIEVEMENTS*, we started a series to salute our "Lifetime Achievers." The purpose of this series was to remind all of us of the depth and breadth of women who have served or are serving on the ARCS Foundation National Board and have had a significant impact on our organization. In this issue, we look back to the Birth of ARCS Foundation and the special group of women that started it all. In our next issue, we will return to profiling individual members who have a special place in our history.



*Achievement Rewards for College Scientists*

## Celebrating Gloria Patricia Beckman's Life

The Arnold and Mabel Beckman Center of the National Academies of Science and Engineering was the site of our celebration of Pat's life on Sunday afternoon, November 20, 2011. Barbara Hamkalo presided over the formal portion of the event introducing speakers. The event began with an invocation by the Reverend Canon John H. Taylor, followed by Christina Alexopoulos who sang Ave Maria, accompanied by Louise Thomas. A dozen speakers addressed the myriad of activities and organizations about which Pat was passionate. Groups represented cut a swath across such disparate organizations as the San Diego Zoo, Bulls, Bears and Ladies Investment Club and the Muses of the Science Center Foundation. Sarah Beth George gave a moving tribute to her cousin Pat who played an influential and critical role in her maturation to adulthood.

After brief remarks from the audience, including a hilarious anecdote about Pat and her father by Ed Metzger, who does an incredible imitation of Albert Einstein, a brief video was shown that included photos of Pat from childhood to the present, culminating in her remarks when she introduced three A.O. Beckman Science Lecture speakers. The formal portion of the program was followed by a reception in the Atrium. About 150 people attended, despite a rainy day, speaking to Pat's impact on so many lives.

*Barbara Hamkalo*  
*President, Orange County Chapter*



*Patricia Beckman*

Editor's note: Gloria Patricia Beckman, (1933- 2011), founding president of the Orange County Chapter of ARCS Foundation and also a member of the Chicago, Colorado and Pittsburgh Chapters, died of cerebral vascular disease in August 2011. She was profiled in the Fall 2011 issue of this publication.

## Pat Beckman Memorial Tributes

In recognition of Pat Beckman's generous financial and personal support of the ARCS Foundation Chapters and of the work of individual Presidents, the National Board, at its February 11, 2012, meeting, unanimously approved the establishment of the Presidents' Advanced Training Sessions (PATS) in honor and in memory of Pat Beckman. PATS will consist of a modular training curriculum to be developed and delivered based on the expressed needs of the Presidents and in

support of effective leadership and management at the Chapter level. PATS will be funded solely with contributions designated for this purpose.

If you wish to direct a gift in support of PATS, please send a check made payable to ARCS Foundation, Inc., adding "PATS Fund" in the memo line, to:

ARCS Foundation, Inc.  
P. O. Box 240  
Artesia, CA 90702-0240

Further, in recognition of Pat's long and unstinting support of the work of the National Board, the Board also voted unanimously to dedicate the 2012 National Annual Meeting to the memory of Patricia Beckman.

**HOLD THE DATE!!!**

**ARCS Foundation National Annual Meeting**

**“SCIENCE IN THE ROCKIES”**

**May 30 - June 2, 2012**

**DENVER, COLORADO**

*Dedicated to the  
Memory of Pat Beckman*



The National Annual Meeting Committee, along with the Colorado Chapter, is excited to announce the 2012 National Annual Meeting (NAM) plans. We will enjoy one of the most picturesque areas in our country where a depth of scientific accomplishments resides.

Our NAM will be held at the Ritz Carlton in downtown Denver, and attendees will be able to pick up their welcome packets by noon on Wednesday, May 30. A notice will be emailed to all ARCS Foundation members as soon as the hotel reservation line is open. The Opening Reception will be held at the lovely Governor's Mansion on Wednesday evening from 5:30-7:30. On Thursday, May 31, we will be at the Denver Museum of Nature and Science for a special tour followed by a reception and dinner. The exhibitions at the museum invite visitors to explore the natural wonders of Colorado, the Earth and the Universe. Friday, June 1, will be an informative day with speakers and tours at the Anschutz Medical Center in Aurora. We will experience the state-of-the-art campus which highlights collaboration of education, research and clinical care.

The ARCS Lights Luncheon on Thursday will feature a Colorado ARCS Scholar Alum as our luncheon speaker. On Thursday you will also be able to attend Workshops on timely and instructive topics: "Hands-on Demonstration of Website and Social Networking" and "Building and Sustaining Relationships with Members and Donors".

The meeting of the National Board will be held on Saturday morning, June 2, followed by the National Annual Meeting and Installation of the 2012-13 National Board. All attendees are invited and welcome to attend the National Annual Meeting.

It will be a spectacular event. Mark your calendars and plan to BETHERE!

(Watch for full details and your registration package to be emailed in mid-March. Attendees will be able to register and pay online via our new website OR mail in their registration and payment.)

For Questions, contact:

Antonia (Toni) Schierling  
2012 NAM Director  
aschierling@verizon.net

# Diary of an ARCS Foundation National Board Member, February 8 -11, 2012

*The following is an excerpt from the "diary" of National Board member and Chapter Relations Vice President, Ellen Richardson. I hope it conveys to you the friendship, dedication, hard work and fun that permeate our work at the national level. I encourage each of you to attend the National Annual Meeting to see for yourself. We'll have some chocolates waiting! - - - Jeanne Berdik, National President*

**Tuesday:** arrive in Phoenix early for overnight visit with friend Barb.

**Wednesday:** exercise class with Barb. . . dropped off at Ritz for 1pm Nominating Committee meeting. . . race to presidents' meeting where National Membership chair talks to presidents about recruitment and building a strong chapter membership. . . all 17 chapter presidents in attendance. . . 2 lb. box of Sees Chocolates passed around the table multiple times . . . adjourned at 5:45. . . quick glass of wine with Anne, Sharon, Leslie, Caron, and Larry then off to dinner with the presidents. Back to the hotel . . . exhausted . . . asleep by 10pm.

**Thursday Morning:** wake up very sore from yesterday's exercise class . . . Starbucks . . . then 8am presidents' meeting. . . Jeanne Berdik, National President, in attendance . . . chocolates mostly consumed by 9:30 . . . Mary Snitch, Past-President of ARCS Foundation National joins us to talk about the website and Task Force on Leadership, after which Leslie Workman presents the Affiliation Agreement and discusses the relationship between the Chapters and the National Board . . . brief

discussions follow on University Relations and planned giving. . . Sees Chocolates totally consumed by 11:00 . . . adjourn at 11:45. . . so sore now that I can hardly get out of my chair. . . impromptu lunch in the Ritz Café with board members from Phoenix, Minneapolis, Portland, Seattle and Chicago.

**Thursday Afternoon:** Open Forum to discuss upcoming votes at Saturday's board meeting followed by Evaluation Committee presentation of results of National Board internal survey . . . Later, opening reception and dinner with the entire board. . . lots of great conversation . . . yummy dessert . . . asleep by 10pm.

**Friday:** A little less sore, but still hurting . . . Long Range Planning Committee Meeting in the AM. . . stimulating discussion . . . lunch served outdoors on the terrace with a terrific panel composed of Bonnie Dunbar, Ph.D., Boeing Corporation; Michele St. Louis-Weber, Ph.D., Intel Manager; and Steven Zylstra, CEO, Arizona Technology Council . . . discussion was on the importance of ARCS Foundation, STEM and the ongoing problems with education in the United States. . . good

question session . . . quick meeting with Susan Smith, Professor of Physiology and Pharmacology, Senior Scientist in the Oregon National Primate Research Center at the Oregon Health and Science University and ARCS Foundation SEAC (Science and Engineering Advisory Council) member. . . free afternoon (how did that happen?) . . . take a walk to loosen still sore leg muscles. . . dinner with friends (others attended special dinner hosted by Phoenix member Lynne Sonntag and her husband at their home) . . . early to bed.

**Saturday:** Soreness gone! . . . 8am National Board meeting. . . very positive . . . all items presented are approved unanimously due to ample time provided for discussion and input earlier in the meeting . . . impressive updates by committees on their work. . . adjourned early at 11:45. . . farewell to friends . . . most leave for home or fun in the AZ sun while I immediately am off to final Nominating Committee meeting session . . . success and satisfaction . . . adjourn at 3pm.

**Sunday:** Home!

## Highlights of the Winter 2012 National Board Meeting

... and on a much more mundane but also important note, at their meeting on February 11, 2012, the National Board approved:

1. A leadership development institute for Chapter Presidents to be known as the "G. Patricia Beckman Presidents' Advanced Training Sessions" or PATS. A more detailed description of PATS may be found elsewhere in this newsletter.
2. Dedicating the 2012 National Annual Meeting in Denver, May 30- June 2, 2012, in honor and in memory of Pat Beckman.
3. National bylaw, standing rule and policy changes addressing the topics of Terms of Directors and Term Limits Upon Service as a Director, the Nominating Committee, the Council of Advisors, the Audit Committee, Finance Policies and Procedures, and Registration Policies for National Meetings.

Background on most of these voting items is available on the members-only website. Go to: *National Document Library – National Meetings – Board Meetings – February 2012 Meeting*. Please feel free to contact Jeanne Berdik at [Jeanne.berdik@verizon.net](mailto:Jeanne.berdik@verizon.net) if you have any questions after you have reviewed the materials.

## Have YOU Logged-On to the New ARCS Foundation National Website?

It has been almost six months since the launch of our new National Website. In that period of time, the ARCS Foundation National Information Strategies (IS) Committee, chaired by Lynda Birkelbach (Chicago), National and Chapter Website Administrators and National Webmaster, Scott Massey, have been very hard at work bringing the site into full operation and making it "hum".

As you know, developing the new website is the largest single initiative ever undertaken by ARCS Foundation National in our almost 54-year history. Our developer, West Monroe, was exactly the right vendor to create the National Website. They recognized all technical and program requirements of ARCS Foundation (National and all 17 Chapters) and they took the time to understand our history and culture. The new site is already providing many benefits, as promised, but we are all understandably still in a "learning mode".

The key is to use the site. If you haven't yet visited the new website, take a moment to try it now. The web address for the ARCS Foundation National homepage is [www.arcsfoundation.org](http://www.arcsfoundation.org). If you wish to visit your own Chapter's homepage, click on the tab entitled "Chapters Across the U.S." and select your Chapter. If you wish to visit the members-only pages you will need your personal username and password. Your Chapter Database Administrator(s) will provide assistance to get you started if needed.

In addition to providing specific training to Chapters and responding to Chapter questions over the last six months, a sampling of major tasks successfully completed by the National Webmaster and members of the IS Committee include:

- Creation of multiple National and Chapter web-based mailing lists;
- Creation of the Scholar site – allowing Scholars to update contact information and engage with and support ARCS Foundation Chapters;
- Enhancement of the National Document Library (see Breaking News that follows!);
- Creation of our first-ever on-line registration for NAM and National Board Meetings.

In addition, the IS Committee just established a Website Training Task Force whose goal is to develop a plan for training the ARCS Foundation membership, at both the National and Chapter levels, on the capabilities and effective use of the website. The plan will be discussed



at the National Annual Meeting in Denver.

The new website is now a reality because National recognized the critical need for this new technology and the beneficial efficiencies it will bring. We appreciate your questions already received and suggestions for future enhancements. Please continue providing us with your constructive and positive input.

*Mary L. Snitch  
Past National President  
Nat'l Website Executive Sponsor*

## **Breaking News: Welcome to the New National Document Library!**

By the time you receive this newsletter, the National Document Library on our new website will look quite different. Check it out...

Go to your secure Chapter site and click on the teal tab entitled "National Library" at the top. The world of ARCS Foundation National will open up for you – affiliation agreements, Chapter profiles, National bylaws, templates, manuals and much, much more.

A word of caution...we are still working on posting documents, so stay tuned for more updates. If you want an easy way to find a document, use "Search" at the top of the page. When the search comes up, make sure to click Document, not Content or User. If you are still having trouble, contact your Chapter's Data Administrator, and she will be happy to help.

## *From the ARCS Foundation National Website...*

### **MORE SCIENCE GRADUATES NEEDED**



"Science and technology are the engines of economic growth and national security in the United States and we are no longer producing enough qualified graduates to keep up with demand."

Craig Barrett, former Chairman, Intel Corporation

## ARCS Foundation: Investing in the Future

After my husband, a physician scientist at the University of Pittsburgh Medical School, died in 1994, I began to work for Claritech, an information science company on Craig Street in Oakland. I was an assistant who wrote occasional press releases. The other 20-some employees worked on automatic text indexing, retrieval, filtering, categorization, and information organization.

I'm a writer — but I was impressed and excited by those eager young scientists. Dr. David Evans, former CMU professor, had founded the company in 1992 with one principal partner and with CMU as a minority participant. (This marked the first time — though not the last — that CMU participated directly in a start-up company.)

Today, I'm still a writer, but the one philanthropy to which I contribute as much money as I can is ARCS Foundation. I have heady company: BNY Mellon, Westinghouse Electric, PPG Industries and Mine Safety, to name just a few, have also contributed to ARCS Foundation; 100% of their donations have gone directly to ARCS Scholars.

ARCS Foundation was originally founded in the 1950's in response to Sputnik, and in answer to President Kennedy's challenge that we be the first to reach the moon. ARCS Foundation continues to provide financial awards to outstanding American Ph.D. students in the sciences, chosen by their universities. These students are the future.

Someday, they will open companies like Claritech, some of them in Pittsburgh. They will explore outer space or operate our military equipment, some in Pittsburgh for companies like Westinghouse, GE, General Dynamics or Google. They will become wonderful doctors like my husband, some of them in Pittsburgh.

My husband, Gerhard H. Fromm, M.D., came to Pitt from Tulane not only to see patients and teach interns and residents, but also because he'd been promised

a laboratory and two full days weekly for research. He developed new drugs for epilepsy and trigeminal neuralgia and studied nerve pain itself. Although he died before he could see his work come to fruition, the basic research that underlay it remains a building block for scientists today.

"I'm drawn toward basic science," said Callie Norris, one of the 30 student scholars to whom ARCS Foundation Pittsburgh currently gives an annual \$5,000 award. "Basic science is crucial to our country's future, yet badly underrated. So many serendipitous discoveries are the feature of basic science."

At Pitt, Callie studies the cellular mechanisms of neuronal cell death, with implications for ischemic stroke, Parkinson's and Alzheimer's disease. Her ARCS Foundation award has helped her present her work at prestigious international conferences, fertile ground for scientific exchange and stimulation. Yet, interestingly, Callie has also made a down payment on a house in Pittsburgh. Perhaps she will stay here, helping our city to prosper.

Another ARCS Scholar at Pitt, Mahlon Collins is also working on Alzheimer's and Lou Gehrig's disease, studying cells on the molecular biology level. "A Lou Gehrig's patient has three years to live," Mahlon says. "With that kind of time frame, they have time for only one clinical trial. They're betting their life. We'd better make it the most informed trial we possibly can."

Originally from northern Michigan, Mahlon likes Pittsburgh partly because our city emphasizes research and bioscience. "We're at the cutting edge of neuroscience," he says. "Last year's president of the Society for Neuroscience is a Pitt faculty member, and that's an international society."

Coincidentally, the current president of the ARCS Foundation national organization is also a Pittsburgher. As national president of ARCS Foundation, Jeanne Berdik oversees 17 chapters nationwide. ARCS Foundation endowments for scholar awards this year total more than \$14 million — more than \$80 million during the organization's history. In Pittsburgh alone, member contributions

have reached the \$1 million mark this year, so that we may continue to fund students at the three universities with which we have a relationship: Carnegie Mellon University, the University of Pittsburgh, and Penn State University. ARCS Foundation members are all volunteers. From members, too, 100% of the money raised for scholar awards goes directly to the scholars.

“We really appreciate that money,” says Mahlon Collins. “Whether we use it as a rainy day fund or for lab equipment or science-related travel, its value is incalculable. Science is a hard road ... you focus so intently. If your car breaks down and you need to get your car repaired, it can be very stressful. It’s nice that people recognize and appreciate what you do.”

Someday, these students will give back what they’ve received, in whatever ways they are drawn and in whatever channels their work takes them. Julia Schwarz, Ph.D. student and ARCS Scholar at CMU, is working on the Microsoft Kinect project, a camera that sees in three dimensions; Julia is building a user interface toolkit for this camera.

“I’m programming,” she explains. “I’m writing a code that makes a button pressable in a certain way.”

In the 2002 Spielberg film *Minority Report*, Tom Cruise dramatizes such Kinect technology, his arms seemingly flailing in the air as he makes images appear on a screen. One day, this futuristic work may enable a surgeon with dirty or gloved hands to interact with his computer from the air. Airport travelers may use this touchless technology to perhaps slow or prevent the transmission of germs.

Currently, 134 members in ARCS Foundation Pittsburgh, with Carol Stockman as president, support students like Callie, Mahlon and Julia. Annual dues of \$400 are our only obligation, although some members give much more. And we get perks: lectures, field trips, and best of all, the opportunity to meet the students and ask them questions. Interacting with these bright young scholars makes me feel a bit like Christa McAuliffe, who said before the Challenger flight, “I touch the future.”

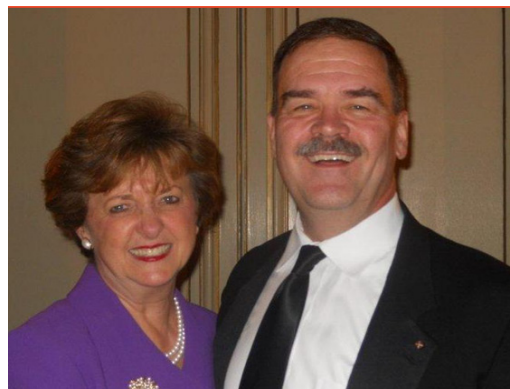
No one knows the exact shape of the future, for our city or our world. But for sure, science will help build that future. I am very proud to be a member of ARCS Foundation, which is helping to fund it. Learn more about ARCS Foundation Pittsburgh at <http://www.arcsfoundation.org/pittsburgh/>

*Ann Fromm  
Pittsburgh Chapter*

Editor’s Note: Ann Fromm is a professional writer and editorial consultant. This entry was posted on the Pittsburgh Technology Council’s blog, <http://Techburgher.com> in *Deep Dive*, and tagged *ARCS Pittsburgh*.

## **Mary and Tom Snitch Named University of Maryland Honorary Alumni**

A 16-year member of ARCS Foundation, Mary Snitch describes how her ARCS Foundation affiliation gave her a unique opportunity for hands-on experience with the University of Maryland, initially with the Clark School of Engineering. “Maryland struck a chord with us. The university has selected such fabulous scholars to receive ARCS Foundation awards,” she notes. “The university has a magnificent way of reaching out. It was easy and natural to form the strong relationship that we enjoy today,” says Mary, who also maintains ties with the university through her employer, Lockheed Martin, which annually supports up to two ARCS Foundation Lockheed Martin Scholars through the Metro Washington ARCS Foundation Chapter. Mary also serves on the National Board of ARCS Foundation.



*Mary and Tom Snitch*

It was through ARCS Foundation local events that both Mary and Tom Snitch came to know then-University President C. Dan Mote and Patsy Mote (an ARCS Foundation member). Over time Tom visited with the President on campus to discuss ways he and Mary could get further involved with the university. As the university's \$1 billion Great Expectations capital campaign launched, Tom became involved in the College of Computer, Mathematics and Natural Sciences (CMNS) strategic planning process and the redesign of graduate programs in the life sciences. "Before you know it, I was on the board," says Tom, who is proud of his reputation for getting things done. He has been particularly interested in the role of science for undergraduates. "How do you take science students and help them become literate in policymaking – how do you bridge the world of hard and soft sciences?" asks Tom, who attended every open forum session for candidates for the dean position and continues to raise funds for the dean's special projects. "Tom and Mary are wonderful friends of our college," says CMNS Dean Jayanth Banavar. "They continue to be very giving of their time and their resources, which have made enormous positive differences in so many lives."

The Snitches believe that if you have been fortunate enough to attain a college degree, chances are you've benefited from the help of many individuals along the way. "It could be a professor you remember for the rest of your life or a donor whom you have never met. We all share a responsibility to pay it back or pay it forward to higher education institutions with financial support, volunteer efforts or professional advice."

Mary and Tom are being honored with the 2012 University of Maryland Honorary Alumni Association Membership at a black-tie dinner on campus on April 14th.

*Excerpt from Interview with Tom and Mary Snitch*

Editor's note: Mary is ARCS Foundation, Immediate Past President, National and a member of both the Atlanta and Metropolitan Washington Chapters of ARCS Foundation.

## Pittsburgher Catharine Murray Ryan to Receive Highest Seton Hill University Honor

*Elizabeth Ann Seton Medal Presentation Celebrates Ryan's Pioneering Spirit*

GREENSBURG, Pa.—Seton Hill University will present its highest honor, The Elizabeth Ann Seton Medal, to Pittsburgh resident Catharine Murray Ryan.

The honor occurs as Seton Hill celebrates the 53rd anniversary of the presentation of The Elizabeth Ann Seton Medal. Mrs. Ryan's achievements both locally and nationally are numerous. In the early 1990's, as the need for a new Catholic campus ministry center came to her attention, Mrs. Ryan worked with The Pittsburgh Oratory to locate a suitable property for the new facility and then co-chaired the fundraising campaign to build it. This Newman Center serves the students, faculty, and staff of the University of Pittsburgh, Carnegie Mellon University and Chatham University. In 2002, she co-founded the National Institute for Newman Studies in Pittsburgh dedicated to advancing knowledge of the life, teachings and spirituality of John Henry Newman. Mrs. Ryan served as a chaplain for seven years at Magee-Women's Hospital of UPMC and the Forbes Regional Hospital. She served on the Board of Trustees of Children's Hospital of Pittsburgh of UPMC for 13 years and on the Board of the Children's Hospital of Pittsburgh Foundation for seven, the last three as chair. She has been active with the Pittsburgh Council for International Visitors, the Sacred Heart Church Parish Council, and currently chairs the Advisory Council to the School of Philosophy at The Catholic University of America.

The Seton Hill University Alumni Association created The Elizabeth Ann Seton Medal in 1959. The designation of a contemporary woman whose life achievements parallel in some way that of Elizabeth Ann Seton, the founder of the Sisters of Charity, continues to emphasize the relevance of her life of nearly two centuries ago to our own age. Past recipients include: Mary Reed Newland, author; Julia

Montgomery Walsh, the first woman to earn a seat on the New York Stock Exchange; and Corinne (Lindy) Claiborne Boggs, former congresswoman and U.S. ambassador to the Holy See. The first presentation of the Medal to Rose Fitzgerald Kennedy coincided with the beatification of Elizabeth Ann Seton in 1963.

“Catharine Ryan brings great energy and commitment to the tasks she undertakes, many as they are,” commented His Eminence Donald Cardinal Wuerl, Archbishop of Washington. “Over the years, I have come to appreciate Catharine’s involvement in so many community and Church organizations. When I served as Bishop of Pittsburgh, I had the joy of seeing the NINS come to be. That Institute gave rise to the Newman Studies Journal, now recognized as a focal point for the study and the work of John Henry Cardinal Newman. The Gailliot Center for Newman Studies, which houses the most extensive Newman library collection in North America, is also a fruit of Catharine’s vision. In my service as Archbishop of Washington, I came to know of another of Catharine’s academic initiatives — the Advisory Council that she helped found, together with the late Father Kurt Pritzl, O.P., that supports the work of the School of Philosophy at The Catholic University of America. In all of this, I have always found Catharine to be a person more than capable of setting and achieving great goals that help to encourage the long-standing intellectual tradition in the Catholic Church.”

“Although the university has awarded The Elizabeth Ann Seton Medal since 1959,” Seton Hill President JoAnne Boyle said, “rarely has there been a recipient whose life’s interests have so aligned with those of Elizabeth’s. Always looking ahead and moving forward regardless of the challenges, Catharine Ryan brings new life to the Seton motto, “Hazard Yet Forward!”

“How fitting it is to honor Catharine Ryan with The Elizabeth Ann Seton Medal! Both women exemplify the courageous and selfless use of their time, energy and competence for the love of God and love of neighbor,” commented The Very Rev. Drew Morgan, provost and director of the National Institute for Newman Studies.

“Like Elizabeth Ann Seton,” Seton Hill Director of Campus Ministry Sr. Maureen O’Brien, S.C. added, “Catharine Ryan, with quiet grace and determination, has brought comfort, inspiration, and hope to many.”



*Catharine Ryan*

Mrs. Ryan is a graduate of The Ursuline School in New Rochelle and attended Newton College of the Sacred Heart and earned the Bachelor of Arts degree, cum laude, in economics in 1968. In 1993, she earned a Master of Arts degree in Pastoral Ministry from the Theology Department of Duquesne University. Mrs. Ryan and her husband, John, have called Pittsburgh home since 1969. John is chairman and retired CEO of Mine Safety Appliances Company (MSA). The couple has two daughters, Mary Catharine and Maureen, and one son, John.

Catharine Murray Ryan will receive The Elizabeth Ann Seton Medal on April 25, 2012, at the Duquesne Club in downtown Pittsburgh, Pa. The Seton Hill University Alumni Association will mark the occasion in a special way through the announcement of the newly created Seton Hill University Alumni Association Endowed Scholarship Fund. The inaugural student award will be made in Mrs. Ryan’s honor and presented as part of the evening’s program. Proceeds from the evening will be invested in The Seton Hill University Alumni Association Endowed Scholarship Fund. For information about the event, please call 724-830-1005.

*News release from Seton Hill University*

Editor’s note: Catharine Murray Ryan was a Charter member of the Pittsburgh Chapter of ARCS Foundation in 2003. She and her husband, John, are currently supporting an ARCS Scholar at Penn State with a three year award that began in 2010. In addition, the MSA Company where John serves as Chairman has also sponsored an ARCS Scholar. Finally, John and Catharine’s younger daughter, Maureen Emily Ryan, for whom their Scholar Award at Penn State is named, was an ARCS Scholar herself at UC Davis.

## Challenge Grant to ARCS Foundation National Board Members

A One-for-Two Challenge Grant to ARCS Foundation National Board members has been launched in support of ARCS Foundation's "Great Achievements" Campaign that was announced last year to increase the National Board Endowment Fund to \$2 million by 2014.

Nancy Spetzler, Lynne Brickner and Judith Miller are challenging all National Board members to make a contribution of any amount to the "Great Achievements" campaign and they will match it 1 for 2. Nancy has already donated \$5,000 towards it. When donations from the board reach \$20,000, Lynne will make her \$5,000 donation and when the total reaches \$30,000 Judith will follow suit.

We have the opportunity to raise \$45,000 from the challenge and we do not want to leave any money on the table! Please consider writing a check to ARCS Foundation to help us meet this exciting challenge – time is of the essence since it will lapse at the end of our fiscal year on June 30th.



*Dr. Edgardo Rivera and Pat Elder*

Here is one way to make this happen. You may take advantage of taking a mandatory distribution from your 401(k) or IRA for the benefit of the ARCS Foundation Endowment. In doing so, you will not have to pay income tax on the distribution amount. Phoenix member, Eileen Haga, and Andi Purple of Metro Washington have made very generous donations to the National Endowment using this method. Please consult with your 401(K)/IRA custodian for information as to how to proceed.

The endowment fund balance is currently \$1,329,000 and we look forward to increasing it because of your generous support.

Checks should be made payable to "Achievement Rewards for College Scientists" and mailed to:

Cathy Fair  
c/o First Foundation  
301 North Lake Avenue Ste 100  
Pasadena, CA 91101

Thank you.

## Phoenix Chapter Visits Banner MD Anderson Cancer Center

ARCS Foundation Phoenix Chapter enjoyed the opportunity to tour the new Banner MD Anderson Cancer Center in Gilbert, Arizona, shortly after they opened their new facility. The first thing we noticed was the 4-story aluminum "Lantern of Hope", inspired by the Polo Verde tree. The general design for the cancer center was based on creating a healing environment.

Dr. Edgardo Rivera, the newly appointed medical director, gave an inside tour of the center including the infusion center that features beautiful mountain views and comfortable patient areas. He then spoke to us during lunch about the center and his background. Dr. Rivera, who for 12 years worked in various roles at MD Anderson in Houston, also spoke about how cancer care has evolved into a very precise and exacting science. Thank you to Pat Elder for coordinating and planning this educational tour.

## ARCS Foundation Utah Chapter Shines a Light on U.S. Competitiveness

In electrical engineering, an arc is an electric current—often strong, brief, and luminous—in which electrons jump across a gap. Electric arcs can produce very bright light and are used for illumination. At the University of Utah, the dedicated women members of the ARCS Foundation Utah Chapter are producing a very bright light through their support for graduate education in engineering, while illuminating the need for our nation’s best and brightest students to excel at the graduate level. Established just two years ago, the ARCS Foundation Utah Chapter has so far donated \$90,000 in awards for six outstanding graduate students.

The National ARCS Foundation (Achievement Rewards for College Scientists), of which the Utah Chapter is one of 17 member chapters across the United States, exists to advance our nation’s competitiveness by strengthening the country’s capacity for scientific and technological innovation through supporting the individual potential of science and technology scholars. Only U.S. universities whose departments are ranked in the top 100 in the country are eligible to receive ARCS Foundation scholar awards. The University of Utah is one of 53 university partners.

The real story of the ARCS Foundation Utah Chapter, however, is the determination and commitment of its dedicated women members who donate their time, energy and dollars to help engineering students achieve their potential. Judith Miller, former National ARCS Foundation President, approached former President Michael Young and Engineering Dean Richard Brown about establishing a chapter.

Thanks to the formidable leadership of former Commissioner of Higher Education Cecelia Foxley, former Salt Lake Community College Vice President for Academic Affairs Anne Erickson, and about 30 other women leaders, the Chapter became established and productive in just two years time. For her service, Dr. Foxley was recognized with the ARCS Light Award at the ARCS Foundation 2011 National Annual Meeting.

In addition to its fundraising component, ARCS Foundation Chapter activities engage members in learning about the applications of engineering, science and medicine at the University and in industry. Chapter-sponsored tours, field trips and lectures create an understanding of our need to remain competitive in the technology and science disciplines.

The rising stars of the Utah ARCS Foundation Chapter are its scholars, who are selected by the College of Engineering for their academic and intellectual potential. Each scholar receives a first-year ARCS



*From Left: ARCS Foundation Utah Scholars Nicolas Nolta, Joshua Sewell, Shannon Hanson, Shannon Reynolds, Daman Bareiss, and Andrew Fisher*

Scholar Award of \$15,000, which is matched by the College in years two through five of their Ph.D. programs.

2011-2012 ARCS Scholars:

- Daman Bareiss, mechanical engineering, whose ARCS Scholar Award was donated by Dr. Cecelia H. Foxley in honor of her daughter Dr. Stacy K. Firth.
- Andrew Fisher, electrical and computer engineering, whose ARCS Scholar Award was donated by Beverley Taylor Sorenson in honor of her son James Lee Sorenson.
- Shannon Reynolds, civil and environmental engineering, whose ARCS Scholar Award was provided through donations to the Utah Chapter.

2010-2011 ARCS Scholars:

- Shannon Hanson, civil and environmental engineering, whose research

interests are concrete materials and structures.

- Nicholas Nolta, bioengineering, whose research interests are advanced neural interfaces.
- Joshua Sewell, chemical engineering, whose research interests are energy recovery and usage.

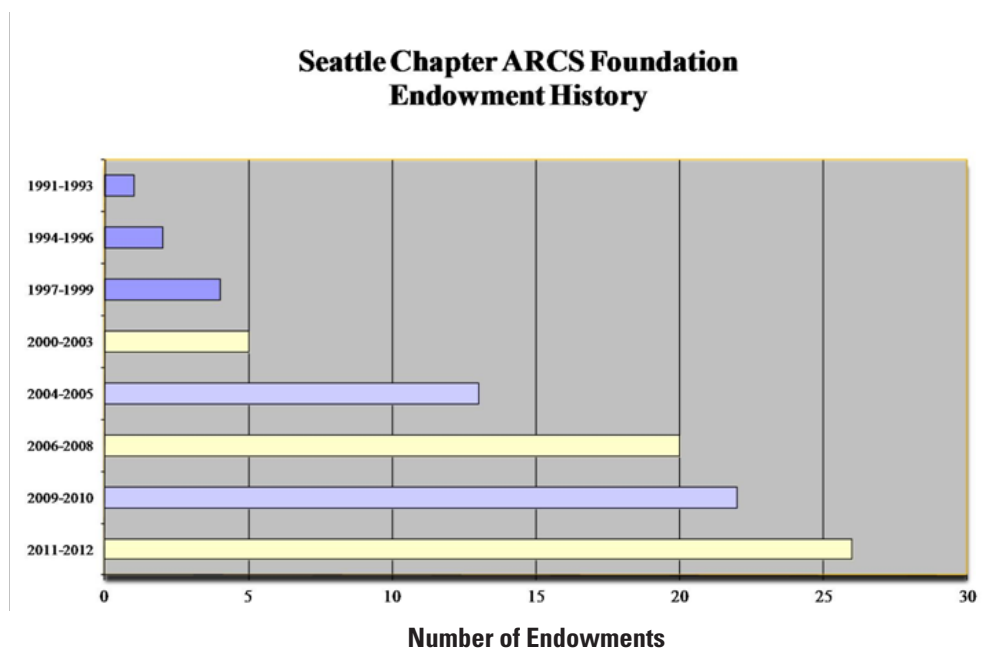
The October luncheon held by the Utah Chapter signaled the passing of the presidential gavel to incoming Chapter President Dr. Anne Erickson. For additional information about chapter activities or membership, go to: [www.arcsfoundation.org/utah](http://www.arcsfoundation.org/utah).

## Seattle Chapter Endowment Funding Increases

The Seattle Chapter of ARCS Foundation has been part of the University of Washington community for 33 years and the Washington State University community for over 11 years; its annual funding of ARCS Scholars has grown from a total of \$1000 when the Chapter was established in 1978, to over \$600,000 in 2011.

In 1990, the Seattle Chapter initiated a matching fund strategy to create endowments to fund new ARCS Foundation Endowed Named Fellowships in perpetuity at the UW and WSU. Since then, generous donors to the Seattle Chapter have utilized matching funds from the UW and WSU to facilitate the creation of 26 endowments of more than \$100,000 each; the combined value of these endowments now surpasses \$5.2 million.

The Seattle Chapter’s strategic partnerships with both universities have created a successful fundraising synergy that is paving the way for more future success.





## Onward and Upward in Metro Washington

What a great start to the new year for our Metropolitan Washington Chapter. As a result of the impetus from the General Meeting in January 2011 and the continuing work by the Board, we have been building on the terrific core traditions and assets of this Chapter. There has been considerable focus on energizing our relationships with ARCS Foundation's three core constituencies: our members, our university partners and our donors. The following is a brief recap of some of the highlights from this past year.

For our members, we:

- Engaged key speakers for each ARCS Foundation General Meeting;
- Enhanced committee or council activity across our Chapter, generating higher member participation;
- Increased member participation at ARCS Foundation events, including General Meetings, Embassy Bridge and the Scholar Awards Reception;
- Enhanced new member recruitment and new member orientation;
- Hosted an inaugural reception by the Metro Washington Chapter for ARCS Scholar alumni in the region; and
- Had 3 of our members recognized in the Nifty 50.

For our university partners, we:

- Continued our strong relationship with all five partner universities;
- Increased participation of scholars at ARCS Foundation events, welcoming three scholars who attended the 2012 Winter Meeting;
- Enhanced regular contributions by our scholars to the newsletter and website;
- Initiated contact with the public affairs groups at each university, to provide valued content for the ARCS Foundation website and Metro Washington Chapter newsletter; and
- Supported our scholars in the Science and Engineering Festival in 2011-12.

For our donor partners, we:

- Encouraged donor participation at ARCS Foundation events, notably the Scholar Awards Reception and the Winter General Meeting;
- Broadened our donor development activity;
- Increased the corporate and foundation support for ARCS Foundation Metro Washington Chapter;
- Published the inaugural Honor Roll of Donors to the Chapter for FY 2011;
- Included articles from our major donor partners on the ARCS Foundation website; and
- Created a means to recognize

legacy gifts to the Endowment Fund.

We are truly building for continued success and for expanding the impact of ARCS Foundation Metro Washington Chapter on the advancement of Science, Technology, Engineering, and Mathematics (STEM) in our community. This is a wonderful team effort, with sincere appreciation to all. Onward and upward.

*Angie Delaney and Lynn Dillon  
Metro Washington Chapter*

## Earthquake in LA

Guests at the venerable California Club in Los Angeles began nervously studying the club's elegantly decorated ceiling as Caltech's Theodore von Karman, Professor of Aeronautics and Professor of Mechanical Engineering, Dr. Ares J. Rosakis delved into the disastrous effects of earthquakes on buildings.

An achiever par excellence, and holder of nine patents on thin-film stress measurement and in situ water level metrology as well as high-speed infrared thermography, Dr. Rosakis has focused his most recent research interests in the mechanics of seismology, the physics of dynamic shear rupture and fictional sliding, and in laboratory seismology. Needless, to say his visual presentation of swaying buildings caught the attention of everyone present.

As the keynote speaker at the Los Angeles Founder Chapter's

January 27th Scholar Recognition Luncheon, Dr. Rosakis concluded an event that celebrated the scientific achievements of 39 brilliant scholars, among them Donna Werling of the UCLA Brain Research Institute, who is working on a project of great importance in today's world - autism.

Donna's message to our chapter states to perfection why ARCS Foundation continues to strive for excellence. "As scientists," wrote Donna, "we pursue our education and careers not for the personal gains we can make, but because we have a passion to contribute to our understanding of the world, and armed with the knowledge we have created, to make improvements in others' lives where we can. This is a passion that I know ARCS Foundation has shared alongside us scientists for the past 54 years, and the financial support that the foundation provides for students in the sciences has undoubtedly impacted the quality of science in the United States for the better."

"It is my goal" she continued, "to further this impact and make your mission my reality, by using the UCLA education that ARCS Foundation has supported to build a scientific career uncovering the genetic causes of autism and other neurodevelopmental disorders. Thank you once again for your generous support as I pursue this goal."

*Gay Goerz  
Los Angeles Chapter Founder*

## Climate Expert Challenges Audience at Atlanta Chapter Scholars' Luncheon

Dr. Berrien Moore, Dean of the College of Atmospheric and Geographic Science at the University of Oklahoma and Director of the National Weather Center, opened his engaging talk at the ARCS Foundation Atlanta Chapter 2011 Annual Scholar Award Luncheon by promising that he would "Tell us what we know, what we think we know and what we don't know" about climate change.

Dr. Moore quickly reviewed highlights of scientific research undertaken since 1960 that shows CO<sub>2</sub> in the atmosphere has definitely increased due primarily to fossil fuel emissions. He stated that the increase in CO<sub>2</sub> historically correlates directly with industrial advances. More recent increases are due primarily to the growing economies of China and India. He further noted evidence of the reduction in the size of the polar ice cap.

Dr. Berrien continued to engage the audience with key highlights of "what we think we know." He speculated that the earth would experience more atmospheric and climatic fluctuations that could result in significant drought and rainfall in various areas on the globe. He continued by asserting that what we don't know is "how sensitive the climate system will be to increases in greenhouse gasses."

Contemplating future challenges to scientists, Dr. Moore noted how very difficult it would be to swap our current energy system with one that is carbon neutral such as reliance on biofuels or wind farms. He did see some promise in increased use of natural gas and further expansion of productive use of waste produced by landfills. He acknowledged a deep regret about the politicization of the climate change debate.

Dr. Moore concluded his insightful address by challenging young scientists to communicate clearly and honestly about issues they



*Dr. Berrien Moore*

uncover and advocating for increased financial commitment to scientific research despite a time of economic austerity.

*Anne Easterly  
Atlanta Chapter*

Editor's Note: Members who attended the 2010 National Annual Meeting in Washington, D.C. may remember Dr. Moore. He was the moderator for the "Distinguished Science Panel: Exploring and Assessing the Dimensions of Climate Change."



*Dr. Rebecca Richards*



*Urmila Ratnam, Dr. Craig Barrett,  
and Caron Ogg*

## Portland Scholar Award Luncheon Resounding Success

The nearly 400 people in attendance for the ARCS Foundation Portland Chapter 7th Annual Scholar Awards Luncheon were abuzz. Guests enjoyed luncheon conversation with the 40 ARCS Scholars who were being honored. But when the program began, the audience gave their rapt attention to the featured speakers: retired chairman/CEO of Intel, Craig Barrett and ARCS Scholar alumna Rebecca Richards.

Dr. Richards shared her recent experience of traveling to Lindau, Germany for a meeting of select young scientists and Nobel Laureates. The themes for the conference were Educate, Inspire, Connect; themes that have played a role in her own discovery as a Ph.D./M.D. student at Oregon Health and Science University (OHSU). In her studies Dr. Richards was grateful for the tangible and intangible support from ARCS Foundation Portland Chapter. "Particularly during those hard times, knowing that there are others who have the same hopes for the future of scientific research and who believe that I can be a part of that bright future is truly a gift," Richards stated. "I give my sincerest thank you to all of the donors, and I hope I can continue to make you proud as I advance in my scientific career." The 100 women of the Portland Chapter

are very proud, indeed.

It was clear to all who attended that Dr. Barrett is an avid and compelling advocate for education in the US. He delivered his important life lessons in the form of three fortune cookies. To wit:

1. The world will always accept talent with open arms.
2. A small deed done is better than a great deed planned.
3. If you want to win, you have to choose to compete.

Dr. Barrett asserted that you need an educated work force that can add value to what it does in order to justify a high standard of living. Furthermore, you need new ideas for the next generation of products, services, and companies—these ideas come from investing in research and development. Finally, in his words, "You need the right environment for smart people to get together with smart ideas and do something wonderful—the right environment is largely dictated by government and society—it includes such things as low tax rates, intellectual property protection, venture capital, ease of starting companies, and little fear of failure or stigma attached to failing in a new enterprise."

After the 40 ARCS Scholars (27 from OHSU and 13 from Oregon State University) were recognized and gathered on stage, Sharon Hewitt, Vice President of Finance, announced the gift of a named endowment to the Portland Chapter from Caron

and Larry Ogg. This major gift is a groundbreaking event for the Portland Chapter and will establish their first permanently endowed scholar award. Going forward into perpetuity, one student will receive a \$6,000 scholar award annually. The award recipient will rotate every three years between OHSU and OSU.

The Chapter is immensely grateful for this very generous gift, the first of what they hope will be many more permanently endowed scholar awards. Many thanks to the donors, Caron and Larry Ogg. Their ongoing support of numerous scholar awards, and their leadership and foresight in establishing this gift, are truly appreciated. It was an inspired wrap up to an inspirational event.

Chair Urmila Ratnam and her committee showcased the important work of ARCS Foundation Portland, including crossing the \$1 million mark in scholar awards at OHSU. Einstein Presenting Sponsor Hoffman Construction/Wayne and Julie Drinkward, along with many other sponsors, helped make this the most financially successful event to date for the Portland Chapter.



*Nicole E. Basta*

## Seattle Chapter ARCS Foundation Fellow Wins NIH Award

Nicole E. Basta, Ph.D., a 2007-2010 ARCS Fellow in Epidemiology at the University of Washington, was one of ten recipients of an inaugural National Institutes of Health (NIH) Early Independence Award, designed to accelerate the entry of outstanding junior investigators into independent researcher positions. The NIH goal is to capitalize on the “creativity, confidence and energy” of certain young scientists able to flourish independently.

Nicole won a five-year grant totaling more than \$1.5 million to support her research evaluating a new vaccine for bacterial meningitis in Mali. The African region is part of a belt stretching from Senegal through Ethiopia where the disease has broken out regularly for more than 100 years.

Meningitis has a 10% mortality rate, with young children at the highest risk, although 60% of cases occur in adolescents and adults. Nicole will study a cohort of people in Bamako who first received the MenAfriVac vaccine in December 2010; she will evaluate the duration of the new vaccine’s protection by measuring the persistence of antibodies in each individual.

“I want to work in a field where I can play a role in improving health worldwide. Vaccines are one of the most powerful tools we have to

*Caron and Larry Ogg*

prevent diseases on a global scale,” says Nicole.

Nicole recently completed her Ph.D. in the Department of Epidemiology at the UW School of Public Health; she is currently a research associate in the Vaccine and Infectious Diseases Division at the Fred Hutchinson Cancer Research Center. A magna cum laude graduate of Princeton University with undergraduate degrees in ecology and evolutionary biology, she earned a masters degree in epidemiology at the University of Cambridge in England. Nicole has conducted infectious disease outbreak investigations for the Florida Department of Health, and collaborated with the African Meningococcal Carriage Consortium and the Centre pour le Developpement des Vaccins-Mali to design and implement international field studies related to asymptomatic carriers of meningococci.

The Seattle Chapter of ARCS Foundation is proud to congratulate Nicole on her extraordinary accomplishments!

*Theodore Braun and  
Dr. Daniel Marks*

## Portland Chapter ARCS Scholar Receives Young Investigator Award for Work on Cachexia

Theodore Braun, an M.D./Ph.D. student in the Daniel Marks Lab located in the Pape’ Family Pediatric Research Institute at the Oregon Health and Science University, was recently invited to give a major talk at the 6th International Cachexia Conference in Milan, Italy.

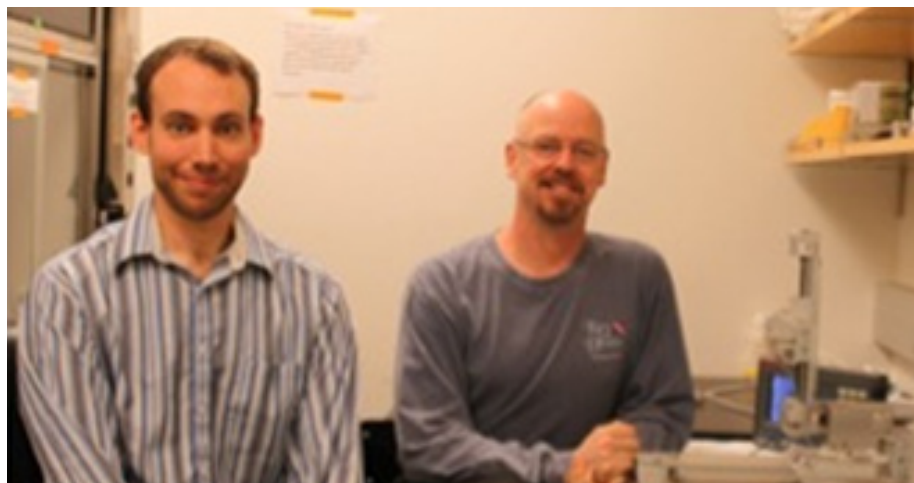
His talk, entitled “Central nervous system control of inflammation induced muscle catabolism,” was based on data he developed in the lab, and which has recently been published in *The Journal of Experimental Medicine*.

Theodore’s presentation received the conference’s highest award, the Young Investigators Award (of which he was the only recipient).

“This paper is the result of a great

deal of hard work from Ted, with meaningful contributions from the whole lab,” said Daniel Marks, M.D./Ph.D., Associate Professor, Department of Pediatrics. “While the paper includes some very modern molecular biology, the primary results were gleaned from thoughtful, careful whole animal physiology and histology.”

The research is focused on understanding why muscle breaks down excessively during inflammatory states. The clinical condition, cachexia, occurs in a variety of chronic diseases, including anorexia, lethargy, and excessive muscle catabolism as cardinal features. The prevailing view of scientific thought in this field has been that the inflammation (cytokines, in



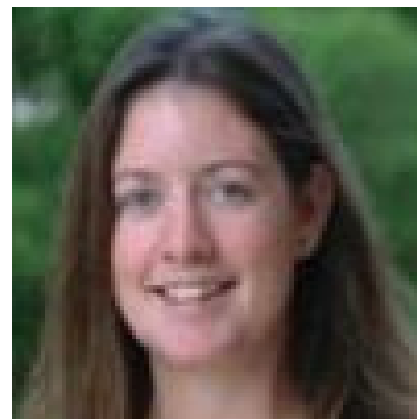
particular) act directly on muscle. Theodore and fellow investigators believed it was likely that muscle breakdown included a relay through the brain, as part of an elaborate coordinated metabolic response to inflammation. "Our work confirmed that inflammation confined only to the brain leads to rapid muscle breakdown," said Theodore Braun. "We also discovered the neuroendocrine pathway involved in producing this outcome."

Previously, every inflammatory condition the team studied in the Marks Lab caused inflammation in the brain. With this study, it now appears that the idea that muscle breakdown during disease is an entirely peripheral (outside of the brain) process must be discarded, and instead replaced with a new mechanism that incorporates key signaling intermediates in the brain in this process.

As a result, Theodore's work provides a new handle on potential treatments for cachexia in chronic disease, a condition that has been notoriously difficult to treat in the past.

"It was a proud moment for me personally to see Ted get this award at our most important international meeting," said Dr. Marks. "This was a well deserved recognition of the work involved, and also of Ted's potential as an outstanding physician scientist."

## An Update from ARCS Foundation Phoenix Might Scholar: Jessica Corman



*Jessica Corman*

Thank you again for your support of my dissertation research! My research has been going very well since I presented my poster in the spring. I was able to travel twice to my field site in México, for two months last summer and another two weeks more recently. During this time, I conducted several experiments to test the main hypothesis of my dissertation, that microbes manipulate calcium carbonate deposition to access nutrients needed for growth. I also developed an experiment that takes advantage of isotopic signatures to trace nutrient flows in the microbial communities. I will be spending much of this winter processing these samples and look forward to sharing the results with you, soon!

I am also excited to report that I have been able to expand the field studies to include a series of streams in southern Arizona, in the Huachuca Mountains. These three streams are similar to one another in all but one regard: they exhibit different rates of travertine formation. Previously, I was just using a comparison of this process in two streams, one in which calcium carbonate deposition is physicochemically-dominated (Fossil Creek, AZ) and one in which it is biologically-mediated (Río Mesquites, México). Now, I am now able to expand my work from these endpoints to include a natural gradient of physicochemically- to biologically-driven travertine deposition. By using this continuum, I am able to test whether travertine affects nutrient cycling in a linear or non-linear manner – this means more informative data for the land managers that are tasked to conserve these beautiful systems in face of climate change and increased human activity.

Support from the Phoenix Chapter of ARCS Foundation has been fundamental in giving me the freedom to expand the scope and impact of my research. The funds mean that I have the flexibility to visit field

sites more and more frequently in order to do better research. The extra visits have also been tremendous in building a relationship with the local managers of my field sites, particularly in Cuatro Ciénegas, México, where it is usually cost prohibitive for me to travel more than once per year. With these collaborations, I know that my research is benefitting the community and building trust between scientists and local citizens.

Sincerely,

*Jessica Corman*

*ARCS Foundation Phoenix Might Scholar '11*

## Recent ARCS Foundation Orange County Scholar Soars High:

### Aaron Mattfeld, M.A., Ph.D.

**Postdoctoral Scholar -- M.I.T.**

**(Successfully defended his Ph.D. in December 2011)**

**Ph.D., Cognitive Neuroscience, UC Irvine**

**M.A., Cognitive Psychology, Johns Hopkins University**

**B.S., Biomedical Sciences, Spanish, Montana State University**

Memory is the product of a richly interacting network of brain regions, rather than the product of isolated structures working independently. The extent to which these networks operate in concert and the nature of their interactions (competitive versus facilitative) remains the subject of intense investigation. The overarching goal of my research is to investigate the brain processes underlying learning and memory. Intriguingly, memory comes in many different forms supported by various networks throughout the brain. I use functional

magnetic resonance imaging (fMRI) and computational models of associative learning theory to investigate both the distinct processing mechanisms and interactions among learning and memory systems, with a particular focus on the striatum and medial temporal lobes (MTL).

What I do:

Memories I mull

Trying to find the engram

Lashley's follies shun



*Aaron Mattfeld*

# Next Issue

*Report on  
the activities at  
ARCS Foundation  
National  
Annual Meeting  
Denver, CO  
May 30 - June 2,  
2012*



## Denver Museum of Nature & Science

## An ARCS® Foundation National News Publication

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