How does a breakthrough in the laboratory get out of the lab and into clinical practice? Have you heard the term “translational research”? Translational research takes findings from basic science research and “translates” those discoveries into real-world applications that improve health and well-being.

Translational research can expedite new therapies, making them available to affected populations. It is often a two-way street: scientists offer the latest advancements to practitioners and practitioners assess and give feedback about their effectiveness. Translational research can demand collaboration from multiple disciplines. Data must be freely shared to spark the processes that deliver new technologies or innovative results from work in the lab or in the field.

The National Institutes of Health (NIH) has established the NIH Roadmap to serve as a catalyst for translational research. On the local level, OHSU receives funding from NIH for their Oregon Clinical & Translational Research Institute to support translational research and collaboration across OHSU labs and area practitioners. The institute participates in a vibrant national consortium of academic health centers that are working toward a common goal: translating science into cutting-edge patient care.

What does translational research have to do with ARCS? Much of ARCS scholars’ research in areas as diverse as biomedical engineering, radiation health physics, improving crop yields, forest management and health, neuroscience, or earth systems analysis translates into results that will improve human health and quality of life. Your support of ARCS Foundation scholars helps to make this research possible.
FROM THE PRESIDENT

Dear Members and Friends,

What's in a name? Our name?

Many times these past years I've struggled to articulate “ARCS,” and I'll bet you have, too. I've heard “the A.R.C.S.,” “ARC,” “Art?” and “Oh I know, 'The ARC'.” And when asked what ARCS stands for, well, it takes practice to know it's Achievement Rewards for College Scientists.

Then there’s our tag line, “Advancing Science in America.” Although very descriptive, the acronym doesn’t match, and follow up discussion leads back to ARCS.

The mission statement, ARCS Foundation advances science and technology in the United States by providing financial awards to academically outstanding U.S. citizen studying to complete degrees in science, engineering and medical research, is complete and perfectly clear, and I've tried to memorize it, only somewhat successfully.

Our Development Committee’s branding group composed an elevator speech, which we use in community outreach: I/We believe that investments in American scientists studying with Oregon’s premier doctoral programs in science, medicine and engineering build a vital pipeline of intellectual capital for our businesses. Through our scholar awards, ARCS supports and nurtures these exceptional young women and men at OHSU and Oregon State University. This local belief statement resonates with potential funders and donors; you’ll be seeing it more and more.

I encourage you to practice saying “Achievement Rewards for College Scientists Foundation” until it just rolls off your tongue. We do reward our outstanding scholar scientists pursuing PhDs by making their lives easier—traveling to conferences, paying the rent, fixing the car, or maybe actually deciding if they can afford grad school.

I’d love to know how you describe this wonderful, thriving foundation. Jean A. Josephson

MARK ABBOTT KEYNOTES

SCHOLAR AWARD LUNCHEON

Scholar Awards Luncheon
“Recognizing Genius”
October 22, 2013
Portland Art Museum

“Our Oceans Under Pressure”

Our ocean is under increasing pressure — from overfishing to ocean acidification to a growing coastal population. We will have a far different ocean than we have experienced in recent human history, and we will need new approaches to science and policy for ocean stewardship.

Dr. Mark Abbott, dean of the College of Earth, Ocean, and Atmospheric Sciences (CEOAS) at Oregon State University, will be the keynote speaker at the annual Scholar Awards Luncheon on October 22, 2013.

Dr. Abbott is president-elect of The Oceanographic Society. He serves on the Board of Trustees for the Consortium for Ocean Leadership, and for the University Corporation for Atmospheric Research.

In 2011, Microsoft Research awarded Dr. Abbott the Jim Gray eScience Award, which recognizes innovators in data-intensive computing. Dr. Abbott is serving a six-year term on the National Science Board, which oversees the National Science Foundation and advises the White House and Congress on scientific matters. He also advised the Office of Naval Research. Dr. Abbott is vice chair of the Oregon Global Warming Commission, which leads Oregon’s effort to respond to and mitigate climate change.

Dr. Abbott is a pioneer in the field of using satellite data to study physical and biological processes in the upper ocean.

CEOAS is recognized internationally for its programs, cutting edge laboratories, its two oceanographic research vessels, and for the Environmental Computing Center. The College receives much of its more than $50 million budget from federal agencies, including the National Science Foundation, National Oceanic and Atmospheric Administration, and National Aeronautics and Space Administration.

College of Earth, Ocean, and Atmospheric Sciences
Oregon State University
In February and March, OHSU’s Professor and Associate Dean of Graduate Studies Allison Fryer facilitated access to OHSU labs for ARCS members — with ARCS scholars Kevin Watanabe-Smith, Lillian Welch, Caitlin Monaghan, Glynnis Mattheisen, Brian Jones, Rory Morgan, and Laura Springgay serving as tour guides.

ARCS scholars Jeremy Glynn, Aaron Wortham, Karen Tonsfeldt, Karen Thiebes, Kevin Murphy, Jeanie Hunnicutt, Chris Vaaga, Melanie Pina, Tiffany Devine, and Anita Cservenska opened their labs and shared exciting glimpses into their research at the busy OHSU campuses of Marquam Hill and the Center for Health and Healing.
Meet Sophia Polasky, 2nd year ARCS Foundation scholar:

How old were you when you became interested in science?
I was concerned with environmental issues in college, and joined Peace Corps after graduation as a volunteer agro-forestry technician hoping to improve agricultural or natural resource strategies.

Why did you choose to go into your particular field?
I chose forestry because I wanted to work with my adviser at OSU, Dr. John Bliss. There is a need for social science within many fields that are traditionally dominated by physical or biological sciences — it’s easy to forget that natural resource management arises out of social considerations, and vulnerability to climate change is not an issue relegated only to my field.

Can you give us a brief rundown of your day?
During the quarter, I'm typically in my office, reading and working on my proposal, and I might have a class or two. This summer, and increasingly in the future, I'll be spending my time in the field, traveling many dusty roads between various villages in Sierra Leone, Guinea, and Liberia.

What do you like best about your field/research? What do you like least?
I appreciate that my work is collaborative and applied. It's good to be part of a local, regional, and global constructive process. It is difficult to leave the comforts of home for unfamiliar environments. And dealing with technology in the field is a frustration — sending an email from Sierra Leone might take five minutes or two hours!

What do you hope to do when you finish your Ph.D?
I suspect that I will stay with the project I'm currently working on, a USAID/US Forest Service biodiversity conservation project until its completion, which will likely be after I finish my PhD.

What would you like ARCS members know about you?
Science is just one of many ways to learn about the world. Realizing this makes me a better scientist. My "science" is informed by many things outside of science. For instance, my favorite author is Gabriel Garcia Marquez, and I am currently reading *Ulysses*, by James Joyce. Both authors offer rich accounts of human experiences. Also, to unwind, I am learning to knit. So far I have produced several hats and three socks. It's nice to create something you can touch.

Sophia Polasky
Oregon State University College of Forestry
The ARCS Foundation Portland Chapter Scholar Award

ARCS scholar couple explores all things radioactive — voxel crabs, vegetation, Mars

Emily and Jarvis Caffrey are partners in more ways than one. The husband and wife duo are research colleagues at Oregon State University's Department of Nuclear Engineering and Radiation Health Physics (NERHP) and also ARCS scholars — Emily for her research measuring radiation doses in marine organisms, and Jarvis for his work aboard one of the only research vessels allowed inside the containment area of the Fukushima crisis, where he took radiation measurements with equipment developed at NERHP.

Emily and Jarvis met working as student technicians with Oregon State's Radiation Safety Office during the summer of 2008. They were married in July 2011.

Emily’s research interests are in the fields of radioecology and radiobiology. “Essentially I study how radiation moves and interacts in biological and ecological systems.”

Currently, Emily is researching Carbon-14 emissions from nuclear power plants. Carbon-14 is unique among the building blocks of life because it cycles in plants, which photosynthesize and then respire it. Emily has analyzed vegetation samples grown downwind from nuclear power plants and compared those with samples grown in control gardens to determine if there is a significant difference in the amount of Carbon-14 present between the two locations.

Jarvis’ current research interests are primarily in space radiation protection and dosimetry, or devices for measuring doses of radiation. “It turns out that radiation dose is going to be a very serious limitation for any manned space exploration to Mars or long-term missions on the Moon,” he explained. This unique radiation environment is the subject of Jarvis’ published senior project.

Excerpted from an article by Jason Evans
Oregon State University
ANNUAL MEETING FEATURES NOTED RESEARCHER

Immunologists usually look at how a healthy or compromised immune system functions, or how bacteria, parasites or viruses invade our bodies and cause disease.

Dr. Mary Stenzel-Poore turns her attention to the body’s response to injury, inflammation, and neuroprotection, and how the immune system affects recovery.

ARCS Foundation Portland members will hear from a special guest speaker at this year’s Annual Meeting. Dr. Mary Stenzel-Poore, Senior Associate Dean for Research in the OHSU School of Medicine, Associate Vice President for Basic Research, and Professor and Chair of the Department of Molecular Microbiology and Immunology, will report on findings related to her own area of study and share her insights into the immediate future of medical research.

Quoted as saying, “The research world is at a pivotal juncture — so much promise to improve human health with the application of scientific knowledge, but we are entering an era of significant funding constraints from traditional sources,” Dr. Stenzel-Poore will elaborate on these observations in her remarks at the meeting.

Trained in immunology and neuroscience, and funded consistently by the National Institute of Health (NIH) for her work on neuro-immunology, inflammation in injury, and protection of the central nervous system, Dr. Stenzel-Poore has led the School of Medicine’s Research Roadmap planning process in collaboration with Eric Orwoll, MD, Associate Dean for Clinical and Translational Research. She has also been chair of scientific review for NIH’s Special Neuroscience Research Program for under-represented minorities.

The unique combination of roles played by this scientist make her the perfect match for the Portland Chapter’s Annual Meeting. Join us in welcoming Dr. Stenzel-Poore on May 8th.

By Barb Wilkinson

ARCS SCHOLAR WINS NATIONAL AWARD

Hailey Buckingham will receive a prestigious award from the U.S. Department of Agriculture for using computer skills to assist the U.S. greenhouse industry. She will travel to Washington, D.C., in June to receive the USDA’s Excellence in Technology Transfer Award for 2012.

Buckingham created Virtual Grower a program that enables greenhouse managers to estimate the costs. “It’s kind of a SimCity for greenhouses,” said Buckingham, a native of Milan, Mich. At Oregon State, Buckingham works with Professor Claire Montgomery to model forest vegetation in response to fire.

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By Barb Wilkinson

Third-year ARCS scholar Jessica Martin writes:

“Through this award, members of ARCS Foundation have been able to relieve significant financial burden and allow for my complete focus on my education and research. It also means so much to me that you are supporting the research community. I cannot thank you enough for making such a contribution to me and impacting my life in such a positive manner. Your generosity is inspiring. I hope to bring other young people to such a rewarding career and help them succeed in their own endeavors.”

Jessica works in the Molecular and Cellular Biosciences lab at OHSU
Sally Dalton writes: “I grew up in Massachusetts and moved to Portland in 1985. I attended Syracuse University and received a Bachelor of Science in Industrial Design. While still in Massachusetts I worked as a product designer for Wang Labs. After moving to Portland, I worked for Ziba Design as a product designer and as a footwear designer for Nike. I stopped working when my children were small. I have a daughter, Audrey, graduating from Georgetown University this year, and a son, Patrick, now a junior at USC. I spent many years volunteering at my children’s schools and at our church. I am an assistant golf coach for the La Salle High School Girl’s Golf team. I enjoy running, and I play golf with the Women’s Golf group at Waverley Country Club. My husband, James Dalton, is a business consultant and serves on various boards. Sharon Nugent introduced me to ARCS Foundation and sponsored me. I look forward to being involved with ARCS and getting to know all the members.”

Sandy Ericksen notes: “I was born in Portland and went to Oregon State University. While my husband was in the Navy we lived in San Diego and Japan, then moved to the Bay Area for graduate school. We moved back to Portland, on to Denver, and finally returned to Portland permanently in 1972. I volunteered in our children’s elementary and high schools, and also volunteered for 30 years with groups focusing on young people — ten years each with OMSI, Young Audiences, and Urban Tours. We have two children and three grandchildren in town. I love to travel and have toured Europe, Asia, India, Antarctica, and New Zealand. I enjoy playing golf, belonging to three book clubs, and attending Portland theater, symphony, and lecture presentations. I am looking forward to learning more about ARCS Foundation and getting involved.”

Susan Smith Wrenn tells us: “My family has a long history in Portland. In 1913 The Oregonian reported that Clinton B. Smith and his wife Iris had died in a blizzard on Mt. St. Helens while attempting their descent. Portland remembered my grandfather for his engineering design work on the Steel Bridge, constructed just the year before. My father, also an engineer, received patents for his designs in marine equipment. I was born in Portland and attended Grant High School. My BS in home economics, majoring in clothing and textiles, was followed by a merchandising career at The Broadway department stores in Los Angeles. Married for 50 years to Don Wrenn, an investment executive, I was a full-time mother of three boys while studying accounting at Portland State University. I was active in Women of Rotary, the Portland Track Club, and the PTA. I’m now a member of the Portland Garden Club, Waverley Country Club, the Multnomah Athletic Club, the Town Club, and the Portland Chapter of Daughters of the American Revolution. Marilyn Lindgren, my walking and golfing partner, introduced me to ARCS Foundation. I enjoy fiber arts, computers, and photography. My six grandchildren know me as ‘Nana.’”

“My name is Sally Stadum. I grew up in Minneapolis, Minnesota. In 1974 I moved to Oregon to attend the University of Oregon. After college, I taught sixth grade in the Portland area. My husband Steve and I have been married for 32 years, and we have two daughters: Laura is an attorney in Honolulu, and Annie is a nurse in Spokane. I originally learned of ARCS Foundation through Steve and his position as the COO of the OHSU Knight Cancer Institute. My other volunteer work is with Urban Tour Group. I love to golf, travel, and spend time with family and friends.”

Deb Stock writes: “After 23 years of living in Eugene, my husband Ron and I decided to move to Portland and write a new chapter in our lives when Ron took a faculty position at OHSU. I grew up in St. Louis and obtained a degree in architecture from the University of Kansas, practicing mostly part-time for the past 20 years while raising our family. Our oldest son is finishing college this year, and our daughter is in her first year. When I have free time I enjoy swimming, hiking, spending time with my family, and having good dinner conversations with friends. Ron and I enjoy travel and exploring new places. I spent many years volunteering in a high school career center and realized that I enjoy helping young adults work towards their career goals. So many of these students need financial help in order to make that happen. After attending a few ARCS Foundation events, it was evident that this organization is passionate about things I also feel strongly about.”

Editor’s note: we also offer a warm welcome to new member Suzanne Shick, and hope to introduce her in the next newsletter.
**ACHIEVEMENT REWARDS FOR COLLEGE SCIENTISTS FOUNDATION, INC.**

**WE ALL NEED SLEEP: DR. STEVEN SHEA EXPLAINED HOW TO GET IT AT THE FEBRUARY PROGRAM**

An alert audience at the OHSU Center for Health and Healing paid close attention to Dr. Steven Shea’s comments about the best ways to get a good night’s sleep. Dr. Shea discussed common sleep disorders, explained the basics of sleep hygiene and offered tips to develop good sleep habits. Nobody dozed off when Dr. Shea answered audience questions about sleep cycles and Circadian rhythms.

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**ARCS MEMBERS AND GUESTS ENJOYED A STRESS-FREE EVENING ON MARCH 5**

OHSU Foundation hosted the annual evening social and program at the Vey Auditorium. Beginning with wine and hors d’oeuvres, the program followed with ARCS scholar speaker Garth Tormoen describing his research, and Dr. David Clarke’s presentation “Hidden Stresses and Your Health.” Instead of a lecture, Dr. Clarke asked questions of the audience that led ARCS members and guests through the process of making a diagnosis when treating physical illnesses caused by stress.

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**Orange was the color of the day as ARCS Foundation Portland members listened carefully to President Ed Ray of Oregon State University give his enthusiastic State of the University address.**

Dr. Ray praised the vibrant and nationally recognized achievements of the academic community at Oregon State University.

Did you know that 50% of all legal blindness is due to Age-related Macular Degeneration (AMD)? And that 25% of those over the age of 65 have signs of AMD? OHSU Casey Eye Institute’s Dr. Michael Klein, a leading national researcher in AMD, reviewed the latest findings on the disease at our January ARCS program.

There are two types of AMD, wet and dry, and both have a strong genetic component. Ten years ago there were no effective treatments for the disease; now there are several drugs to treat wet AMD and promising stem cell trials for treating both wet and dry AMD.

Wondering how to prevent AMD?
- Don’t smoke
- Exercise
- Eat your vegetables, fruit, and fish
- And get check-ups at your ophthalmologist!
MARK YOUR CALENDAR NOW FOR OUR 2013 EVENTS

May 8 – Annual Meeting 11:00 a.m.
Aug. 7 – Summer Social
Sept. 29 – Scholar Picnic 4–6 p.m. Willamette Park
Oct. 22 – Scholar Awards Luncheon
Portland Art Museum
Keynote speaker, Dr. Mark Abbott, “Our Oceans Under Stress”

ARCS® Foundation advances science and technology in the United States by providing financial awards to academically outstanding U.S. citizens studying to complete degrees in science, engineering and medical research.

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