

# AWIS NEWSLETTER

**Mission Statement:** The Association for Women in Science, Inc. (AWIS) is a non-profit organization dedicated to the achievement of equity and full participation of women in all areas of science and technology.

**Member Profile: Lisa Grillone, Ph.D.**  
**Executive Director of Clinical Regulatory Affairs**  
**Isis Pharmaceuticals**  
 By Christine Haws

As Executive Director of Clinical Regulatory Affairs at Isis, Lisa Grillone, Ph.D. has the distinction of heading the drug development team that successfully brought the first antisense oligonucleotide compound through FDA approval. This scientific milestone opened up the possibility of antisense treatment for many human diseases.

Lisa was born, raised and educated in New York City. She graduated with a B.S. from St. John’s University and went on to attain M.S. and Ph.D. degrees from NYU. Despite having spent the past few years in San Diego, Lisa sees herself as a “diehard Manhattan woman.”

Her decision to pursue a career in science began early in her life, around the age of twelve. *“During my first year of High School I opted to do a “science fair” project rather than write a book report but was told I had to do the book report first before I could be allowed to do the project. I did the book report (on Pasteur) and then the Science Fair project (and won first prize!). Marie Curie was my heroine and still is! Science was always fun and challenging.”*

Following one year as an academic fellow, Lisa was given the opportunity to pursue a second post-doctoral fellowship in the Department of Molecular Pharmacology with the pharmaceutical company Smith, Kline and French. She noted that this move into industry was based more on the “opportunity to do some really good basic research” than on a conscious decision to leave academics. Her three years as a bench scientist was followed by a move into regulatory affairs and then the chance to transfer to Isis Pharmaceuticals in sunny San Diego to oversee drug development. In her daily work at Isis Lisa still sees herself as a scientist although more of a clinical scientist. *“Clinical work follows the same basic plan as any good scientific study and there is a great deal of analysis involved which I really enjoy.”* So much so that within the next ten years she sees herself running a small organization that oversees the development and brings to the marketplace new and improved drugs to treat some of the many illnesses that are currently without adequate therapy.

Lisa has been influential in the development of the San Diego Chapter of AWIS being one of the founders of the ‘Women in Bioscience Conference.’ To her AWIS has been, and continues to be, a very valuable organization for promoting and uniting women scientists from all over the country. When asked about how she sees the role of women in science changing in the new millennium, she responded with optimism. *“I have a great deal of hope that in the new millennium women in science will be very commonplace. I don’t think we are there yet. Women are still in the minority at many companies and the challenges are still great for the women scientists who are out there struggling to be successful whether it be in industry or academia. Nevertheless, I believe that the next generation will have many more*

**"Member Profile" continued on page 4.**

**Meet our Corporate Sponsors**  
 By Janice Payne



Agouron was a platinum sponsor of the 1999 Women in Bioscience Conference, and we are grateful for their support.

Agouron was established in 1984 and was ranked as the largest San Diego biotech company by the San Diego Business Journal in August of 1999. Agouron’s mission is to design, develop, and market drugs to treat cancer, AIDS, and other diseases. They develop therapeutics using an approach known as protein structure-based drug design which involves determination of the 3-dimensional structure of a disease related protein and then designing a drug to act on the protein.

In 1990 Agouron scientists solved the structure of an HIV protease and then developed the protease inhibitor (Viracept®) to act upon it. Viracept® (nelfinavir mesylate) was launched in March of 1997 and has been approved for use in adults and children. At that time, Agouron became the first biotech company in San Diego to market a therapeutic drug based on its own research.

Agouron has another research program involving matrix metalloproteases (MMPs), which are enzymes involved in degradation of the extracellular matrix in tissue. In a cancer patient, this degradation by MMPs could lead to invasion, angiogenesis or metastasis of tumors. Agouron’s compound AG3340 is an inhibitor of MMPs, specifically gelatinase A, stromelysin I, and collagenase and is in Phase III clinical trials in patients with small cell lung cancer and prostate cancer.

Other protease inhibitors are currently under development at Agouron to treat rhinovirus, cytomegalovirus, and hepatitis C virus. Agouron is also working in collaboration with the Immune Response Corporation to develop HIV specific immune-based therapy.

Agouron was acquired by Warner Lambert in May 1999. To investigate career opportunities at Agouron, visit their website at [www.agouron.com](http://www.agouron.com).

Corrections to the January/February 2000 issue:  
 Photographs of the AWIS October Event and AWIS Board members were courtesy of AWIS Newsletter committee member Janice Payne.

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**AWIS Spring Gala**

By Tina Kuus-Reichel

Plans are well underway for the AWIS 2000 Spring Gala to benefit the AWIS scholarship fund. The event will be held Saturday, April 8th at the House of Hospitality on the Prado in Balboa Park. The evening will begin at 6:30pm with an outdoor reception featuring hors d'oeuvres and flamenco music by John Moore. An elegant dinner will be served at 7:30pm (catered by the Cohn Restaurant Group) followed by our featured speaker at 8:30pm. This year our speaker is Dr. Kurt Benirschke, Professor Emeritus of Pathology and Reproductive Medicine at UCSD and current President of the San Diego Zoological Society. It promises to be an entertaining presentation. Scholarship awards will be presented after the speaker followed by dancing to the music of Motel Swing. Bring your spouse or significant other and join us for an enjoyable evening. Cocktail or business attire. Cost will be \$50 for members and \$60 for non-members. Watch for your invitation in the mail.

**AWIS San Diego Scholarship Winners**

By Tina Kuus-Reichel

The San Diego AWIS Scholarship Committee is pleased to announce the winners of this year's scholarships. The Dr. Pam Surko Scholarship of \$1000.00, donated by SAIC, is awarded to Anita McElroy, a graduate student in the UCSD Department of Biology. Bonnie Peterson, a graduate student in the SDSU Department of Biology and Megan Tatreau, an undergraduate at MiraCosta College will receive \$500.00 each. In addition to the cash awards, each winner will receive a complimentary one year membership in AWIS and tickets to the AWIS Spring Gala on April 8. Our hearty congratulations to the winners and sincere thanks to the Scholarship Committee for their efforts in making this happen.

**AWIS Newsletter Committee**

The AWIS newsletter committee - Janice Payne, Christine Haws, Cathy Manner, and Barbara Armstrong - is dedicated to bringing you an informative newsletter with information on AWIS members in our "member profile", our sponsors in our "meet our corporate sponsor" feature, women scientists in history, and the activities of the AWIS committees.

We have been grateful for the help of Tobey Tam and Angelika Kehlenbach who have contributed to past newsletters. We would also like to thank the 1999 AWIS Board members, our current committee members, Susi Jennings, and Cecile Rose Vibat for preparing the newsletter for mailing.

We welcome your comments and/or contributions to the newsletter. Articles for the next newsletter can be e-mailed to Barbara Armstrong at [baawis@access1.net](mailto:baawis@access1.net) or snail mailed to the AWIS PO Box (see information section of the newsletter) by April 7<sup>th</sup>.

This newsletter marks the one year anniversary of Cathy Manner, Janice Payne and Barbara Armstrong serving on the newsletter committee!

**Historical Profile: Elizabeth Lee Hazen and Rachel Fuller Brown**  
by Cathy Manner

Alexander Fleming's landmark discovery of penicillin in 1928 led to the widespread use of broad-spectrum antibiotics, which saved countless lives. However, this enormous benefit to society came at a cost: an increase in fungal infections due to a disrupted ecological balance and decreased biological competition. As the development of antifungal agents lagged behind that of antibacterial drugs, not much could be done to help those suffering from painful and serious fungal diseases. Fortunately, in 1954, the FDA approved nystatin, the first antifungal antibiotic proven to be safe and effective in humans. The development of nystatin was the culmination of years of hard work by two dedicated female scientists working at the New York State Department of Health, Drs. Elizabeth Lee Hazen and Rachel Fuller Brown.

Dr. Hazen, born in 1885 in Coahoma County, Mississippi, was orphaned at the age of three and raised by relatives. After graduating from the Mississippi State College for Women in 1910, she spent the next six years teaching physics and biology. She left teaching to earn an M.A. degree from Columbia University in 1917. She then worked as a laboratory technician and director for several years before returning to Columbia to earn a Ph.D. in microbiology in 1927, at the age of 42. In 1931, she joined the New York City office of the New York State Department of Health (NYSDH). Her early work there focused on bacterial diseases, but she was eventually lured into the field of mycology, where her path would cross with that of Dr. Brown.

Dr. Brown was born in 1898 in Springfield, Massachusetts. She spent her childhood in Springfield and St. Louis, and earned a B.A. in history and chemistry from Mount Holyoke College in 1920. She then went on to earn M.S. and Ph.D. degrees in chemistry from the University of Chicago. After obtaining her doctorate she went to work at the Albany office of the NYSDH. Like Dr. Hazen, she was first involved in studying bacterial diseases before switching to mycology.

Hazen and Brown came together in the 1940s with the goal of developing an antifungal antibiotic. Hazen had collected hundreds of soil samples from around the country, several of which appeared to have antifungal activity. She needed the expertise of a chemist to isolate the active compounds, and Brown had the ideal qualifications. This long-distance collaboration turned out to be very fruitful. In 1950 Brown succeeded in identifying and purifying a compound from cultures of *Streptomyces noursei*. The drug, later named nystatin for the NYSDH, was demonstrated to cure fungal diseases of the skin, mouth, throat and intestinal tract.

Hazen and Brown's impressive accomplishments were not motivated by personal gain; instead, they had a sincere desire to help society and their fellow scientists. They actively encouraged other women to pursue careers in science, and donated all of the nystatin royalties - which amounted to \$13 million by the time the patent expired - to grants for biomedical research.

Hazen died in 1975 and Brown in 1980, after receiving much recognition for their work, including the Squibb Award in Chemotherapy and the Chemical Pioneer Award. Another posthumous honor was awarded in 1994, when both women were inducted into the National Inventors Hall of Fame, joining such luminaries as Alexander Graham Bell and Thomas Edison.

For more information about Elizabeth Hazen, Rachel Brown, and the development of nystatin, read *The Fungus Fighters: Two Women Scientists and Their Discovery*, by Richard S. Baldwin.



Pictured above: Susan Carroll, coordinator of wine tasting event.



AWIS Board members: Elaine Weidenhammer and Sharon Wampler pictured with Events Committee Chair Marilyn Ferrari.



Pictured above: Sharon Cherf and husband Don Cherf.



**AWIS Wine Tasting was a Vintage Success!  
By Susan Carroll**

This February, over 25 AWIS members, friends and significant others gathered in the cozy cellar of the Gaslamp's Wine Bank for an evening of socializing and tasting of good value California wines. The selection, starting with a sparkling wine and progressing through chardonnay, viognier, merlot, cabernet and syrah and concluding with a decadent chocolate-infused port, included something for everyone. An excellent time was had by all, so be sure not to miss this event next year! A list of future AWIS events can be found on the flyer accompanying this newsletter.

(Photos generously provided by AWIS member Amena Rahman.)

**AWIS Members – “On the Move...!”**

**Diana Orentas** has finished her Post-Doc at the Salk Institute and is now a Research Scientist in the Pre-clinical labs at Maxim Pharmaceuticals. She can be reached at [DianaO@san.rr.com](mailto:DianaO@san.rr.com).

**San Diego Chapter Welcomes the Following New Members:**

Susan Brown	
Melissa Fitzgerald	
Rosemary Garcia	
Adlin Gonzalez	Agouron Pharmaceuticals
Yvette Liebesman	Women First Healthcare, Inc.
Cecile Rose Vibat	Digital Gene Technologies



San Diego Chapter

**Important AWIS Information**

Call:

**AWIS Voice Mail** (619) 687-5580

**AWIS National** (202) 326-8940

Visit:

**AWIS National Web Site:** <http://www.awis.org>

**AWIS-San Diego:** <http://awis.npaci.edu>

Write:

**AWIS National**

1200 New York Avenue, NW, Suite 650

Washington, DC 20005

E-mail: [awis@awis.org](mailto:awis@awis.org)

**AWIS, San Diego Chapter**

P.O. Box 178096

San Diego, CA 92177-8096

**Posting Jobs in the AWIS newsletter:** To post a job in the AWIS newsletter, contact Barbara Armstrong via e-mail: [baawis@access1.net](mailto:baawis@access1.net), or snail-mail: AWIS PO Box:178096, San Diego CA 92177-8096. AWIS will request a donation of \$50.00 per posting to offset the cost of printing and mailing. Deadline for inclusion in the May/June newsletter is April 7. If submitting by snail mail, be sure to write Attn: Newsletter Editor on the bottom left corner of the envelope.

**About the AWIS Newsletter**

The AWIS Newsletter is published bimonthly and provides AWIS members and supporters with information on chapter activities, career development, and issues related to women in science. The newsletter is free to AWIS members. Subscription rate for non-members is \$20 a year.

March/April Newsletter staff:

Janice Payne	Barbara Armstrong	Tobey Tam
Cathy Manner	Christine Haws	Susan Brown

Send news items and subscription requests to Barbara Armstrong via email: [baawis@access1.net](mailto:baawis@access1.net) or AWIS, PO Box 178096, San Diego, CA 92177-8096. If you would like your article to be included in the next issue, please send it by April 7, 2000

**Science Fair Committee, Judges Needed!  
By Dawne Page**

Hello, AWIS members! The Greater San Diego Science & Engineering Fair is coming up in April, and we need to recruit some volunteer judges. The judging will be on Wednesday, April 12, and will probably require about 3 hours to complete. We will be judging students who would like to compete for an AWIS award. I encourage you to participate in this event. I did this last year for the first time and found it to be great fun. You get to check out the fair, talk to the students, and see what cool science projects they have created. I am organizing the AWIS judges this year, so if you'd like to participate, please send me an e-mail ([dpage@ucsd.edu](mailto:dpage@ucsd.edu)).

**"Member Profile" continued from page 1**

*opportunities and that we will all benefit from greater diversity in the work place, diversity that is not necessarily focused on gender."*

Outside of work one of her great loves is gourmet cooking and she enjoys entertaining friends with "dinner and a movie." Early in her career Lisa authored a children's book "Small Worlds Close Up," a fascinating collection of photos of familiar objects (such as a snake's fang, cork, fish scale) all magnified hundreds of times. The book received awards from the National Science Teachers Association and the American Library Association, another notable achievement.

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**Moving? Address change?**  
Please give us your new address so you won't miss our mailings! You may e-mail Susan Jennings at: [sdawis@san.rr.com](mailto:sdawis@san.rr.com), phone AWIS voicemail: (619) 687-5580 or mail changes to AWIS – San Diego, PO Box 178096, 92177-8096.