

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.

Opportunity to Help Organize Biennial "Women in Bioscience Conference"

By Anna-Maria Hays

The AWIS "Women in Bioscience Conference" organizing committee is inviting you to help plan the 2003 conference. The theme for AWIS-SD's biennial conference will be: "Creating the Future." This will be the 6th conference organized by SD-AWIS to promote career development of San Diego scientists. It is scheduled to be held May 3, 2003.

Over 300 participants from industry, academia, and government agencies attend the biennial conference. This event is our only means for raising funds for our San Diego Chapter!

The Fundraising Committee is in need of help! If you have time to volunteer to help raise funds for our organization, please email Janet White, WIB Fundraising Chair at janet.white@pfizer.com or me at haysam@scripps.edu.

Also, if you work for a company here in San Diego and are willing to act as a contact person/liason for the Fundraising Committee, please contact us as well; we need as much help as we can get.

We really appreciate all your time and help! AWIS members interested in joining the organizing committee should contact Anna-Maria Hays at haysam@scripps.edu or Alycen Nigro at anigro@hewm.com or check the AWIS website: <http://awis.npaci.edu> for the organizing meeting schedule.

near I-8 and Waring Road/I-15, not far from SDSU. Please consider volunteering for one or more of the following dates!

Nov 8th - FSEA projects in chem - compass (thermodynamics & reactions), balsa wood airplane (gasses, atmosphere)

Nov 22 - Thermodynamics & kinetics, water & temperature

Dec 13 - Acid/base reactions, wrap up chem, prep bio cultures for Jan bio session

Jan 10 - Micro organisms, molds, yeast, human cells, disease process.

Feb 14 - Earthworm dissection, related animal physiology, animal classification

Feb 28 - Animal classification, dissection units continued

Mar 14 - Human anatomy and systems, fetal pig dissection

Mar 28 - Human anatomy and systems, organ dissection

Apr 11 - Dissection units completed, wrap up anatomy and related

Apr 18 - Possible field trip

Apr 25 - Genetics

May 9 - Biotechnology.

May 30 - Insects, ecology & the environment

Jun 13 - Wrap up ecology & environment, final meeting of the year

Girl Scouts Career Day--Saturday, November 2nd:

Can you give a day of your time to help girls explore careers in your field?

We are looking for companies and individuals who would be willing to sponsor a booth for the day. This will give you an opportunity to showcase your company and individual talents as well as provide the girls with exposure to the many different career opportunities available to them. Each booth will need a table and chair if possible, an interactive display or learning opportunity and the person attending should be prepared for questions about their education, why they chose their field, and earning potential in their field. Lunch will be provided to all who can generously donate their time to this very important event. This event will be held at Saint Dunstan's Episcopal Church, 6556 Parkridge Blvd., San Diego, CA 92120, from 10am-3pm.

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Activities of the AWIS Outreach Committee

By Jodi Connolly

The Outreach Committee will be participating in several exciting events/programs coming up, and more volunteers are needed! Please read below and contact Jodi Connolly, Outreach Committee Chair, at jconnolly@san.rr.com if you are interested in helping out with any of these activities.

FSEA: Future Scientists and Engineers of America is a group of local home-schooled children looking for mentors to help with their biology and chemistry curriculum. The following is a list of their planned dates/projects. The group meets bi-monthly on Fridays from 10:30am-12:30pm at the Allied Gardens Recreation Center,

Three New AWIS Board Members Elected

By Barbara Coleman

Three new AWIS members were recently elected to serve on the AWIS-SD Board, replacing out-going member Melissa Fitzgerald. The new board members - Alycen Nigro, Janet White, and Tobey Tam - will serve for two years. As a way of introduction, their biographies have been provided below.

Alycen Nigro has been an active AWIS-San Diego member since 1999. She has participated in Outreach activities, served as the 2002 Gala co-chair, and presently is Scholarship Committee chair, and co-chair of the 2003 Women in Bioscience Conference organizational committee. Alycen brings a vision of the future to AWIS-SD with her commitment to expanding our connection with young women of San Diego. They are the next wave of scientists, leaders, and members. Alycen also is intent on strengthening the interactions within the organization in order to help us grow personally and professionally through shared knowledge and experiences. Currently, Alycen is applying her scientific

knowledge and research skills in patent law for a local law firm. We welcome Alycen to the Board of Directors and know that she will be a valuable contributor to the continued success of the chapter.

Janet White heads up Strategic Management at Agouron-Pfizer's La Jolla Laboratories. Janet moved to San Diego in March of this year and was a pharmaceutical business consultant in Princeton, New Jersey prior to her move west. Originally trained as a chemist, Janet worked for nine years within R&D at GlaxoSmithKline in the UK. She then studied for an MBA, which allowed her to develop a new career in consulting. Janet has been an AWIS member since June 2001, and was President-Elect of the [Central Jersey Chapter](#) at the time she left Princeton. She enjoys taking part in outreach activities with AWIS, ACS and the Royal Society of Chemistry. Janet also is part of the planning team for the AWIS-SD members-only Strategy Sessions. Currently, she chairs the Fundraising Committee for the upcoming Women in Bioscience Conference and recently joined the AWIS-SD Membership Committee. As a leader in the NJ chapter of AWIS, Janet brings new insights and perspective to the San Diego Chapter. She will be working to see that members get to know each other better and provide a network of resources for each other. Her business expertise will be a valuable asset for those looking to expand their skills outside of the research arena. Janet and Jonathan, her husband, have two pet dogs who have moved with them across the Atlantic and now across the United States. We welcome Janet to the Board of Directors and her family to San Diego!

Tobey Tam has been active in the San Diego AWIS chapter since 1997. We owe much of the credit for the design and maintenance of our AWIS-SD website to Tobey, our Webmaster. She also has served as the Chair for the [Book Club](#), co-chair for the 2002 Gala, and a member of the Newsletter committee, Outreach team, and "Women in Bioscience" committee for the 1999, 2001, AND 2003 conferences. Tobey has been instrumental in initiating new programs within our chapter. In fact, among other successful ideas, she orchestrated the very popular 'Speed Mentoring'/Mentoring Happy Hour' and established our current membership database which will facilitate future networking/mentoring programs. Tobey aims to make AWIS-SD a more viable and visible organization within the local community and to continue strengthening it internally to best serve our members. Tobey's graduate research in Neuroscience at UCSD was complemented by post-doctoral research in Bioinformatics at the San Diego Supercomputer Center. Her versatility has allowed her to transition into patent law with a local law firm. She is a treasured and valued member of San Diego AWIS and we are happy to have her "on Board"!

Dual Citizenship

By Suzanne G. Brummett

Suzanne G. Brummett is an attorney in Carlsbad, California practicing exclusively in the area of immigration and nationality law and can be reached at Suzanne@americavisalaw.com.

Currently we are seeing an increase in the number of individuals seeking U.S. citizenship. This may be spurred by the desire to vote, a wish to increase one's job opportunities, or a need to seek the constitutional protections afforded U.S. citizens. Increased scrutiny of foreign nationals based on their country of nationality, increased enforcement and compliance requirements of U.S. immigration laws for non-citizens may also make acquiring U.S. citizenship even more appealing.

A number of individuals who chose to become U.S. citizens may also be eligible for, or claim dual citizenship. The concept of dual citizenship is sometimes a misunderstood concept due primarily to the fact that the U.S. government does not officially recognize it.

What is dual citizenship?

Dual citizenship occurs when an individual possesses two citizenships. The concept of dual citizenship recognizes that a person may have and may exercise rights of nationality in two countries and may be subject to the responsibilities of both. In practical terms, this may mean holding multiple passports.

Current U.S. law and policy

Although the United States does not formally recognize the concept of dual citizenship, it does not prohibit it either. Current U.S. nationality laws do not specifically mention dual citizenship. However, the U.S. government does recognize its existence in individual cases. While recognizing the existence of dual citizenship and permitting Americans to have other nationalities, the U.S. government does not endorse dual citizenship as a matter of policy because of the problems that it may cause.

Additionally, current U.S. nationality laws do not require a person to choose one citizenship over another. A person who is automatically granted another citizenship does not automatically risk losing U.S. citizenship. However, a person who acquires foreign citizenship may, by applying for it, lose U.S. citizenship if that person seeks foreign citizenship voluntarily and with the intent to give up U.S. citizenship. The person's statements or conduct can show intent.

How can one obtain dual or multiple citizenship?

Dual citizenship arises primarily because there is no uniform rule of international law governing the acquisition of citizenship. Each country has its own laws governing acquisition of citizenship. Individuals may therefore, acquire dual or multiple citizenship not by choice but rather by automatic operation of these different laws.

For example, a child born in a foreign country to U.S. citizen parents may be both a U.S. citizen and a citizen of the country of birth. Likewise a child born in the U.S. acquires U.S. citizenship upon birth but may also retain citizenship of his or her parents. Also, a U.S. citizen may acquire foreign citizenship by marriage, or a person naturalized as a U.S. citizen may not lose the citizenship of the country of birth.

Dual citizenship can arise in the following scenarios:

- Birth in the United States to immigrant parents who are nationals of a country which bases its citizenship on parentage;
- Birth outside the United States to one U.S. citizen parent and one who is not a U.S. citizen;
- Marriage to a national of another country may, in some cases, allow one to retain one's original citizenship and acquire that of a spouse;
- Naturalization in the United States by a foreign national and that act is not recognized by their country of origin as expatriation; and
- Naturalization of a U.S. citizen in a foreign state, provided the U.S. citizen does not have the requisite intent to give up his or her U.S. citizenship.

Which countries allow dual or multiple citizenship?

A number of countries now allow their nationals to hold dual citizenship. Currently approximately 90 percent of immigrants to the United States come from one of 92 countries that allow some form of dual citizenship or nationality.

As economic ties between nations continue to strengthen, so does the inclination toward allowing dual citizenship. A number of countries have changed their own laws to permit dual citizenship and to allow former citizens to regain their nationality. Some countries are now currently in the process of revising their laws to permit dual citizenship.

A complete list of all countries permitting dual citizenship and the requirements and limitations involved is quite extensive and involves a thorough understanding and analysis of foreign law. We provide a list below for your reference to a number of countries permitting dual citizenship.

List of countries allowing or encouraging multiple citizenship

Albania	Dominican Republic	Liechtenstein	Russia
Antigua & Barbuda	Ecuador	Lithuania	Saint Kitts and Nevis
Argentina	Egypt	Macao (with Portugal)	Saint Lucia
Australia	El Salvador	Macedonia	Saint Vincent
Bahamas	Fiji	Madagascar	Serbia (Yugoslavia)
Bangladesh	France	Malta	Slovenia
Barbados	Germany	Mexico	South Africa
Belize	Ghana	Montenegro (Yugoslavia)	Sri Lanka
Benin	Greece	Mongolia	Sweden
Bolivia	Grenada	Morocco	Switzerland
Brazil	Guatemala	Netherlands	Taiwan
Bulgaria	Haiti	New Zealand	Trinidad Tobago
Burkina Faso	Hungary	Nicaragua	Thailand
Cambodia	India	Nigeria	Tibet
Canada	Iran	N. Ireland	Turkey
Cape Verde	Ireland	Panama	United Kingdom
Chile	Israel	Paraguay	United States
Colombia	Italy	Peru	Ukraine
Costa Rica	Jamaica	Pitcairn Islands	Uruguay
Croatia	Jordan	Philippines	Vietnam
Cyprus	Latvia	Poland	
Cyprus (North)	Lebanon	Portugal	
Dominca	Lesotho	Romania	

What are the advantages of becoming a U.S. citizen?

Many dual citizens become U.S. citizens out of allegiance to the United States. However, a number of individuals also acknowledge the advantages to retaining another citizenship.

Some of these advantages include:

- Right to vote for elected officials at the federal, state and local levels
- Right to hold most city, state or federal offices, and the right to hold certain federal, state and city jobs
- Citizens can leave the United States and live in another country for unlimited periods of time without risk of losing their U.S. citizenship and travel may be facilitated
- Citizens can petition for immediate relatives (spouse, children and parents) with shorter waiting lists for green cards
- Citizens cannot be prevented from re-entering the United States and cannot be deported

- Citizens do not have the worry of renewing their green card every ten years
- Citizens who retire abroad receive full social security benefits (whereas green card holders receive only half their benefits) and citizens may be subject to fewer restrictions on estate taxes
- Citizens are eligible for more public benefits, such as Supplemental Security Income (“SSI”) and Food Stamps, and are eligible for certain types of educational scholarships and financial aid

What are some of the risks involved in maintaining dual citizenship?

Citizenship is an important factor in the integration process, and is a prerequisite for full political participation. Although dual citizenship has a number of practical advantages, it also carries additional responsibilities and possible risks. Specifically, some of the risks include:

- Risk of having to serve in two different armies.
- Failure to assimilate.
- Holders of dual citizenship may retain only limited citizenship benefits in their home country and may be precluded from holding office or voting there.
- Holders of dual citizenship can be subjected to the laws of their home country while traveling there.

Practical considerations

As a practical matter, it is much easier for individuals holding dual citizenship to work in, visit or move back to their country of origin. However, those holding U.S. citizenship must bear in mind they are required to follow U.S. laws. Some of these laws include:

- Choice of passport (U.S. citizens are required, in most cases, to use their U.S. passport when entering or leaving the United States)
- Tax law compliance
- Selective Service registration

Conclusion

While dual citizenship may not be for everyone, it certainly provides an option to some and a way of benefiting from the best of both countries. However, individuals who hold dual citizenship must familiarize themselves with the laws of each country and should seek legal advice from a licensed attorney or tax advisor to avoid problems.

For information regarding naturalization statistics see naturalization benefits on the INS website

<http://www.ins.usdoj.gov/graphics/aboutins/statistics/msrsep01/natz.html>

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**"Expanding Your Horizons" with the Outreach Committee
by Jodi L. Connolly**

The AWIS-San Diego Outreach Committee had their hands full Saturday, October 12th teaching young girls about science and engineering at the Expanding Your Horizons conference. Over 300 sixth to tenth grade girls from San Diego and Imperial counties participated in the one-day conference held at the University of California, San Diego. The Expanding Your Horizons conference is licensed and coordinated by the Math/Science Network and has been conducted in a variety of cities nationwide since 1976. However, this year was the first year for the conference in San Diego. Local sponsors of the conference included UCSD, The San Diego Foundation's Hervey Family Fund, Dow Chemical

Company, U.S. Department of Labor Women's Bureau, General Atomics, Qualcomm and San Diego Gas and Electric. The primary goals of the Expanding Your Horizons conference were to inspire young girls interested in science, technology and engineering and to demonstrate that women are fully capable of obtaining and excelling at careers in these fields.

The conference schedule included keynote speaker Dr. Aprille Joy Ericsson, an aerospace engineer from the NASA Goddard Space Flight Center.

Following the keynote talk, conference attendees were able to participate in four workshops of their choice, which were sponsored by a variety of different organizations and institutions, including UCSD, The Scripps Institute of Oceanography, Sea World, the San Diego Zoo, NASA Dryden Space Center, Birch Aquarium, the Museum of Man, the San Diego Sheriff's Crime Lab, and the Federal Bureau of Investigation.

The AWIS Outreach Committee sponsored two workshops, DNA/Genomics and The Engineering Challenge: Tower Building. The DNA/Genomics workshops were led by Outreach members Brinda Rana, Lara Marlin, Sarah Morgans, Diane Retallack, Vasu Pestonjamas, and Sarah Sagi, while Janet White, Christine Gramer, Jing Xu, Amy Palmer and Jodi Connolly led the girls in Tower Building. The challenge presented in the Tower Building workshop was to build the tallest structure possible using only spaghetti and marshmallows. To make the task slightly more challenging, the spaghetti and marshmallows were each assigned a cost (\$1 for spaghetti, \$2 for small marshmallows and \$4 for large marshmallows) and the girls were asked to consider cost-efficiency while building their structures. The workshops also stressed teamwork, which Christine Gramer noted was easily accomplished by the conference attendees, "I was pleasantly surprised by how outgoing the girls were. Even if some of them started out shy, almost all of them were providing input into the group's structure by the end of the period. It seemed like it was a natural progression too, they didn't need much prodding or encouragement from us to start talking and contributing." Janet White was impressed by the competitive spirit of the girls, which became evident when the Outreach group attempted to build their own tower. Once the workshop participants noticed that the Outreach team tower was taller, they quickly met the challenge and built not only a taller tower, but also a more cost-efficient one.

The Expanding Your Horizons conference was not only a learning experience for the attendees, but for the presenters as well. According to Janet White, one of the best parts of the conference was the long break at lunchtime, which she and other Outreach members used "as time to get to know our AWIS team members better and network with the other presenters." Overall, the conference was extremely successful and was enjoyed by both attendees and presenters.

The Outreach Committee's next activity will be to participate in the Girl Scouts Career Day on Saturday, November 2nd. AWIS-Outreach will sponsor a general booth at the event while several AWIS members have generously agreed to participate with a booth sponsored by their respective companies. If you are interested in participating in this or other upcoming Outreach activities, please visit: http://awis.npaci.edu/shtml/out_volunteer.shtml, or email Jodi Connolly at jconnolly@san.rr.com.

“Wine and Cheese in the Women’s Lounge...Strategy Sessions for Professional and Personal Development” Forums By Barbara Armstrong

This monthly discussion group is a lively forum where one can network to learn skills and strategies that will help one develop professionally and personally. Participants work in groups of six to identify common challenges in the work place.

The October Strategy Session featured panelists Janet White from Pfizer, Susan Forsberg from the Salk Institute, Meredith Dow of Kforce, and Joan Robbins from Immusol. The focus of the session was on identifying workplace skills for landing that dream job.

Two additional forums are scheduled for this year: November 18, and December 9. Currently, all forums are scheduled to take place at the Salk Institute in the conference room adjacent to the Hoffman Auditorium starting at 6 p.m.

Organized by Swanie Schmidt, Karin Zeh, and Anjali Kansagara, of the Networking Program Committee, an off-shoot of the Membership/Publicity Committee, the forums are a "members-only" event and pre-registration is required. You can sign-up online @ http://awis.npaci.edu/shtml/member_lounge_info.shtml.

AWIS - San Diego Chapter Welcomes New Members:

By Emily Leong and Susan Jennings

Angelica Abanes De-Mello	UCSD
Karen O. Akinsanya	Ferring Research Institute
Emily A. Barria	UCSD
Shannon M. Biros	The Scripps Research Institute
Karen Gail Brinker	La Jolla Institute of Allergy and Immunology
Suzu Brown	Phenomix
Emily Burke	The Scripps Research Institute
Janet E. Cawyer	San Diego Air Pollution District
Oanh Dang	UCSD
Samad Fahu	
Susan Jill Myers Fitch	Isis Pharmaceuticals
Adrinana Galue	Vertex Pharmaceuticals
Michelle Alexa Heine	Cal State Univ. Northridge
Lori Hipolito	
Barbara Hosein	Lighthouse Communications
Melanie Jennings	Zoological Society of San Diego
Laura L. Keener	
Lorraine M. Lica	
Melanie J. Marks	
Shahrazad Nouraini	Symbigene Inc.
Amena Rahman	Isis Pharmaceuticals
Julia S. Ronlov	Forward Ventures
Judith A. Sakrison	San Diego State University
Sharon Wiback	UCSD
Halina Z. Witkeiwicz	Salmedix Inc.
Wei Xiao	Johnson & Johnson Pharmaceuticals PRD
Jing Xu	
Lu Zhang	The Scripps Research Institute

September AWIS Book Review
The Shrine at Altamira by John L'Heureux
 Review by Hima S. Joshi

The ratings say it all.

1 star (could not finish)	1 vote
2 stars (could not recommend to others)	3 votes
3 stars (might recommend to others)	0 votes
4 stars (would recommend to a friend)	3 votes
5 stars (would read again)	1 vote

One thing is for sure. Everyone in the book club had an opinion about The Shrine at Altamira. One person got to the middle of the book and could not bring herself to read another word. Another member has read the book several times and will probably read it again. Some people barely survived the read, and others are telling their friends to go out and buy the book. Why such extremes? John L'Heureux has written a book that makes the reader feel. Whether it was disgust with the gruesome details, hatred of a particular character, sympathy with another character, resentment toward the author, fascination with his writing style, or amazement with the story, we all experienced strong emotions when we read this book. In fact, L'Heureux warns us about the emotional nature of his book at the very beginning...

This will be terrible; do not deceive yourself. We hear stories like this on television but we do not look, and when they turn up in newspapers, we glance away, because we know there are crazy people and people who are mad with love, but we refuse to know any more than that.

Despite this caveat, we readers cannot be prepared for what we are about to receive. From the moment Maria and Russell meet, we know that something very dark is going to happen, but we are unable to predict what it will be. Maria marries Russell with the hope that he will lift her out of the life that she has come to hate. Russell develops a profound attachment to Maria, and he hopes that his feelings will someday be reciprocated. After their son is born, Maria develops a profound attachment to motherhood. All of a sudden, the terrible thing that we have been awaiting finally happens. L'Heureux describes the event and its aftermath with heart-breaking detail. Some book club members were too shocked by the event and disgusted with the details to enjoy the book. In fact, one member said that she was angry with the author for inundating her with graphic descriptions. Others felt that these descriptions were beautifully written and were necessary to illustrate the gravity of the event that had occurred. We all agreed, however, that the story of Maria, Russell and their son is devastating. It is a tale that revolves around unanswered hopes and circular journeys. It is an account that evokes the strongest of emotions. Perhaps that is its greatest weakness...or its greatest strength.

AWIS Members On the Move.....

Amena Rahman, has joined ISIS Pharmaceuticals as a senior scientist in their Antisense Lead Identification Group. Her first goal is to get used to the 30 minute commute to Carlsbad.

CALBIOsummit 2003
March 10-11, 2003
San Diego Convention Center
The Science of Success:
Thriving in Challenging Times

CALBIOsummit 2003 will bring together the finest of the state's biotech and life science executives in a day and a half conference focused on the strategic business requirements of the life sciences community throughout California and the West Coast.

A fresh innovative program now includes a day of workshops (Monday, March 10) providing valuable hands-on training for key personnel on topics such as clinical regulatory management, IP, and investor relations. These workshops will be targeted at Manager and Director level employees and will be highly interactive for maximum benefit. Highly experienced practitioners and the CEOs will serve as the Workshop leaders, offering a dynamic approach, as well as lessons that can be leveraged by each participant.

This enriching program is followed the next day (Tuesday, March 11) by provocative and insightful sessions dealing with surviving and thriving in challenging times. Experts and **thought-leaders** from within the life sciences community, offering a rare chance to hear from professionals who are defining the trends in our industry, will present timely topics. From California to the world, the sessions are targeted towards senior level executives and exceptionally promising middle management staff of life science companies.

A new component of CALBIOsummit is the BIOCUM/san diego Annual Dinner to be held on Monday, March 10, 2003 as a celebration of the year's achievements in the Life Sciences industry. With expected attendance topping 1,000, attendees will include biotech, pharmaceuticals, diagnostics, medical devices, and BioIT executives. The city and state's life science and political elite will be in attendance at this prestigious event, along with a dynamic cross-section of industry, including telecom, software, academia and the military. The Dinner will feature a nationally recognized keynote speaker, awards to key supporters of the industry and a special video celebrating California's life science achievements.

This makes CALBIOsummit 2003 a 'don't-miss' event for leaders of every life science company in California.

Universal – Everybody Needs It
 Provocative – Think About It
 Strategic - Why Do It
 Practical – Do It

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.

November/December Newsletter staff:

Janice Payne	Tobey Tam	Joanne Mullen
Barbara Armstrong	Suzanne Brummett	Cathy Manner
Elizabeth Hickman	Margot Stiles	

Send news items, comments, and subscription requests to Barbara Armstrong via e-mail: baawis@nethere.com; or AWIS, PO Box 178096, San Diego, CA 92177-8096. If you would like your article included in the next issue, the deadline for inclusion is December 6, 2002.

**AWIS August Event:
Center for Reproduction of Endangered Species:
San Diego Zoo
By Tobey Tam**

On August 28, 2002, the Events Committee went on an "AWIS Members Only" outing at CRES (The Center for Reproduction of Endangered Species), which is located at Balboa Park. This event was limited to the first 30 AWIS members that responded to an open invitation email sent out earlier in the month. Three researchers at CRES -- Marlys Houck, Laura Keener, and Tandora Grant -- volunteered their time to head tours around the CRES facility for our group. Although there is a lot of research being done in various fields at CRES, we had a glimpse of some of the exciting work taking place within the facilities.

Marlys Houck, whose research background lies in genetics, gave us a brief tour of her laboratory and familiarized us with cryogenetics, which helps to save DNA of various cell types from both endangered and non-endangered species at the facility's "Frozen Zoo." She also showed us their latest karyotyping techniques, which aid in such medical problems as determining reasons for infertility.

Laura Keener, a clinical pathologist, introduced us to the clinical pathological world of various animals. This world includes research in fields such as hematology, chemistry, parasitology, urinalysis, and cytology. This research helps to solve "mysteries" that occur within the zoo, such as, seemingly unexplained sickness.

Tandora Grant, who works in applied conservation, shared her research through a short video that documented her work in the Caribbean with iguanas. She studies various aspects of iguana life such as habitat, feeding, and mating behavior. Her group also aids in establishing educational outreach programs in the Caribbean so that conservation projects will continue even after her research group leaves a local area.

Places such as CRES are important for preserving and maintaining the richness and diversity of our biosphere, particularly our fauna. To find out more about the facility please go to: http://www.sandiegozoo.org/conservation/cres_home.html

**AWIS September Event
Local Experts Speak on the Science, Policy and
Ethics of Stem Cell Research
By Elizabeth Hickman**

On September 10, Martin Friedlander, M.D., Ph.D., Associate Professor, Dept of Cell Biology, The Scripps Research Institute, Ewa Carrier, M.D., UCSD Division of Blood & Marrow Transplant, Mary Devereaux, Ph.D., Director of Biomedical Ethics Seminar Series, UCSD, and Michelle Grifka, California Coordinator of the Joint Steering Committee for Public Policy; joined members of AWIS and the community for a presentation and panel discussion entitled, "Stem Cell Research: Science, Policy and Ethics" at Scripps Institute in the W.M. Keck Amphitheater.

The Science

Dr. Friedlander began the evening's presentations with an overview of his work in abnormal angiogenesis. Abnormal angiogenesis is the cause of visual loss in age-related macular degeneration, where new blood vessels grow under the retina, and diabetic retinopathy, where abnormal vessels grow on top of the retina. Dr. Friedlander and his team have discovered a way to use adult bone marrow stem cells to form new blood vessels in the eye or to deliver chemicals that will prevent the abnormal formation of new vessels. This technique, which involves injecting the stem cells

into the eye, could potentially be used to stimulate vessel growth and address inherited degenerations of the retina in the first instance, and in the second, to treat ocular diseases resulting from abnormal retinal angiogenesis, the aberrant growth of new blood vessels in the eye, which is the leading cause of vision loss in the United States. To learn more about Dr. Friedlander's research visit: <http://www.scripps.edu/news/press/072602.html>.

Dr. Carrier followed with a presentation of her work with stem cell transplant for autoimmune diseases. Her research aims at developing clinical protocols for autologous stem cell transplants for diseases such as lupus erythematosus, multiple sclerosis, scleroderma and rheumatoid arthritis. Dr. Carrier argued that the uses and potential of adult stem cells calls into question the use of embryonic stem cells when adult stem cells could likely be used. Until recently, it had been thought that a blood-forming cell in the bone marrow could not give rise to the cells of a very different tissue, such as nerve cells in the brain. However, a number of experiments over the last several years have raised the possibility that stem cells from one tissue may be able to give rise to cell types of a completely different tissue. Dr. Carrier feels that researchers should learn to mobilize the mechanisms already in the human body before concentrating wholly on embryonic stem cells. To learn more about stem cells visit <http://www.nih.gov/news/stemcell/primer.htm>.

The Ethics

Dr. Devereaux sketched a map of questions to demonstrate the many ethical dimensions of embryonic stem cell research. Dr. Devereaux said there are three questions that come into play when drawing this map. First, what are we doing with them, i.e., is it morally justified using embryonic stem cells for reproduction and biomedical research? Second, where do they come from, i.e., is the source of the cell from abortion? Finally, what is an embryo and what is the moral status of their use? Here in lies the ambiguity of the meaning of an embryo and embryonic development. At what point does an embryo become a person? How a person classifies an embryonic stem cell, as cellular material or as a person, may provoke a person's moral standing. Dr. Devereaux concluded her presentation with an expansion the map. She raised questions such as: Are we too optimistic about the possibilities of embryonic stem cells and the payoff of such research? and What are the consequences of this research to healthcare and the equitable distribution of new therapies? Will it broaden the gap between the "have and the have-nots?"

The Policy

Ms. Grifka reviewed the current political landscape for stem cell research. It has been one year since President Bush allowed federal funding for stem cell research on currently available stem cell lines. However, because of unresolved issues, barriers to accessing the lines, uncertainty of the future, and the overall stigma of stem cell research, scientists are not applying for the monies as expected. The NIH has now stepped in to aid this problem and hopefully increase the number of applications for funds.

Ms. Grifka reminded everyone in the room that as scientists it is our responsibility to get involved and communicate our opinions and knowledge of stem cell research to those making decisions for us. Because most legislators do not have a background in science, it is important to educate them about the issue. Educating the public plays a large role also. It is essential that there be a public that is educated and informed about the ethical and policy issues raised by stem cell research and its applications. Informed public discussion of these issues should be based on an understanding of the science associated with stem cell research, and it should involve a broad cross-section of society. Scientists should communicate the results of their research in ways that will be readily understood

by the lay audience. For more information regarding the Joint Steering Committee for Public Policy and how you can get involved and voice your opinion, visit:

<http://www.jscpp.org/california/CALCLC.html>.

The evening ended with an interesting, and at times heated, panel discussion. While everyone in the room may or may not have agreed with everything presented by the lectures, it is guaranteed that the evening was educational, informative, and interesting.

Editor's note: UCSD School of Medicine will host Dr. Wendy Baldwin, Deputy Director of NIH. She will speak on "Stem Cells: The Policy & The Promise," NOV.14 @ 5pm-6:30pm, , Garren Auditorium.

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Posting Jobs in the AWIS newsletter: Contact Elaine Weidenhammer at eweiden@hotmail.com, or AWIS voicemail: 619-687-5580, or AWIS PO Box: 178096, San Diego, CA 92177-8096 for the details. Deadline for inclusion in the next AWIS newsletter is December 6, 2002. If submitting by snail mail, include the words ATTN: Elaine Weidenhammer on the bottom left corner of the envelope.

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