

**Winter 2007**

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**2007 Overnight Dates:**

April 20th – Quail Botanical Gardens  
May 4th – CRES  
May 11th – Chula Vista Nature  
Center

**BE WiSE Happenings**  
**Volume 1, Number 1**

**Overnight Theme Released**

The theme for the upcoming 2007 overnights is BE WiSE about BIODIVERSITY. This year we will explore the interactions of different species on our planet. Countywide, girls in grades 7-8 will be offered the opportunity to participate in an overnight. The good news is that all three overnights are scheduled and applications are on line at <http://www.sdsa.org/BEWISE/>

Quail Botanical Gardens will host the first overnight on April 20, 2007. This is the first overnight for Quail Botanical Gardens, and they are very excited to host the BE WiSE girls. The second overnight will be held at CRES (Conservation and Research for Endangered Species) on May 4, 2007. CRES is located adjacent to Wild Animal Park. As a previous host, CRES has always provided a most enriching program. The third overnight will be held at The Chula Vista Nature Center on May 11, 2007. The BE WiSE Program will provide transportation to all of the overnights for those who need it. Dinner and breakfast will be included for the participants. Each overnight will definitely provide the BE WiSE girls with an experience that they will not soon forget! We are so grateful for the generosity of the above hosts and BE WiSE donors.

Once a girl has experienced an overnight, they are a part of the BE WiSE community for life. As an Alumnae, the 8-12 grade girls are invited to attend events throughout the year that further their interest in science. This upcoming year will prove to be a source of many enriching Alumnae Events. Scheduled events include Dr. Sue Lowery/USD Department of Biology, Diane Retallack and others at The Dow Chemical Co., Dr. Bruce Westermo /SDSU Department of Engineering, Dr. Steve Barlow/SDSU Electron Microscopy, Behind-The-Scenes Tour of The San Diego Opera, Maggie Reinbold/ CRES Insects and Butterflies, Annmarie Cox/San Diego Archaeology Project, Dr. Nikos Gurfield/ San Diego County Animal Disease Diagnostic Laboratory and Judy Bishop/ Ford EcoCenter.

Continue to check out the web site for additional Alumnae workshops.  
[www.sdsa.org/BEWISE](http://www.sdsa.org/BEWISE)



## Alumnae In Action

Chelsea is a senior at The Bishop School this year. She has been involved in BE WiSE since she attended an overnight as an eighth grader. Chelsea wrote the following essay for her application to Stanford where she was recently accepted.

“Walking into an auditorium, the first thing that caught my eye was a chalk outline of a body surrounded by small, numbered, yellow evidence markers. Little did I know that this was a mock crime scene complete with shell casings and the victim’s belongings. The San Diego Science Alliance’s BE WiSE overnight for eighth grade girls had begun and we were intrigued from the start.

After being informed about the program by my science teacher, I submitted an essay about my love for science that allowed me to participate in the overnight stay at Mission Trails Park.

As the girls arrived, friendships instantly began to form as we attempted to solve the mystery killing depicted in the mock crime scene in front of us. This activity was then followed by a presentation by a woman who worked in the San Diego Police Department’s Forensics Lab. Immediately, she had our attention as she explained that the task of solving a similar crime using forensics.

At this age, the boys at my school were most often those who participated during math and science classes. At the overnight, I was inspired by the number of women with careers in science and thrilled to meet girls with whom I had something in common. Making new friendships and exploring all the different fields of science that were available to study, made me even more interested in learning more about science and engineering.”

## Xtreme Science: Botball

Botball (ro-BOT BALL) is a nationwide program where teams of middle and high school students design and build their own robot using a kit containing legos, motors, sensors (light, pressure, etc) and accessories. Students program their “bot” using modified C computer coding

In 2005, the first BE WiSE Botball team, 7 girls representing 6 schools around San Diego, was challenged to design a “domestic robot”. The team used a combination of light sensors and timing commands to program their bot to “clean-up” its room by sorting trash from recyclables. This team finished in the top 50% of teams, and received an award for good sportsmanship for demonstrating positive attitude and excellent teamwork.

**FUN FACT:**  
**BE Wise is 8 years old**  
**this year!**



**Introducing the BE WiSE  
Steering Committee:****Patricia Winter**  
BE Wise Program Chair**Kathryn Schulz**  
BE WiSE Educator Co-Chair**Andrea Cook**  
Consultant**Nina Drammissi**  
Lemon Grove School District**Danine Ezell**  
San Diego Unified School District**Jennifer Jackson**  
Chula Vista Middle School**Sue Lowery, Ph.D.**  
University of San Diego**Kim Luttgren**  
San Diego City Schools**Adrienne Marriott**  
SDCOE , CREEC**Katy McCowen**  
SkyPharma**Kendra McElree**  
Family Health Centers S.D.**Laura Meldrum**  
Society of Women Engineers**Maggie Reinbold**  
San Diego Zoological Society**Wendy Slijk**  
Canyon Crest High School**Cindy Spiva-Evans**  
San Diego Zoo**Nancy Taylor**  
San Diego County  
Office of Education**Hilde Van Den Berg**  
Miramar College**Cindy Wallace**  
Wild Animal Park**Mickie Beyer**  
San Diego Science Alliance,  
Exec. Director

In 2006, the second BE WiSE Botball team was given a challenge inspired by hurricane Katrina. Their Bot needed to “rescue” a variety of “people” (represented by foam balls of different colors) and get them to safety. The



team of 9 girls representing 6 schools (including two returning members) created a Bot that pushed balls off a platform and into the proper “safe area” by using touch and color sensors. This team finished in the top 12 teams at the head-to-head tournament.

This Spring 8th, 9th and 10th grade BE WiSE alumnae have an opportunity to be part of the third annual BE WiSE Botball team. Being on the team has many benefits as the girls learn to build and program robots (even if they have no prior experience), use their creativity to meet a challenge, meet other BE WiSE alumnae from around the county, and have a fun experience that looks great on college applications.

## Alumnae Update: Shannon Smith

I'm a 4th year student at Humboldt State University. I was in the very first BE WiSE group. The first event I attended was at the Rueben H. Fleet Science Center when they held the “WhoDun’It” exhibit. In addition to the first BE WiSE event I have been to many Alumnae events including: the Astronomy overnight at Mt. Laguna, Earthquake engineering outreach at UCSD’s Earthquake Center, General Atomics Fusion Facility, UCSD’s Supercomputer Center, Encouraging the Exploration of Engineers: An MIT Initiative, Mission Trails Regional Park Field Day, and an event at DOW Chemical. It has been great to meet girls who share the same passion that I do. Also over the years I’ve been introduced to many more aspects of science than I knew existed.

With connections from BE WiSE I got an internship at USD where I was able to do a science fair project there that won 1st place at the Greater San Diego Science Fair and 4 professional society awards. Since graduating high school in 2003 I started college at Humboldt State University as a Cellular/Molecular Biology major with a minor in Chemistry. Remembering how much it helped me, I tutor students in chemistry and biology to help them succeed in the sciences. I also participated in the Expanding Your Horizons Conference in Humboldt educating middle and high schools girls about the potential in science.



The opportunities that I have had are priceless. BE WiSE opens doors and encourages girls to stay interested in science. It truly is a spectacular program, organized by people who care about our futures and want to help us succeed in science. Not only that, on the web site they have resources to other web sites that are helpful. All in all, BE WiSE can be very beneficial to every girl in the program. Knowing firsthand how much difference my mentors have made in my life I try to volunteer whenever I can with BE WiSE events. *Shannon*

## Expanding Your Horizons

Expanding Your Horizons San Diego will hold its fifth annual conference on Saturday, March 17, 2007 at the University of San Diego. Once again, BE WiSE Alumnae in grades 8 - 10 are invited to attend. This hands-on science conference introduces girls to professional women in a wide variety of science related careers by inviting them to participate in 4 workshops of their choice.



**Expanding Your Horizons  
on the web:  
<http://www.sdsa.org/EYH>**

The workshops are led mostly by female scientists and engineers from business, research and higher education. Topics range from chemistry, physics and the life sciences to architecture, computer science, robotics and more.

Concurrent to the girl's conference program, is a strand for parents. BE WiSE also invites our Alumnae Parents to participate. The parent workshops are about college admissions, financial aid and other valuable topics for adults. Spanish translation is available for the parent workshops.

More information about Expanding Your Horizons San Diego is at <http://www.sdsa.org/EYH>. Student and parent registration can be completed on-line. For BE WiSE Alumnae and parents, please check the BE WiSE box as you complete the application. The BE WiSE Program will cover the costs for the BE WiSE Alumnae and parents.



## Alumnae Event , Dow Chemical

<http://www.dow.com>

On December 9th BE WiSE alumnae in 11th and 12th grade were hosted by the generous folks at Dow Chemical for some fun and informative workshops on topics including bioinformatics, bioprocessing, protein separation and automation. During the bioinformatics workshop the girls were able to learn about and use BLAST software that allows scientists to map the amino acid sequences of proteins that may be of interest for therapeutic use. Attendees were taught about how bacteria are used as “factories” to make proteins of interest. The alumnae were also fortunate to have had a tour of a bioprocessing facility where bacteria that make the proteins are grown. The automation presentation demonstrated how robots



are used to help scientists quickly extract the protein from the bacteria. All of this is part of the process for identifying, growing and purifying proteins for therapeutic use such as medicines and biosensors. The scientists at Dow were also kind enough to talk with the alumnae over pizza about the business of and

career path options available to them in the field of science. Overall it was an exciting and inspiring day. For more information on upcoming alumnae events be sure to check the BE WiSE website.

**FUN FACT:**  
More than 550 girls have participated in BE WiSE!

### Read All About it!

#### *BE Wise Is Mentioned in a Successful College Application Essay*

I have always held an interest in science. Learning how and why the physical world works is something that has never ceased to hold my attention. When I was little, I would stay up past my bedtime on Monday nights to watch NOVA with my Dad. Then, when I was in seventh grade, I was accepted into the Better Education for Women in Science and Engineering program (BEWiSE). Through BEWiSE, I visited science labs and went to seminars on such things as nuclear physics and genetically modified plants. I enjoyed these events, but I still didn't know if science research was for me.

In February of my junior year, I was invited to a BEWiSE seminar on the human brain at the Salk Research Institute. The seminar, which included a workshop on neurobiology and tours of the SALK neuroscience labs, was one of the most exciting things I had ever done. It was there that I held

**BE WiSE Funders:**

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**San Diego Women's Foundation**

**SeaWorld San Diego**

**The Winter Group**

**Zoological Society of San Diego**

a real brain for the first time. I remember how neatly it fit into the palm of my hand, and how even though it was dead and grey it felt to me like it each of its chloroformed neurons was pulsing and alive. I have always been fascinated by neuroscience, but that's the moment when I knew that I loved it.

After visiting Salk, I knew that there was nothing in the world that I wanted more than to work as a neuroscientist. That's when I decided to apply for a summer internship at the Scripps Research Institute. I think this was one of the best decisions I have ever made. Through the program, I was placed in a neurophysiology lab where I studied the physiological systems believed to contribute to chemical dependency and addiction. Because my lab was very specialized, I was required to do extensive reading about basic neurobiology and about the effects of various drugs on neurotransmission, just to understand what everyone in my lab was saying. To my surprise, with sufficient background knowledge I not only understood the scientists working with me, I also felt like I was one of them.

Rarely the brainiest student in my science classes, I had never thought that I was capable of understanding "hard" science books and papers, let alone teaching myself their contents. After a whole summer of reading science journals, I now know better. I also learned that labs are a place where I feel quite at home. I don't know where my passion will lead me next. But I do know that I have found it.

## News from BE WiSE Alumnae . . . .

Tara recently attended the Asian Film Fest which is a wonderful opportunity to explore a culture through film animation and the art of storytelling. This annual event is put by the Asian Film Fest based in Kearny Mesa. Beginning in May of 2006 seven students from all over San Diego became fixtures in this office. The students ranging from tenth grade to seniors meet twice a week regularly until July. In September the final projects were turned in and in October the short documentaries were premiered on the big screen at Hazard Center. This internship centered around making a five to ten minute documentary. The film subject matter ranged from suicide to immigration. The students were provided with cameras, tapes and extensive training. Every one of the students was highly successful and was able to create compelling and informational pieces to add to the Asian Film Fest. All of the students completed the project and were rewarded with a five hundred dollar stipend.

Herita used her BE WiSE experience in her college application essays and would like to be a pediatrician.

Sam is going to Germany as a foreign exchange student.

Victoria recently started her own charitable foundation with her mother.

### ***A REMINDER ABOUT ATTENDANCE AT BE WiSE EVENTS***

All of the BE WiSE activities, Overnights and Alumnae Events, require an RSVP for attendance. When you RSVP, you are asking to be a participant and we are planning on your attendance. Many girls make an effort to be a part of an event, and many do not make it into the event because registration is filled.

If you RSVP, and do not show up on the day of the event, you have caused some other girl to miss out on the opportunity that you registered to attend. While we understand that last minute emergencies may come up, please give us the courtesy of a phone call or e-mail as early as possible so that we can offer your place to someone else. It is important that you make every effort to attend, if you have submitted an RSVP.

Being a part of the BE WiSE experience is awesome! All of the science venues that you visit provide you with rich opportunities to further your knowledge in the field of science and engineering. The gracious facilitators that present you with opportunities to pursue your science interests are volunteering their time and plan on your attendance.

**THEY WANT YOU THERE!**

Thank you for consideration in this matter.

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***BE WiSE is a program  
of the San Diego  
Science Alliance  
[www.sdsa.org/](http://www.sdsa.org/)***

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