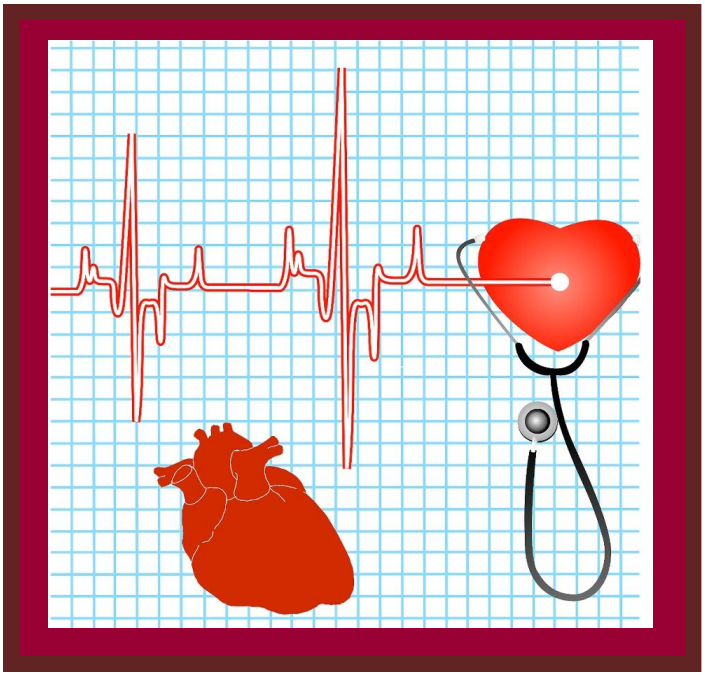
WOMEN IN SCIENCE

A Publication for Seattle AWIS Members • Winter 2011

Cardiovascular Disease/Stroke



AWIS
ASSOCIATION FOR WOMEN IN SCIENCE
Seattle

WINTER 2011

WOMEN IN SCIENCE

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president@seattleawis.org

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secretary@seattleawis.org

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mentoring@seattleawis.org

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membership@seattleawis.org

Newsletter
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Wei Qiao
newsletter@seattleawis.org

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outreach@seattleawis.org

Programs
Lynne Becker
Lisette Coye
Jennifer McCullar
programs@seattleawis.org

Publicity
Jane Dickerson
publicity@seattleawis.org

Scholarship
Fran Solomon
scholarship@seattleawis.org

SMARTGirls
Nancy Ruzycki
smartgirls@seattleawis.org

Website
Christina Chen
webmaster@seattleawis.org

General Business
2633 166th Avenue SE
Bellevue, WA 98008
Online: www.seattleawis.org

Scholarship Donations
AWIS Scholarship Committee
5805 16th Ave NE
Seattle, WA 98105

For general information write to: info@seattleawis.org

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Do you have a story you'd like to share? If so, we'd like to hear from you. Email newsletter@seattleawis.org

WINTER 2011

WOMEN IN SCIENCE

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Nation/World

Features

President's Letter

By Ann Wilson

Our Newsletter Committee and guest authors have put together a wonderfully informative issue that focuses on cardiovascular disease and stroke.

Jessica Gigot's article on "Getting to the Heart of the (Organic) Matter" makes us think more seriously about the connection between human health and what we eat in terms of food quality and food production. In the area of women and heart disease, learn about the American Heart Association's **"Go Red For Women"** awareness campaign by reading "Heart to Heart - Fighting Back Against Heart Disease in Women" by Francesca Minas.

Our contributing authors Ashley Atwood and Cathy Manner keep us in the know with their regular columns on research news and biotechnology/pharmaceutical industry news, respectively. Learn how a kidney gene sequence variant, stromal stem cells, and antibody therapy all aid in advancing research in cardiovascular disease and stroke. The biotechnology news column highlights Bothell-based EKOS Corporation's recent product approval, a US investigation into one company's marketing practices, the halting of a major clinical trial, and other recent regulatory approvals.

In case you couldn't be there, Lisette Coye and Lynne Becker provide summaries of our November and January monthly programs. These two wonderful programs featured science engineering outreach opportunities and the life and research of a syphilologist!

Our scholarship program has been supporting undergraduate women in STEM since 1990. Fran Solomon challenges us to all get involved by contributing to the Seattle AWIS scholarship fund. Great job, Fran!

Speaking of looking to our future, we have a fantastic winter-spring lineup of programs, including a speaker from the HIV Vaccine Trials Network, a regulatory panel, and networking socials.

I want to thank all of our members in advance for helping to **publicize these wonderful events** Each of us can help spread the word about Seattle AWIS at our places of business. Print out a copy (or two) of our monthly program flyer from our website and hang them up at work. Let's see if we can get even more new faces at our winter and spring programs!!

Ann Wilson

Support the Seattle AWIS Scholarship Program!

By Fran Solomon

FUNDRAISING is underway for **AWIS SCHOLARSHIPS** that will be awarded this year to five to eight undergraduate women who are majoring in science fields at colleges and universities in Washington and *demonstrate academic excellence, financial need, high motivation to pursue a science career, and a record of giving back to their communities*.

> ➢ *See the Fall 2010 Seattle AWIS newsletter for biographical profiles of last year's outstanding scholarship winners.*

Every year, contributions from Seattle AWIS members constitute at least 1/3 of the total scholarship fund. The Scholarship Committee thanks **BARBARA MANDULA** for her recent contribution to the 2011 scholarship fund and **LEE DORIGAN** for her continuing monthly donations to the fund.

The Scholarship Committee encourages all Seattle AWIS members to contribute to the scholarship fund this year. Your contribution is 100% tax-deductible, and 100% of it will be used for scholarships for aspiring future scientists. Many past scholarship winners have told us that *receiving an AWIS scholarship boosts their self-confidence in addition to defraying their educational expenses.* Knowing that AWIS believes in them and their goals helps them to believe in themselves.

> ➢ *For your convenience, an addressed envelope is included in this issue of the newsletter, or you may send your donation to:*
>
> **SEATTLE AWIS SCHOLARSHIP COMMITTEE**
> **5805 16TH AVENUE**
> **NE, SEATTLE, WA 98105**
>
> Please make checks payable to Seattle AWIS Scholarship Fund.

YOUR CONTRIBUTION WILL DEFINITELY MAKE A DIFFERENCE!

I look forward to seeing many scholarship fund envelopes in our mailbox in the next few weeks.

The Scholarship Committee is also looking for volunteers to review applications and interview finalists in April and May. If you would like to participate in these enjoyable and rewarding activities, please contact me at scholarship@seattleawis.org.

Program Summaries (November)

By Lisette Coye

For our November program, we welcomed speakers from several Science and Engineering outreach groups based in Seattle.

Our speakers discussed their organization and volunteer opportunities to educate local students in Science, Math and Engineering.

Girls in Engineering, Math and Science (G.E.M.S.) is a Seattle AWIS program that provides hands on mentoring for 7th and 8th grade girls in Seattle. They meet the first Tuesday of every month and require a year of commitment for the program. *If interested, you can contact the co-chairs Sara Bender and Ashley Atwood at GEMS@seattleawis.org.*

SmartGirls (Science and Math at the Right time for Girls) is also a Seattle AWIS program, which uses activities to teach girls about science, math or technology. *Please contact Nancy Ruzycki at smartgirls@seattleawis.org to learn more about this group.*

Northwest Association for Biomedical Research is an organization focused on science education. They have several outreach programs, which include a speaker's bureau, an ethics and workshop curriculum for teachers, essay contest for middle school and a student bioexpo. *To volunteer or learn more about this group, please visit their website at www.nwabr.org.*

EdLab Group focuses on educational programs for middle school and high school girls that are in science, technology, engineering and math (STEM) after school or summer programs. They are presently looking for volunteers for Tech Reach program, which include after-school activities, field trips and summer camps as well as the FabFems Project, which includes online learning, email and phone mentoring. *If you are interested in volunteering, please contact the program coordinator Laura Enman at lenman@edlabgroup.org.*

Brain Awareness Week (BAW) Campaign is a week dedicated for global education on brain research. It was founded by the Dana Alliance for Brain initiatives and European Dana Alliance for the brain. This year they will be celebrating their 16th year from March 14-20. *To participate in this event please visit their website at http://www.dana.org/brainweek/.*

Seattle Expanding your Horizons (SEYH) is a yearly conference held for 6th to 8th grade girls to allow them the opportunity to learn more about Science and Math through workshops. Presently, they are looking for volunteers that can either create one of these workshops or do work behind the scenes. The next conference will be on March 12, 2011 at Seattle University. *To volunteer for this organization please contact them at presenter@seyh.org.*

Program Summaries (January)

By Lynne Becker

The attendees of the January 2011 program were fortunate to have **Dr. Sheila Lukehart** present her research and personal career journey. *Dr. Lukehart is one of the founding members of Seattle AWIS*. During the April 2010 program, she spoke briefly about her career as part of a discussion panel of founding members. The January presentation was entitled **"A Corkscrew Journey: My Life as a Syphilologist."** After graduating from the University of California, San Diego (UCSD), her mentor advised her to work on a bug that is easy to cultivate and hardy enough to survive days in the freezer while one is on vacation. Contrary to this advice, Dr. Lukehart focused her Ph.D. research at UCLA on the study of *Treponema pallidum*, the causative agent of syphilis, and, ironically, a microbe that cannot be cultured *in vitro*.

Syphilis is one of the oldest venereal diseases. Untreated syphilis can present as a primary infection followed by a lifelong latency stage. *At the time that Dr. Lukehart began her study of the organism, many scientific challenges existed*. Besides not growing in a flask and thus requiring rabbits for propagation, *T. pallidum* also has a very fragile outer membrane, and no genetic system existed to understand virulence mechanisms. The body of research that existed when Dr. Lukehart was undertaking her Ph.D. was full of contradictions between what was thought as dogma and what was actually being observed. One of the myths that Dr. Lukehart dispelled during her graduate tenure was that *T. pallidum* was resistant to phagocytosis. In fact, she showed that macrophages do ingest *T. pallidum,* and, moreover, that the presence of antibody enhanced the phagocytosis.

After a postdoctoral fellowship at UCSD, Dr. Lukehart brought her syphilis expertise to the University of Washington. Under the tutelage of Dr. King Holmes, currently the William H. Foege Chair and Professor of the Department of Global Health, Dr. Lukehart expanded her career as a syphilologist and ***has since become an international leader in her field***. In the late 1990s, the genome sequence of *T. pallidum* was published, allowing for a greater understanding of the genetics of disease. More recently, her work has led to the identification of TprK, an outer membrane protein with significant antigenic variation, which contributes to the persistence of *T. pallidum* during latent infection. During her career, Dr. Lukehart has faced several significant life-changing events.

Her valuable lesson to the audience was to recognize that while life will present unexpected challenges, you must continue to do what you love.

It is obvious from Dr. Lukehart's success that she has followed her own advice.

Cardiovascular Disease and Stroke Research News

By Ashley Atwood

➢ Scientists at **Washington University School of Medicine** have identified a kidney gene sequence variant that appears to play a role in causing heart failure. The variant is a change in a single letter of the DNA sequence that codes a protein expressed in the kidney. This protein is part of a kidney channel that controls chloride ion secretion into the urine, and the variant reduces the channel's ability to shuttle chloride ions across the cell membrane. Scientists hypothesize that, as a result, blood levels of the kidney hormone renin could be elevated, serving as the first signal in a sequence that can damage the heart. Simply having one or even two copies of this variant does not cause heart failure, but it may cause a predisposition for heart failure that could be exacerbated by another risk factor such as high blood pressure.

➢ *Washington University School of Medicine, January 17, 2011*

➢ The complement protein **C5a**, usually involved in immune system responses, plays a role in atherosclerotic disease, reports the *Journal of the Federation of American Societies for Experimental Biology* in the January 2011 edition. C5a, a protein released when the complement system is activated, causes plaques to break free from where they are anchored so that they ultimately cause blockages elsewhere in the body. This discovery establishes C5a not only as a new risk factor for heart attack and stroke, but also as a new therapeutic target.

➢ *FASEB, January 2011*

➢ Reporting in the journal Stroke, a team at **Loyola University** describes a new technique for reversing stroke damage even long after the ischemic event. The treatment, anti-Nogo-A therapy, is an antibody that disables the Nogo-A protein. This protein normally inhibits the growth of axons, serving as a check on overzealous nerve growth that could cause patients to experience hyperalgesia or involuntary movements. The anti-Nogo-A therapy allows the re-growth of axons into the stroke-affected areas of the brain, leading to restoration of function. A Phase I trial, sponsored by **Novartis**, is underway in which patients paralyzed by spinal cord injuries are receiving anti-Nogo-A therapy.

➢ *Loyola University Health System, December 8, 2010*

➢ Scientists at the **Farber Institute for Neurosciences** and the **Department of Neuroscience at Thomas Jefferson University** have published a study showing that early administration of bone marrow stromal stem cells after a stroke (within one day) may aid in recovery. In laboratory animals, preservation of brain structure and motor function improvement were observed. The mechanism by which the stem cells achieve these effects is unknown, but the research team postulates that glial cells may become activated and play a role.

➢ *Thomas Jefferson University, December 3, 2010*

Cardiovascular Disease and Stroke Research News

By Ashley Atwood

➢ Regardless of overall physical activity level, spending two or more hours per day in screen-based entertainment activities is associated with a 125% increase in risk of cardiovascular disease compared to those spending less than two hours per day, says a new report in the *Journal of the American College of Cardiology*. Data collected from over 4,500 Scottish Health Survey 2003 respondents aged 35 and older were studied.

➢*Cardiology Today, January 17, 2011*

➢ A new study from **St. Michael's Hospital** and the **London Health Sciences Centre** is the first to report a link between nonalcoholic fatty liver disease (accumulation of fat in the liver in nondrinkers) and stroke. Researchers found high levels of enzymes that are markers of liver disease in adults who had suffered acute stroke. Additional research is needed to validate the study's findings and to learn to predict the risk of stroke and treat at-risk patients. Nonalcoholic fatty liver disease is a common condition, often having no symptoms or complications.

➢*St. Michael's Hospital, January 10, 2011*

➢ At the Sixth International Conference on Cell Therapy for Cardiovascular Disease at Columbia University Medical Center on January 20, **Stanford University** researchers (in collaboration with **BioParadox, Inc.**) presented data supporting the use of platelet-rich plasma (PRP) as a treatment for myocardial infarction. In their study, mice receiving PRP after induced cardiac ischemia had significantly better cardiac function as measured by left ventricular ejection fraction. Further study is needed in order to understand how PRP works to repair or protect cardiovascular tissue.

➢*Davis MedPR, January 18, 2011*

Pharma/Biotech Industry News

By Cathy Manner

The US Food and Drug Administration (FDA) has received several reports of liver damage in patients taking **Sanofi-Aventis'** *Multaq® (dronedarone)*, which is approved in the US, Canada, and Europe for the treatment of atrial fibrillation (AF). AF, an abnormal heart rhythm found in approximately 2.2 million people in the US, is a significant risk factor for stroke. Although a causal link between the drug and liver damage has not been formally established, the FDA is notifying healthcare providers and patients, and Sanofi-Aventis expects that the European Medicines Agency will require similar notification.

- *Reuters, January 18, 2011*
- *Wall Street Journal, January 14, 2011*

GlaxoSmithKline has announced fourth-quarter legal costs of $3.4 billion - an amount expected to exceed its quarterly profits - due to US investigation into marketing practices and product liability cases related to its diabetes drug *Avandia*. Once the world's best-selling diabetes medicine, Avandia sales have plummeted in recent years due to reports that the drug markedly increases the risk of heart attack. The drug has been pulled from the market in Europe and its use in the US severely restricted by the FDA.

- *New York Times, January 17, 2011*

Bothell, WA-based **EKOS Corporation** has received approval to market its *EkoSonic® Endovascular System* in the European Union for the treatment of pulmonary embolism (PE). PE, a blood clot that has traveled from elsewhere in the body and lodged in the pulmonary artery of the lung, causes or contributes to an estimated 300,000 deaths per year in the US and Europe. The EKOS system uses a catheter to deliver ultrasound waves to "condition" clots to more rapidly absorb thrombolytic (clot-busting) drugs, which can also be infused using the system. EkoSonic, the first endovascular device approved for the treatment of PE, is also FDA-approved for the infusion of thrombolytics or other fluids into the peripheral vasculature.

- *Xconomy and EKOS Corporation, January 17, 2011*

Pharma/Biotech Industry News

By Cathy Manner

Researchers have halted a major clinical trial of **Merck & Co's** anti-clotting drug V*orapaxar* and narrowed the scope of a second key trial by ending investigation in stroke patients. The reasons for these actions, which were recommended by an independent data and safety monitoring committee, have not been disclosed. Vorapaxar, which had shown promise in preventing heart attacks and strokes without increased risk of bleeding, was viewed as one of the most important drugs in Merck's product pipeline, and the company had planned to file for FDA approval later this year.

➢ *Wall Street Journal, January 14, 2011, and Bloomberg, January 13, 2011*

Abbott Laboratories has received European approval for the first absorbable stent. Unlike traditional stents, which are tiny metal tubes that remain in an artery after it has been cleared of blockages, Abbott's stent dissolves within approximately two years. In clinical studies, the new stent was associated with a lower incidence of blood clots than traditional stents coated with anti-clotting drugs. The new stent, to be sold under the name *Absorb*, will be available to a limited number of centers in Europe later this year, with a full European launch planned by the end of 2012. Abbott is also designing a pivotal trial and plans to apply for US approval in 2015.

➢ *Reuters, January 10, 2011*

Aldagen, Inc. has received FDA approval to initiate a clinical trial of *ALD-401*, a unique stem cell population, for treatment of patients with ischemic stroke (stroke caused by inadequate blood and oxygen supply due to arterial blockage). Stroke is the third leading cause of death in the US. Unlike current anti-clotting agents, which must be administered within hours of a stroke, ALD-401 will be delivered approximately two weeks after stroke. The Phase 2 trial will assess both safety and potential efficacy.

➢ *BioSpace, January 5, 2011*

Getting to the Heart of the (Organic) Matter:

Linkages Between Soil Quality and Food Quality and Implications for Human Health

By Jessica Gigot

The **World Health Organization** estimates that over 100 million people worldwide have diabetes and 300 million people are obese, and the risk for heart attacks and strokes is increasing. *Many studies have shown that diet can play an important role in preventative health care and potentially offset or control the effects of these chronic, metabolic diseases. However, there are still a lot of questions related to the mechanisms involved in diet and disease prevention.* Furthermore, the connection between human health and what we eat brings up interesting questions about food quality and how food production can affect nutritional content.

Organic farming systems have been reported to have higher "soil quality" than conventional farming systems. Soil quality is defined as “the capacity of a soil to sustain biological productivity, maintain environmental quality, and promote plant and animal health (2).” Organic, or low-input, cropping systems characteristically have a higher organic matter content and more complex biological communities. Historically, linkages between humans and food quality have focused on reducing pesticide residues on fresh produce, and this has spurred interest in organic cropping systems. Solid connections between food production techniques and food quality have yet to be made, but research efforts are underway to investigate this relationship. *Until recently, scientists have not focused on both food quality and soil quality in the same study.* While researchers are looking into assessments of nutrient and mineral content, they are also looking for differences in polyphenolic antioxidants, produced as secondary metabolites in plants, which may have the most direct influence on disease prevention.

Strawberries grown in organically managed soils had higher levels of antioxidants and ascorbic acid and phenolic compounds than same-variety strawberries grown in neighboring fields (5). Further, the organically managed soils in this study had higher carbon and nitrogen levels, micronutrients, and microbial activity as compared to the conventional fields with the same soil type. Another comparative study of organic and conventional systems focused on tomatoes in California, and the authors found organic tomatoes to have higher levels of flavonoids that increased over time (3). Flavonoids are metabolites that may protect against cardiovascular disease. Flavonoids in 27 varieties of spinach were higher in organically grown plants (4). A study in England found that commercial, pasteurized milk produced on organic dairy farms had higher levels of conjugated linoleic acids (CLA) as compared to conventional systems (1). *CLAs are believed to reduce fat storage in humans, inhibit tumor development, and promote sensitivity to insulin* (www.wisc.edu/fri/clarefs.htm).

In 2009, the **American Association for the Advancement of Science** held a symposium entitled **"Living Soil, Food Quality, and the Future of Food.”** This event was the first large-scale gathering of interdisciplinary professionals focused on these issues and featured presentations by Preston Andrews (Washington State University), Alyson Mitchell (University of California-Davis) and Jerry Glover (The Land Institute). Research on tomato and apple systems was presented. Also, it was explained that *foods produced organically might have more nutrients because the nitrogen cycle on organic farms may be*

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more reliant on biologically complex processes than conventional systems. While plant variety and climate will also be important factors in food quality, these initial studies into food production systems and important compounds for human consumption are essential.

In agricultural systems, many of our chronic plant pathogen and pest problems in agricultural crops are a result of poor soil conditions. In western Washington's major production regions (Skagit and Whatcom counties), there is a mosaic of soil types that are ideal for growing crops because of their texture and ability to hold nutrients. However, despite the innate qualities of the regional soil textures (primarily silt loam), effective organic matter management and fertility inputs are necessary. This applies to both organic and conventional cropping systems. *Understanding how to build up soil organic matter over time and how to create cropping systems that utilize nitrogen efficiently is an important area of research that will be emphasized in the future in both organic and conventional systems.* As discussed above, this has innate and potentially positive impacts on food quality and human health as well. The linkages are growing.

While food quality is a large element of disease prevention, food diversity and the concept of food as medicine are also essential for addressing the growing rate of heart-related diseases. **The Northwest Indian College** has started a program called **"Diabetes Prevention through Traditional Food."** This program aims to improve tribal health and decrease the growing incidence of diabetes in native communities through education and hands-on activities involving traditional food harvest and usage. Some of the traditional foods that have been discussed are nettles and salal berries.

As we enter into this next year, it is necessary to continue fostering connections between human health and the properties of the soil where it was produced. More research is also needed to better understand how the human body uses nutrients and antioxidants. *Is it more efficient to consume nutrients and minerals in food versus through supplements?* More collaborative research between soil scientists, agronomists, nutritionists and medical researchers is needed. Human food choices can shape the design and success of cropping systems, and local food security and food might be the main tool in fighting high-rate diseases that are projected to grow rapidly unless intervening measures are taken to influence lifestyles and eating patterns.

1. *Butler G et al. 2011. Journal of Dairy Science. 94:24-36*
2. *Doran JW and Parkin TB. 2004. Soil Sci. Stet Amer. pp3-21*
3. *Mitchell A. et al. 2007. Journal of Agriculture and Food Chem. 55:6154-6159*
4. *Nagourney E. Organic food may help against heart disease. New York Times (July 18, 2007)*
5. *Reganold JP et al. 2010. PLoS ONE 5(9): e12346. Doi:10.1371/journal.pone.0012346*

Jessica Gigot is finishing her Ph.D. in horticulture at WSU-Mount Vernon (Northwestern Washington Research and Extension Center).Her research is focused on soil quality and root disease management in raspberry systems. She is also a faculty member at Northwest Indian College-Swinomish. She owns a small farm in Bow, WA called Harmony Fields that grows mixed herbs and vegetables and is interested in future research projects related to soil quality and food production systems.

Heart to Heart - Fighting Back Against Heart Disease in Women

By Francesa Minas, American Heart Association

Every minute a woman loses her life to heart disease or stroke. We used to think that cardiovascular disease (CVD) was a man's disease, but it turns out that *CVD is an equal-opportunity killer and is the leading cause of death for women age 20 and over*. The problem was that women didn't know it, and in 2004 the American Heart Association took on the challenge of dispelling myths and raising awareness through a movement called **Go Red For Women**. It also wanted to address the gender gap that resulted in women heart patients getting misdiagnosed, getting treated less aggressively by their healthcare providers, or simply delaying care due to lack of awareness.

Sharon Chastain, a heart attack survivor, shares how despite a family history of heart disease she was caught by surprise.

"In my family, we have a long history of heart disease, but mostly on the men's side. My mom died of a sudden heart attack when she was in her early 70s, and none of us saw it coming. In the back of my mind, I always worried about my heart but figured at 48 I had a lot more time. I thought my brothers were the ones that needed to worry.

After going to see the doctor several times because I was experiencing a fluttering feeling at the base of my throat, I was told it wasn't my heart. They thought it was a number of things like panic attacks or acid reflux. To me, it felt like my heart, but I accepted the diagnoses."

The flutter continued with increasing regularity, but she went on with her daily life and even flew to Spokane on a business trip. While away from home, she knew something was clearly wrong. *"My legs ached, and my back had a sharp pain down my spine. My arms hurt to lift over my head, and I felt a humming sensation in my body. I flew home and drove myself home with the plan that I would take a nap and then call my doctor. Thankfully, my husband insisted I go to the hospital instead. That probably saved my life."*

Image from American Heart Association

At the hospital, Sharon panicked when told something was going on with her heart. *"An hour later, I was sporting a stent in my right coronary artery, and I was now a member of a new club of heart attack survivors. As I laid there in intensive care for three days, I had a lot to think about. How lucky I was, how if I could get my health back I'd never take it for granted again, how much I wanted to be here for my family, and how little I knew about my own risks."*

Most of us probably never imagine ourselves as heart attack survivors or dealing with any form of CVD. The biggest myth in the past was that CVD was a man's disease, when in fact it can strike a woman at any age. ***One out of three women dies from it, but the good news is that heart disease and stroke are largely preventable.***

Heart to Heart - Fighting Back Against Heart Disease in Women

By Francesa Minas, American Heart Association

FEBRUARY, KNOWN AS AMERICAN HEART MONTH, is a great time to think about your heart and create an action plan to keep it healthy. Here are some things you can do to lower your risk:

- *Eat a healthy diet low in saturated fat, trans fat, cholesterol, and sodium.*
- *Keep your weight under control.*
- *Control your blood pressure and cholesterol levels.*
- *Manage your blood sugar if you have diabetes.*
- *Get regular medical checkups.*
- *Talk to your doctor about a prevention plan and medicines that may be right for you.*
- *Don't smoke, and avoid tobacco smoke.*

"During my six weeks of recovery and rehab, I met a lot of women," recalls Sharon. *"What struck me was how many women in my situation also pushed through their daily lives thinking they had to take care of everyone else and ignored their own warning signs. I realized that there are whole families out there depending on women to be healthy, and we're so focused on our families, we put the one person they are dependent on at risk. That had to change!"*

CHANGE HAS TO START WITH EACH OF US, AND IT'S NEVER TOO EARLY TO BEGIN. We know that factors leading to heart disease and stroke can start in young women and develop over time, but healthy lifestyle changes can prevent or postpone heart disease.

Seven years into the Go Red For Women campaign, 55% of women now know that heart disease is the leading killer. It's a great improvement from 30% in 2004, but that ***still leaves about half of American women unaware that heart disease is the biggest threat to their health.*** So as you take action to improve your own cardiovascular health, share the message of Go Red with your friends and your colleagues. Share it with your mother, your sister, your aunt, and other loved ones. Tell them that heart disease and stroke are preventable, and tell them you want them to live.

"This disease is such a killer and home wrecker," adds Sharon, who now volunteers for the Go Red For Women campaign. *"I'm passionate about getting the word out and educating women. In some small way, if we can get our message out and create the same kind of awareness for heart health that women now have for other issues, we can really make a difference. We can save lives.* ***Don't you think it's time?"***

The American Heart Association shares tips, latest research information, and other resources related to women and heart disease on its website, www.GoRedForWomen.org , or by calling 1-888-MY-HEART. To get involved with the local Go Red movement, including volunteering, visit PugetSoundGoesRed.org or call 206-632-6881.

Lecturing in Japan:

The Power of the "NEW GIRLS" Network

By Fran Solomon

In the fall of 2010, **I HAD THE AWESOME OPPORTUNITY** to lecture at three universities in Japan: **HOKKAIDO UNIVERSITY** in the city of Sapporo on the northernmost island (Hokkaido), **KEIO UNIVERSITY** in the city of Yokohama on the most populous island (Honshu), and **FUKUOKA UNIVERSITY** in the city of Fukuoka on the southernmost island (Kyushu). My husband, Tyler Folsom, joined me for the trip and lectured at Hokkaido and Keio universities.

This trip was one of the peak experiences of my life thus far. I want to share my overall impressions of Japan, describe my lecturing experiences, and explain how this adventure came about.

JAPAN is a fascinating and impressive country that has successfully combined modernity and emulating the West with retaining their own culture and traditions. Among all the developed countries of the world, ***Japan has the lowest income disparity between its wealthiest and poorest citizens*** (in fact, almost everyone is middle class) and has the highest average life expectancy. One can find the latest high-tech gadgets and electronic equipment, along with keen attention to aesthetics. For example, meals are served in an artistic manner, with a balance of foods and colors on the plate and fresh flowers on the table. There is strong emphasis on community and a high degree of public safety and civility. When I asked one of my hosts why some people were wearing face masks, she replied that people don the masks when they have a cold or other respiratory illness so that they do not infect others. When I unintentionally left my rucksack on the ground at a Buddhist temple in Kyoto and went back for it thirty minutes later, it was still there. Ticket sellers at train stations and salespeople in stores always say *"thank you for your patience," even if I had waited only 10 seconds to be served.* The Japanese have figured out how to coexist peacefully in large, densely populated cities.

It is easy to get around in Japan because signs in train stations and airports, as well as many street signs, are bilingual. A significant percentage of people, especially young adults, speak some English. At airports and train stations, there are many information desks as well as information people who walk around looking for bewildered tourists and approach with a friendly smile asking "May I help you?" My hosts and other people whom I met were consistently hospitable, gracious, polite, and went out of their way to help. For example, one very rainy night in Kyoto, Tyler and I had difficulty locating the restaurant where we wanted to eat dinner. Frustrated and soaked, we asked for directions from the manager of a different restaurant. He looked up the address on his computer and insisted on escorting us (without a raincoat or umbrella) to this other restaurant, which was about three blocks away. *We encountered this hospitality over and over again.* Our hosts were exceptionally generous to us – booking us in business class for the Seattle to Tokyo flights, treating us to delicious lunches and dinners, and showing us around their cities and adjacent areas including a trip to an **onsen** (outdoor hot spring in a beautiful natural setting).

Lecturing in Japan:

The Power of the "NEW GIRLS" Network

By Fran Solomon

The status of women in Japan is changing and is better than I had expected. However, my impression is that Japan is a generation behind the West in terms of women in the paid labor force. In the U.S., my generation of women (baby boomers) was the first to enter the paid labor force in large numbers and pursue careers that had been traditionally male domains. This is happening now for young adult women (in their 20s and 30s) in Japan. I met many women who are pursuing science degrees or science careers; most of them were also married and had families. In some ways, the career-family combination may be easier for Japanese women in science than for their American counterparts. Universities provide four months of paid maternity leave and some have on-site day care centers. I visited a new day care center at Hokkaido University, and was very impressed with the low teacher/child ratio and with the loving care and variety of stimulating activities provided to the children. Some young female scientists had parents or other family members nearby who could participate in raising the children. On the other hand, I was surprised to meet many women who were living and working in separate cities from their husbands. This seemed to be the Japanese approach to the dual-career challenge. In many cases, the husbands were far away, on other islands, and would visit their wives and children only once or twice each month. The women seemed very accepting of this arrangement. One woman told me that she preferred this arrangement because it enabled her to assert her professional identity. She said, *"when my husband and I were at the same university, everyone referred to me as his wife. Now I am a scientist in my own right."*

My most rewarding lecturing assignment was for a five-day workshop organized by the women in science program at Hokkaido University. The purpose of the workshop was to empower young female faculty to give presentations in English at international conferences. At the beginning of the week, each workshop participant presented her research in a poster and in an oral talk. Tyler and I coached the women, complimenting them on what they did well and giving them some suggestions for improvement. At the end of the week, each woman presented her poster and oral talk again. We were impressed and amazed with the amount of improvement shown in just a few days. These new professors were eager to sharpen their conference presentation skills and had very effectively incorporated our suggestions into their presentations. I felt that I had made a difference for the women through my coaching and also through two lectures that I gave at the workshop – a technical lecture about endocrine disruptor chemicals (EDCs) and a lecture about my career path and my experiences as a woman in science. I figured correctly that my experiences from 30 years ago would resonate with today's young Japanese women. They responded empathetically to my stories about the blatant sexism that I experienced early in my career, along with astonishment that these situations occurred in the U.S. The audience appreciated the advice that I shared; several individuals came up to me afterwards to ask for advice on specific situations in their work lives.

My other lecture experiences were enjoyable as well. At Keio University, I gave a lecture about EDCs to an undergraduate environmental issues class. In Fukuoka, I gave a public lecture titled "Protecting Water Quality and Aquatic Resources in Puget Sound" through the Fukuoka University Office for a Sustainable Future. My audience there comprised some graduate students, but mostly mid-level and senior environmental professionals in government agencies, consulting companies, and nonprofit organizations. I had a translator for this lecture.

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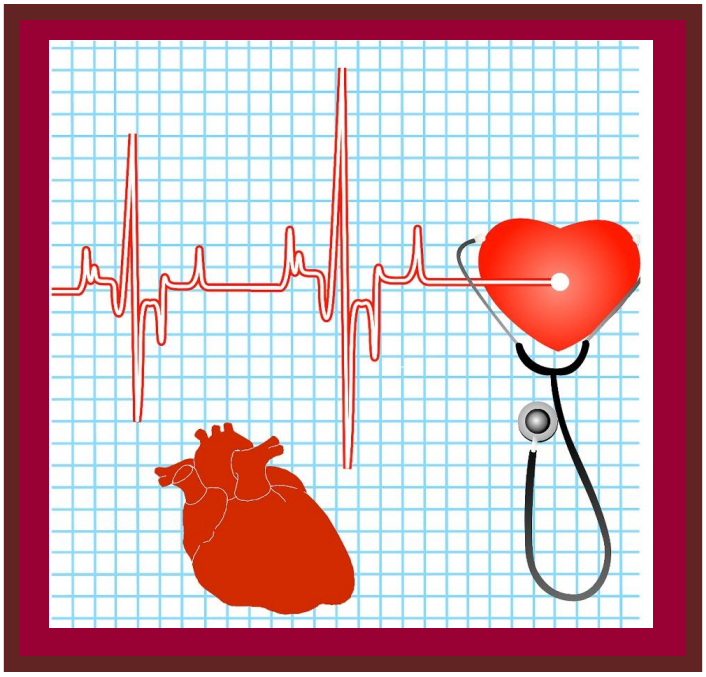
How did this awesome opportunity come about? *I created the opportunity through proactive networking.* In June 2010, I gave a presentation at a National Science Foundation workshop on strategies for involving more women in international science research collaborations. One of the other presenters was a biology professor and director of the women in science program at Hokkaido University. She told me that her university was interested in recruiting more foreign professors and guest lecturers. I inquired about doing some teaching or giving some seminars there. She said that was a possibility and asked me to send her my CV. One week after doing so, I received an invitation from her to be the lecturer and coach at the workshop that she was planning for junior female faculty in science. I had hoped that I would have this opportunity, but did not expect it to happen so soon.

Once I knew that I would be lecturing at Hokkaido University, I activated previous contacts at Keio University and Fukuoka University. Every summer, about 30 undergraduate students from Keio University come to the University of Washington for a three-week course titled "Humans in the Environment." I give a lecture and lead a field trip for this course. In summer 2010, the Keio University professor who was faculty liaison for this program came to Seattle for the last week of the course. I emailed her in advance to express my interest in visiting Keio University while I was in Japan and asked about the possibility of my giving a lecture there. In Seattle, she and I had a friendly conversation over dinner at Ivar's. The result was an invitation to me to give a lecture to her class. My Fukuoka University contact was an American law professor there, whom I met through the University of Washington Office for International Programs when she brought a group of mid-level environmental professionals to Seattle in 2006. In subsequent years, I was invited to attend receptions for the visiting environmental professionals. I have kept in touch with this professor and emailed her about giving a lecture in Fukuoka. The Fukuoka University Office for a Sustainable Future had funding available for me to participate in their Global Environmental Citizen lecture series.

I loved my teaching and sightseeing time in Japan, and look forward to returning! My advice to the readers of this article is:

1. Visit Japan! If you can arrange a research or teaching trip there, so much the better.
2. Network, network, network! Women in science networks are powerful.
3. Ask for what you want in your professional life. Sometimes the answer is "yes" and sometimes it is "no," but if you do not ask for what you want the answer is always "no."

If you would like further details about my trip and how I made it happen, feel free to contact me (fran@enviroteach.com).



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ASSOCIATION FOR WOMEN IN SCIENCE
Seattle

2633 166th Avenue SE
Bellevue, WA 98008

www.seattleawis.org