

Women in Science

AWIS
ASSOCIATION FOR WOMEN IN SCIENCE
Seattle

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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

Science and Technology 25 Years
Ago facts written by Ashley Atwood

For general information write to:
info@seattleawis.org

Celebrating 25 Years: History of Seattle AWIS

By Fran Solomon

In the fall of 1984, I was doing postdoctoral research in the Environmental Health Department at the University of Washington (UW). One day, in mid-November, an announcement on the department bulletin board caught my attention: "Are you interested in starting a Seattle chapter of the Association for Women in Science (AWIS)? If so, please come to a wine and cheese party at the UW South Campus Center." The card gave the date, time, and room number for the party and requested that potential attendees RSVP to a woman identified as Peggy F., who was a graduate student at UW. The invitation snapped me out of the

doldrums that I had been experiencing since the U.S. Presidential election earlier that month, and I immediately called Peggy F. to tell her that I would attend the party.

I had been a member of National AWIS since the mid 1970s. Reading their newsletters and knowing that there was an organization that advocated for women in science had helped me to feel less isolated as a female graduate student in a male-dominated department. I was excited at the idea of forming a local chapter of AWIS and connecting with a net-

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On Being Lilavati's Daughters:

The Indian Story of Women in Science

By Aarthy Vallur

Lilavati was the math whiz kid and favorite child of Bhaskara II, the renowned twelfth-century Indian mathematician. So sure was he of her genius that he addressed many defining verses of his monumental treatise to her.

As our beloved Seattle AWIS chapter turns 25, I find myself looking at the status of women in science in the two countries that nurtured and honed my scientific temperament and made me the scientist that I am. I am thinking of India and the US - two countries so alike yet so different for women in science. In India, as in the US, major social reorganization, including rights and

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Seattle AWIS Scholarship Awardees:

Where Are They Now?

By Anette Hommelgaard

Seattle AWIS has awarded scholarships since 1990 to undergraduate women majoring in science, math, or engineering fields at colleges and universities in Washington. Awardees must demonstrate academic excellence, financial need, high motivation to pursue a science-based career, and a record of giving back to their communities. Here we have the educational and career updates on several previous awardees.

1993 Kelly Toy, Shellfish Program Manager

Kelly Toy works for the Jamestown S'Klallam Tribe as their shellfish program manager. She manages the tribe's shellfish resources, including harvest, habitat assessment, and enhancement.

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Back issues of *Women in Science* can be viewed at www.seattleawis.org.

Do you have a story you'd like to share?

If so, we'd like to hear from you. Email newsletter@seattleawis.org.

Women in Science is published quarterly by Seattle AWIS. Statements and opinions presented by the contributors are not necessarily those of Seattle AWIS or National AWIS.

President's Letter

By Amie Siegesmund

Happy Birthday Seattle AWIS!!! It was 25 years ago that about a dozen women got together over wine and cheese and decided to form our Seattle Chapter. On behalf of all of our members, I wholeheartedly thank those women for their initiative and vision for our Chapter! In this issue of our newsletter, our contributing authors provide us a snapshot of Women in Science—past, present, and future.

Fran Solomon, one of the founding members of Seattle AWIS, shares with us the story of how our Chapter was started 25 years ago. Learn about how it all started and how our Chapter has evolved over the last quarter century.

The United States and India are two countries that played a role in shaping Aarthy Vallur's development as a scientist. In this issue, she shares with us an insightful look at how issues facing Indian female scientists are different, yet strikingly similar to those faced by American female scientists.

In case you couldn't be there, Lisette Coye, Candice Huong, and Reitha Weeks provide summaries for our last three monthly programs. Learn more about fish tales, the new kid on the

Seattle block, and going from the bench to boardroom!

Our scholarship program has been supporting undergraduate women in STEM since 1990. Annette Hommelgaard gives us an update on what several of our past awardees have been doing since receiving their scholarship. You don't want to miss their diverse and inspiring stories!

While we celebrate the past 25 years of Seattle AWIS, Cathy Manner's article has us looking forward to the next 25. Be sure to check out this article sharing member insights regarding future challenges facing women scientists.

To all of our members and supporters, I thank you for being part of Seattle AWIS. We honor our founding members by maintaining an active and ever-growing Chapter! In the Fall newsletter, I challenged each of you to bring a friend with you to one of our programs. You met that challenge, and I was jazzed to see lots of new faces at our programs throughout the fall! I present you with a new challenge for Spring—help spread the word about Seattle AWIS at your place of business. Print out a copy (or 2) of the flyer for our monthly program off our website and hang it up at work. Let's see if we can get even more new faces at our Spring programs!!

Amie

History of Seattle AWIS

(Continued from page 1)

work of other women who were pursuing science careers in the Seattle area. In the early days of my career, I was still very much in the minority as a woman in my field of environmental science.

I enthusiastically attended the high energy wine and cheese party with about 50 other women. We went around the room, introducing ourselves and sharing our experiences with subtle and not-so-subtle sexism in our academic and career pursuits. A signup sheet was distributed for those who wanted to participate in the nitty gritty details of chapter formation.

The follow-up to the wine and cheese party was a series of meetings over the next several months. About 12 of us figured out the details of a constitution and bylaws and decided that our new chapter of AWIS would have monthly meetings from September through June and would have program, outreach, and newsletter committees. In the spring of 1985, the Seattle chapter of AWIS was officially born. Katie Sprugel was the first President. Peggy F. (Peggy Fahnstock), who had organized the wine and cheese party, was the second President and I was the third President of the chapter.

Our early chapter meetings took place at the UW South Campus Center. This was a convenient location because most of us were UW graduate students, postdocs, and faculty in the biological and health sciences.

The monthly programs focused on the research and accomplishments of individual women in science, as well as career development and women in science issues. In the late 1980s, we coordinated with Society of Women Engineers, Association of Women Geoscientists, and Women's Transportation Project to plan three annual one-day career development conferences for women in science and engineering fields in Seattle. Encouraging girls and young women to study science and increasing their awareness of science career options was a major goal of our new chapter. Towards this end, we participated as panelists and workshop leaders in many of the regional Expanding Your Horizons conferences and tutored undergraduate women at UW in their math and science classes.

The importance of outreach led to our development of the Girls in Engineering, Math, and Science (GEMS) Program and mentoring programs in the late 1990s. These programs have continued; a group mentoring program was launched this year and is going very well.

Twenty years ago, several Seattle AWIS members and I started the chapter's scholarship program. National AWIS awards fellowships to women who are graduate students. Receiving one of these fellowships had meant a great deal to me; the "you go girl" message from a group of women who were role models for me was as important as the financial support. I wanted to "give back" and therefore proposed that Seattle AWIS complement National AWIS fellowships by giving scholarships to un-

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"We went around the room, introducing ourselves and sharing our experiences with subtle and not-so-subtle sexism in our academic and career pursuits."

AWIS Scholarship Alumni

(Continued from page 1)

1994 *Kathryn (Kathy) Curry, Senior Environmental Planner and Wetland Biologist*

Shortly after receiving her scholarship, Kathy Curry was selected to study aquatic resource management at Deacon University in Australia. She finished her degree in environmental science at Western Washington University and worked for nine years at the Watershed Company, an environmental consulting firm. There she became a certified Professional Wetland Scientist. About five years ago, she became the senior environmental planner and wetland biologist for the City of Sammamish. As part of her ongoing education efforts, she recently completed her Master of Public Administration degree at the University of Washington.

Mary Vail, Research Fellow

Mary Vail received her scholarship in her junior year at the University of Washington. She finished her B.S. degree in cellular biology and then went on to complete her Ph.D. in molecular biology, also at the University of Washington. She took a position with the Science Education Partnership (SEP) program at the Fred Hutchinson Cancer Research Center, first as a program manager and then as associate director. She worked with SEP for three years before moving to Australia in 2005, where she has since worked as a research fellow in the biochemistry department at Monash University.

2002 *Juliane Gust, M.D./Ph.D. Student*

Juliane Gust is a student in the Medical Scientist Training Program at the University of Washington. She has finished the first two years of medical school and is in her fourth - and hopefully final - year of her Ph.D. training in neurobiology and behavior. After completing her Ph.D., she will finish medical school and then move on to a residency and eventually a career in academic medicine.

*"Thank you, AWIS, for supporting my studies during my undergraduate education. The AWIS scholarship helped me to be where I am today."
Jeannie K. Nguyen*

Abigail Plawman, Family Medicine Intern

After receiving her scholarship, Abigail Plawman spent several years performing in vitro and in vivo research on cardiac fibrosis in mice. She then went to medical school at the University of Washington, where she is completing her internship in family medicine. She anticipates working in a combined academic/teaching and community medicine role in the future.

Asanka Dewaraja, Ph.D. Student

Asanka Dewaraja is working on her Ph.D. in bioengineering at the University of Washington. Her area of interest is maternal-fetal medicine in obstetrics.

Jaymie Rennert, Veterinarian

Jaymie Rennert earned a D.V.M. degree at Washington State University. She practices small-animal medicine at the Frontier Village Veterinary Clinic.

2006 *Kylie Vadnais, Corps Member in Teach for America-Chicago*

Kylie Vadnais is a second-year corps member in Teach for America-Chicago. She teaches chemistry and biology at the Young Women's Leadership Charter School, an all-girls public school on the south side of Chicago. As she says, "I love my job of using my science skills to inspire others to do so!"

Shujun (June) Peng, Medical Student

Shujun June Peng graduated summa cum laude from the University of Washington in 2008, with a B.S. in chemistry and biochemistry and a minor in mathematics. She received College Honors and the President's Medal. She is pursuing her M.D. at the Johns Hopkins University School of Medicine.

Sarah Goldenkranz, Research Manager

After working in Zimbabwe researching HIV-associated dementia, Sarah Goldenkranz lived in Jerusalem and earned a master's degree in international public health. She works as a research

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Science and Technology 25 Years Ago: The first Macintosh was introduced on January 24, 1984; it was the first commercially successful personal computer to feature a mouse and a graphical user interface rather than a command-line interface.

History of Seattle AWIS

(Continued from page 2)

dergraduate women who had successfully completed two years of college in Washington State and were majoring in science, math or engineering fields. We awarded two scholarships in 1990 – one for \$1000 and the other for \$250. Over the past 20 years, our scholarship fund has grown so that we now award between \$6000 - \$10,000 of scholarships annually.

Seattle AWIS has remained a robust chapter, heralded by National AWIS as a model for other AWIS chapters to emulate.

Our membership now includes women from many workplaces and career stages, as well as some fields of science other than biology. As a now senior scientist, I still find it rewarding to participate actively in the chapter and to mentor women who are in the early stages of their careers. Attending AWIS meetings and being in a room full of women who are scientists always energizes me! The first 25 years of Seattle AWIS have been productive and fun. I wish the same for the chapter in the next 25 years!

Fran Solomon is faculty at Evergreen State College and University of British Columbia and is a founding member of Seattle AWIS.

October Program: Preventing Hearing Loss - Fish Tales By Lisette Coye

For our October 2009 program, we welcomed postdoctoral fellows Dr. Allison Coffin and Dr. Kelly Owens from the University of Washington's Virginia Merrill Bloedel Hearing Research Center. Both scientists discussed the use of zebrafish as a model system to study hearing loss.

Hearing loss is prevalent in our society with over 26 million Americans afflicted with this condition. Worldwide there are 600 million people suffering from hearing loss. Numerous factors lead to damage in hearing, including genetic predisposition, age, and antibiotic treatment. However, chronic exposure to noise also increases this risk with traffic, machines, and music players having the greatest impact.

Sound travels through the outer ear and is transmitted to the middle ear via the eardrum. It then travels to the three bones of the middle ear (the hammer, the anvil and the stirrup). When it reaches the inner ear, it passes through the cochlea where hair cells are aligned on the organ of Corti. Hair cells are mechanosensory receptors and transition sound to neural signals. Mammalian hair cells are very sensitive and once damaged cannot be regenerated.

Zebrafish have hair cells in their inner ear that are necessary for hearing and balance. They also have hair cells on the lateral line on the exterior of their body, which are needed for the

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Science and Technology 25 Years Ago: In May 1984, Dr. Luella Klein was inaugurated in Atlanta as the first woman president of the American College of Obstetricians and Gynecologists. She received her M.D. from the University of Iowa in 1949 as one of two women in her class. She entered the OB/GYN specialty against the advice of older colleagues, who recommended dermatology as a field more appropriate for women.

AWIS Scholarship Alumni

(Continued from page 3)

manager at the Center for Health Training in Seattle.

2007 **Sharmila Pal, M.S./Ph.D. Student**

Sharmila Pal graduated from the University of Washington in December 2008. She completed internships at the Woods Hole Oceanographic Institution and the Smithsonian Institution and then traveled in Africa. She is in a graduate program in marine chemistry at the University of South Carolina.

Jeannie K. Nguyen, M.D./MPH Student

Jeannie K. Nguyen is a medical student at the University of Washington, where she is pursuing both an M.D. and an MPH in global health.

April Hunziker, Medical Student

Receiving an AWIS scholarship helped April Hunziker reduce her work hours so that she could focus more on research. She received the University of Washington Erling J. Ordal Award for research in microbiology upon graduation in June 2008. She then completed a yearlong Emerging Infectious Diseases Laboratory Training Fellowship sponsored by the Centers for Disease Control and Prevention. She just completed her first quarter at the University of Washington School of Medicine and plans to pursue a career in primary care.

2008 **Preethi R. Raghu, Student**

Preethi R. Raghu used her scholarship award

money to help cover medical school application costs. She is taking a year off to work at the Starlight Children's Foundation while also continuing to do research. She will enter medical school in the fall of 2010 with the goal of becoming a pediatric neurologist.

Juliana Stephan, Undergraduate Student

Juliana Stephan is continuing her undergraduate studies at the University of Washington in aquatic and fishery sciences and biology (physiology). She has completed two internships with the National Oceanic

and Atmospheric Administration, one focused on photo-identification and geographic information system (GIS) analysis of gray whale movements and one focused on photo-catalog development for Southern Resident killer whales. She continues to work hard in her classes and activities and hopes to go to graduate school in the near future.

Vida Ahyong, Graduate Student

Vida Ahyong graduated with a B.S. in microbiology and biochemistry. She is a first-year graduate student in the Tetrad program (biochemistry, genetics, cell biology, and developmental biology) at the University of California, San Francisco.

Anette Hommelgaard is a Project Manager in drug development at Seattle Genetics and serves on the Newsletter committee of Seattle AWIS.

ASSOCIATION FOR WOMEN IN SCIENCE

Seattle

Lilavati's Daughters

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opportunities for women, happened in the 1950s and 1960s, after independence, partition, and initial nation building.

The new constitution of independent India was egalitarian and guaranteed women equal rights and opportunities as well as strong institutional protection against ingrained gender prejudices and practices. What has happened since then is bittersweet. Certainly, Indian women have come a long way since the days of imperialism and social oppression. Today 37.2% of doctorates in science earned in India are by women, while 42.5% of graduate students in STEM fields are women (according to a survey by the Indian National Science Academy). Fields such as medicine see almost 50% participation by women at all levels. But that is only half the story. In an ancient land still immersed in a bewildering array of social, religious, and household norms, everything that is unscientific often controls the visibility of women in science.

For example, the rural-urban divide is more visible among women in higher education than among men. And survey after survey has shown that the representation of women in higher scientific policymaking and research posts does not match their enrollment in graduate or doctoral degree programs. Only 15% of the workforce in prestigious national science institutions and universities are women¹. This trend is eerily similar to the Western "glass ceiling." A closer look suggests that women in India face two or three glass ceilings, not just one.

Parallel surveys comparing Indian students with their British or American counterparts put this conclusion in perspective². Among grade 6 students, there is larger gender polarization among British datasets than Indian datasets in terms of curiosity and activities regarding science and math. But when we progress to high school, and compare, say, American and Indian girls, with respect to subject choices, Indian girls were more inclined to choose subjects from a "social" standpoint and not an aptitude standpoint. The shift in subject choice from physical or mathematical sciences to biological sciences and arts was a result of "their perceived social utility" rather than "perceived aptitude differences." This is in sharp contrast to Western attitudes that have deemed girls "naturally less suited" to science and math. This trend has been very hard to combat, because latent notions of "gender differences" have been taken for granted and institutional affirmative action has not worked in favor of women in STEM fields as much as it has worked for other sections of society.

One particular area of underrepresentation has been higher achievement awards and promotions to higher posts. The prestigious Bhatnagar award for outstanding Indian scientists has been awarded to only eight women since 1958, while only 14.3% of high-impact scientific publications from India had

women as their corresponding authors³. The top policymaking bodies for science in India have a meager 3.2-4.6% representation from women⁴. These numbers are important because, unless women reach highly visible and policymaking posts, decision-making may not be gender neutral.

But there are silver linings too. Representation of Indian women in science still falls within the mythical 10% representation seen for women in decision-making posts in most developed countries. Though affirmative action policies have not worked miracles, they have shown a small but measurably steady upward mobility for both urban and rural women.

The Indian National Academy of Sciences has been mobilizing indigenous resources to increase participation and retention among women in the scientific workplace. It has also sought active involvement of women in decision-making. One of the measures has been the establishment of the Indian Women Scientists' Association (<http://www.iwsa.net/>) in 1973. This association set up cooperatives in 10 cities to provide hostels, day care centers, health clinics, and elementary schools for women on scientific premises. It has also offered classes and legal services that are not accessible to women otherwise. It combines the objectives of catering to women's problems in the scientific workplace with improving scientific temper in the society at large, seeing that the

"The top policymaking bodies for science in India have a meager 3.2-4.6% representation from women"

two are intertwined. However, the real challenge is to find a strategy that works for bringing more rural women to science and technology, seeing that India still lives in her villages. This is easier said than done. The Indian experience highlights the challenges facing women in post-colonial times in developing countries, which are currently providing much of the world's workforce. It is poignant to remember the successes and failures of the Indian experiment when looking at other countries in South Asia such as Pakistan, Sri Lanka, Bangladesh, and Nepal, as well as in Latin America.

On a final note, Indian women are indeed "Lilavati's daughters"⁵. This is with reference to the much acclaimed recent book on inspirational Indian women scientists who are carrying the baton of Lilavati, the legendary twelfth-century mathematical genius. They have come a long way from Anandibai Joshi, the first woman M.D., who was refused treatment for tuberculosis because she was a brown woman who had crossed social boundaries.

Aarthy C. Vallur is a Senior Fellow at the University of Washington.

1. Kumar, NISTADS, 2001.
2. Cultural context of gendered science-with India as a case study, Carol Mukhopadhyaya, UCSJ, 2001.
3. and 4. Bal, 2004
5. *Lilavati's Daughters: The Women Scientists of India*, Indian Academy of Sciences, 2008.

November Program:

Novo Nordisk: New Kid on the Seattle Block *By Candice Huang*

Novo Nordisk is one of the world's leading pharmaceutical companies in diabetes care, haemostasis management, growth hormone therapy, and hormone replacement therapy. Headquartered in Denmark, Novo Nordisk has production facilities in six countries, affiliates or offices in 81 countries, and employs more than 27,000 people worldwide. Novo Nordisk has three Research & Development locations: Copenhagen, Denmark; Beijing, China; and Seattle.

Dr. Valerie Odegard, Senior Scientist, gave an overview of the newly established Novo Nordisk Inflammation Research Center (NNIRC) in Seattle. Dr. Odegard received her Ph.D. in immunology from Yale University and previously worked for Trubion Pharmaceuticals and VaxInnate Corporation.

The NNIRC is located in the South Lake Union area, close to many of Seattle's biggest research facilities, such as the Fred Hutchinson Cancer Research Center and Seattle Biomedical Research Institute. According to Dr. Odegard, Novo Nordisk chose Seattle for its new research center because of the large pool of potential recruits from the University of Washington and other local research facilities, such as the Benaroya Research Institute and Harborview Medical Center. Another reason Seattle was chosen is its history of discovery of protein therapeutics for autoimmune and inflammatory diseases. NNIRC will focus on early-stage discovery phase research for autoimmune and

inflammatory diseases, a large category of diseases that has an unmet medical need; these diseases include multiple sclerosis, lupus, rheumatoid arthritis, Crohn's disease, and psoriasis. The new head of NNIRC, Dr. Don Foster, was formerly Vice President of Research at ZymoGenetics and has 22 years of experience in autoimmune and inflammation research.

The NNIRC will focus on cellular immunology, target discovery and validation, and molecular immunological pathways. Dr. Odegard understandably did not divulge specifics of NNIRC's research strategy, but she did mention use of a new discovery platform that screens known genes for novel functions. This process involves high-throughput screening for protein function, deep genomic sequencing of human diseases, and partnering with companies such as VLST that specialize in this type of technology.

Dr. Odegard indicated that the NNIRC aims to employ 45 people by the end of 2009 (currently they have about 35 employees) and 80 people by the end of 2010. In addition, the NNIRC plans to finance graduate students and postdoctoral positions, as do many other Novo Nordisk centers. Overall, the NNIRC is a great addition to the Seattle research community.

Candice Huang is Research Scientist at the Pulmonary & Critical Care Division of Harborview Research Center and AWIS member.

December Program:

From Bench to Boardroom – and Places in Between *By Reitha Weeks*

Having been at the Fred Hutchinson Cancer Research Center for over twenty years, Kim Wells, MS, Organization Development Advisor, could speak from experience and observations about the process and pitfalls of moving from a bench scientist to a managerial position. Kim provided insights into four "success factors" that apply when moving from science to management or from a small science lab manager to a large, collaborative science program manager.

The "success factors" for making this career transition include:

1. Be clear on your career values. It is important to understand what you value about your career. Ask yourself what makes you happy and what doesn't. What energizes you and what doesn't. She identified eight career values or anchors that should be evaluated including technical/functional competence, general managerial competence, autonomy/independence, security/stability, entrepreneurial creativity, service/dedication to cause, pure challenge, and lifestyle.
2. Be clear about your strengths and attributes. Identify your transferable skills and your personal qualities and choose an environment that is compatible.
3. Continually look for mentors and actively network. You will need more than one mentor because they can provide

different things: expertise, confidence boost, political advice or a friendly ear. Networking is necessary and can be done one-on-one or in group settings. Places for networking can be non-profit boards, church groups, neighborhood associations, or service organizations.

4. Fortitude for ambiguity. It is not the final change in position that is hardest, it is the period of transition.

Whether you are moving from bench scientist to manager or from small science to large science management, you need to enjoy working with and through groups. You need to have a plan for learning new skill sets that are required in your new position.

Kim recommended two books:

"Now Discover Your Strengths" by Marcus Buckingham
"Career Anchors" by Edgar Schein

Reitha Weeks is a Resident Scientist and Program Manager Northwest Association for Biomedical Research and AWIS Board member.

The Next 25 Years for Women in STEM - Creating a Diverse Workforce By Cathy Manner

In conjunction with our celebration of the 25th anniversary of Seattle AWIS, it is instructive to look ahead to the next 25 years and consider what they may hold for women working in science, technology, engineering, and mathematics (STEM) fields.

Seattle AWIS member Aarthy Vallur, in her article on page 1 of this issue, poignantly describes the successes and challenges of women in the sciences in post-colonial India, including the struggle to increase representation of rural women in scientific careers. This struggle is not unique to India or to developing countries, as evidenced by Jenna Armstrong's response to a recent Seattle AWIS member survey regarding the issues that women in STEM will face over the next 25 years. As she explains,

I think one ENORMOUS challenge is getting more women involved in science and math who live in the rural areas of the United States. Many young women in these areas are not exposed to the same opportunities as students in the cities...

So far, in four years of my graduate education (master's and Ph. D.), I have encountered very few young women from rural areas such as myself. I grew up in southern Missouri on a farm and

had to overcome a large amount of adversity to arrive where I am.

I often find myself a little angered at the fact that I was the only person who seized these opportunities, as there was not as much drive and influence for other women in my region and in other rural areas to pursue math and sciences.

If there was anything I could change, it would be to inspire the women in these very similar communities where I grew up.

Jenna's words and Aarthy's article both serve to remind us that in addition to diversity as we often think about it - in terms of race, ethnicity, national origin, cultural or religious beliefs, and so on - a strong, vibrant scientific workforce requires full participation of women from rural communities as well.

Happy 25th anniversary, Seattle AWIS, and here's to great success in the next 25 years for **all** women working in STEM fields around the world!

Cathy Manner is a Senior Program Officer with the Life Sciences Discovery Fund and AWIS Board member.

Science and Technology 25 Years Ago: On July 18, 1984, Captain Beverly Lynn Burns became the first woman to captain the Boeing 747 jumbo jet, flying from Newark to Los Angeles. In 1985 she received the Amelia Earhart Award recognizing her for her historic flight. She went on to captain the Boeing 777, the world's largest twinjet.

Fish Tales

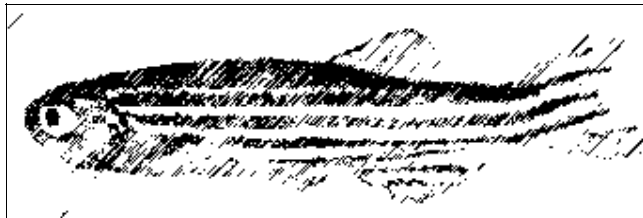
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detection of water flow. Like mammals, the hair cells of zebrafish are damaged by antibiotics and noise. Interestingly, they are able to regenerate their hair cells. Zebrafish are small in size, transparent, produce young every week and are easy to genetically manipulate, making them a good animal model.

Dr. Coffin is using zebrafish to determine what drugs protect hair cells and how zebrafish regenerate hair cells. She has tested a drug library of 10,000 compounds and identified two similar compounds that protect hair cells from an aminoglycoside antibiotic. In addition, she has screened a library of 61 approved drugs and discovered that a Bax channel inhibitor protects hair cells from the antibiotic neomycin. Dr. Coffin also discovered that after the induction of cell death of hair cells by exposure to antibiotics,

hair cells regenerated from new cells rather than the redefinition of surrounding cells.

To determine why some people are more susceptible to hearing loss than others, Dr. Owens is currently performing a genetic screen on zebrafish to discover mutants that protect cells from antibiotic exposure. To date she has discovered several



mutants, with one being present in the previously uncharacterized gene designated sentinel. She is also determining how these mutants function to

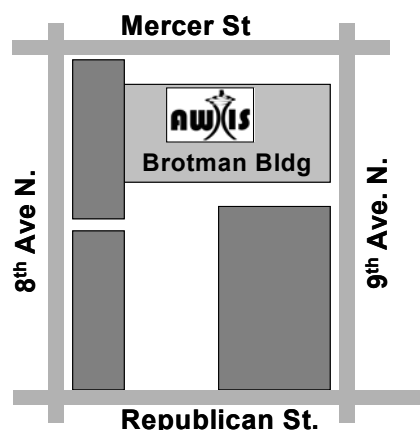
protect the hair cells from antibiotic exposure.

Lisette Coye is a postdoctoral fellow at the University of Washington and serves on the AWIS programs and group mentoring committees.

Science and Technology 25 Years Ago: Now director of the NOAA's Kasitsna Bay Laboratory on the Kenai Peninsula of Alaska, Kristine Holderied was the first woman to finish number one in her class at any American service academy. She graduated from the U.S. Naval Academy in 1984 and majored in oceanography.

LOCATION

UW South Lake Union-Brotman Bldg
815 Mercer Street
Blue Flame Auditorium (1st Floor)



MEETING SCHEDULE

6:00-6:15 pm Networking & Refreshments
6:15-6:30 pm Introductions
6:30-7:30 pm Presentation
7:30-8:00 pm Networking & Refreshments

UPCOMING PROGRAMS

Feb. 10, 2010 - Networking Event: Allen Institute for Brain Science
March 10, 2010 - Dr. Lisa Connell Crowley from Amgen
April 14, 2010 - Anniversary Event
May 10, 2010 - Networking Event: Amgen
June 9, 2010 - Seattle AWIS Summer Networking Social



2633 166th Avenue SE
Bellevue, WA 98008

«FirstName» «LastName»
«AddressLine1» «AddressLine2»
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Science and Technology 25 Years Ago: Svetlana Savitskaya, the second woman in space, became the first woman to walk in space on July 25, 1984. She was outside of the Soviet space station Salyut-7 for three hours, 35 minutes. She was a test pilot and had set 18 world air records at the time of her spacewalk.

Support the Seattle AWIS Scholarship Program!

Seattle AWIS' scholarship program has supported talented undergraduate women in science, math, and engineering since 1990. The scholarships not only help defray expenses, but they can also be an important confidence booster for awardees. Many scholarship winners have gone on to pursue advanced degrees and successful careers in various fields of science, engineering, medicine, and education (see the article by Anette Hommelgaard on page 1 of this issue).

The Scholarship Committee is now gearing up for the 2010 competition. Every year, contributions from Seattle AWIS members constitute at least 1/3 of the total scholarship fund. All members are

encouraged to contribute to the scholarship fund this year. Contributions are 100% tax deductible and 100% will be used for scholarships.

If you want to help the next generation of women in science achieve their goals, please use the envelope that was mailed with this issue of the Seattle AWIS newsletter, or 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 make a difference!*