

# MATH/SCIENCE NETWORK BROADCAST

Visit our website at <http://www.expandingyourhorizons.org> or [www.eyhnet.org](http://www.eyhnet.org)

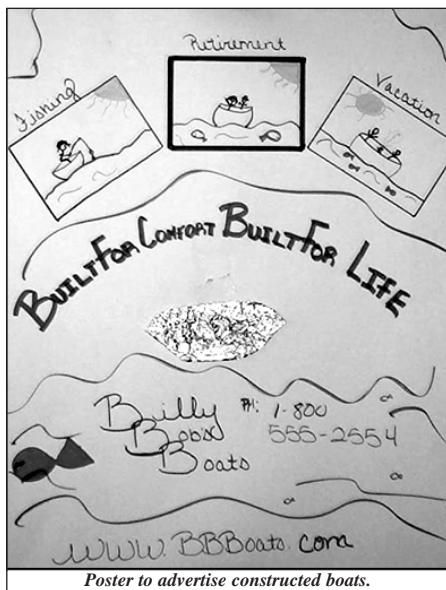
Summer 2002

## EYH in 2002

### New Mexico Women Scientists Host Los Alamos Conference

by Dana Roberson; New Mexico Network for Women  
in Science & Engineering

On March 13, 116 girls from twenty-one schools throughout northern New Mexico attended the EYH conference at Los Alamos Research Park. Sponsored by The New Mexico Network for Women in Science and Engineering (NMNWE), this year's conference enjoyed continued successes.



Poster to advertise constructed boats.

Of the thirteen workshops scheduled, more than half were different from those presented the previous year, with new presenters staffing them. It has been an ongoing tradition of this conference to allow presenters the opportunity to take a year or two off or possibly volunteer for other conference tasks. This serves to continuously revitalize the conference by allowing more professionals to experience it.

Before the first workshop, girls were teamed to plan the construction of a boat, using aluminum foil, that would float and support the maximum number of pennies. Each team received a single piece of foil and proceeded to design their boat. A competition followed where the winning boat from each group competed with the winner of each of the other groups. All together there were fourteen groups with ten girls in each group. Again the builders competed to see how many pennies each boat would accommodate before sinking.

The afternoon activity involved each team developing a commercial advertisement to sell their product. An award was presented to the team that displayed the most interesting, innovative, and compelling presentation involving all the members of

*Continued on page 2*

### First Ever Cuesta College Conference ...Two Years in the Making

by Julie Pandosh; Cuesta College

Cuesta College, a community college on the central coast of California, hosted its first annual EYH conference this past March. The planning phase of the project took two years, but the groundwork laid was worth it.

The first year was spent raising enough funds to run three years of conferences. The fundraising committee worked in cooperation with the Cuesta College Foundation and succeeded in raising over \$35,000. Most of the money came from local corporations and non-profit organizations. One national funding source was the Engineering Information Foundation. The next step for the fundraisers is an endowment fund! Our second year was spent organizing and planning. This first conference exceeded our expectations!

Diana Forbes, aka "The Gadget Grrl" was an outstanding keynote speaker. This comedian was great fun, showing the girls strange inventions sent her by people with aspirations of 'striking it rich'.



Rockin' & Rollin' workshop on earthquake safety

The conference was able to accommodate 165 girls; we ran twenty-four workshops, and three parent workshops. Women college students majoring in mathematics, science, or engineering served as assistants to presenters. The conference proved to be a great opportunity for these young women as well, being both mentors and mentees.

The variety of workshops included "Rockin' and Rollin' in the City," all about making buildings earthquake safe, and "Manufacturing Medicine," an opportunity for girls to manufacture and test a cure for scurvy (lemonade of course!). "Let's Make Soap", an exploration into chemical bonding, was the most popular workshop. The girls let us know that they would rather have had pizza for lunch instead of sandwiches, but in spite of that, 98% said they would come again!

EYH  
Sites 2002

**Alabama**  
Mobile

**Arizona**  
Tucson

**California**  
Atwater  
Chico  
China Lake  
Los Angeles  
Rohnert Park  
San Bruno  
San Diego  
San Jose  
San Luis  
Obispo  
San Ramon  
Santa Clarita  
Santa Cruz  
Stockton  
Turlock  
Visalia

**Colorado**  
Boulder  
Denver

**Florida**  
Orlando

**Idaho**  
Boise

**Illinois**  
Carbondale  
East Peoria  
Normal  
Park  
Ridge/Niles  
Springfield

**Indiana**  
Evansville  
South Bend

**Kansas**  
Emporia

**Maine**  
Orono

**Massachusetts**  
Pittsfield

**Missouri**  
Columbia

**Kansas City**  
Rolla  
Springfield  
St. Louis



## **In Code, A Mathematical Journey**

Book Review by Meaghan Fitzgerald  
Junior, Castilleja School

When, at the age of sixteen, Sarah Flannery won both the Irish Young Scientist of the Year and the European Young Scientist of the Year awards, she showed the world that she was destined for greatness. In her refreshing and creative new book, *In Code, a Mathematical Journey*, she shows girls of all ages that they too can stun the world as well. Anything is possible in the world of mathematics and science with such a bold and forthcoming guide as this young author.

In this delightful book, Sarah Flannery speaks of her interest in the science of cryptography and both making and breaking codes. In a clear concise way she explains these difficult concepts with examples of codes used in the past. As many of these codes are based on logarithmic and exponential rules, a solid understanding of mathematics is useful, but not required to enjoy *In Code*.

Witty memoirs of Flannery's life growing up in an Irish household filled with mathematicians, such as her father, David Flannery, and scientists such as her grandfather, a wizard with machinery and a passion for astronomy lead to explanations of difficult and obscure theorems and cover much of the ground in between. Sarah speaks on how she became interested in cryptography and of the experiments on the subject for which she won the titles of Irish and European Young Scientist of the Year.

*In Code* also includes a number of puzzles and mathematical brain-teasers for the reader to try. An example is the One Hundred Metre Race Puzzle which asks; "if A, B and C run a 100 metre race, each running at a uniform speed throughout, and if A beats B by 10 metres and D beats C by ten metres, by how much does A beat C?" The answer might not be what you expect! Miss Flannery also includes a useful appendix of answers to her riddles.

Over all, this book is a wonderful read for the curious mind, especially one interested in cryptography. This up-and-coming young mind of the mathematical world is someone who will be appearing again and this introduction to her life and interests is a charming example of what girls can accomplish in math and science.

## *Los Alamos Conference (continued from page 1)*

the teams. The results of this "commercial" can be seen on the LAWIS Web site: (<http://www.t12.lanl.gov/home/lawis/EYH02/Posters/index.htm>).



**Dynamic Material Testing**

The first place winning teams were awarded signed books by keynote speaker Missy Cummings. The book is entitled "Hornet's Nest: The Experiences of One of the Navy's First Female Fighter Pilots".

Morning and Afternoon Workshops were extremely varied and were entitled: "Creating Your Presence on the Web" "Toys and Science", "Robotics", "Fun Properties of Fluids", "Scanning Electron Microscopy", "Crystal Growth", "Dynamic Material Testing",

"Let's Make Ooey Goopy Polymers", "Tails of a Veterinarian" <http://www.t12.lanl.gov/home/lawis/EYH02/Posters/index.htm>, "Biology of Tuberculosis", "Secrets of the Past", and finally "Sleuthing with DNA".



**Goop Workshop  
San Jose State University EYH**

## **The Sally Ride Science Club™, Smith College, and Hasbro Launch TOYTECH, a National Toy Design Competition**

"TOYTech is a perfect vehicle to capture the imaginations of both girls and boys" said Sally Ride, America's first woman astronaut and the founder of the Sally Ride Science Club. "Toys have a universal appeal and TOYTech is a great way to illustrate that engineering is just plain fun. Furthermore, the teamwork involved, and the sense of accomplishment that will result, will build the sort of camaraderie that shows participating kids that they are not alone in their interests."

In elementary school as many girls as boys are interested in—and good at—math, science and technology. Unfortunately, beginning around the sixth-grade, more girls than boys drift away from these subjects. To keep those girls in the engineering pipeline, Dominico Grasso, Chair of Smith College's Picker Engineering Program, set out to devise an engineering design competition that would capture the interest of both girls and boys—and defy prevailing stereotypes about gender and technology.

Hasbro, Inc., a leading U.S. toy maker, is an early and enthusiastic backer of the project, and has pledged funds to support the competition

for the first year. "Hasbro is proud to be involved in an effort that combines education, fun, exploration and collaboration."

TOYTech guidelines and application forms will be available beginning in September 2002. Both boys and girls may participate, but at least half of the members of each team must be girls. The competition will culminate in a National Showcase, open to all participating teams, to be held at Smith College in late Spring, 2003.

The Sally Ride Science Club is operated by Imaginary Lines, Inc. [<http://www.imaginarylinesinc.com>], a company founded by astronaut Sally Ride to support girls' interest in science, math, engineering and technology. The Club [<http://www.sallyrideclub.com>] was created to keep girls engaged in science adventures by connecting them to people, information, and attitudes that will nurture their relationship with science at a critical time in their lives. The company runs Community Science Festivals around the country and has organized parent-daughter space camps and summer science camps for girls.

## Betty Levitin Moves On Stacey Roberts-Ohr Moves In

Betty Levitin's last report to the Board as Executive Director of the Math/Science Network ended: "It has been an honor to work with you all and a privilege to be a leader of Expanding Your Horizons." The Board extended its grateful appreciation for her work on the Board from 1986 to 1994, followed by an eight year period of dedicated employment as National EYH Coordinator and Executive Director. But Betty will not be going away completely. The new listserv for EYH coordinators will "go live" this summer, and Betty will be the list mom until the end of the year. She will also continue to help with fund raising as well as with efforts to obtain longitudinal data on the effectiveness of EYH.



Stacey Roberts-Ohr

Stacey Roberts-Ohr, new EYH National Coordinator, comes to the Math/Science Network from her position as coordinator of Field Experience in the Department of Elementary Education at San Francisco University. She has two Masters Degrees, in social work from the University of Southern California, and in Jewish communal service from Hebrew Union

College-Jewish Institute of Religion, as well as a Bachelor of Science degree in Family and Community services from Michigan State University. The Board is looking forward to working with Stacey as the Network's chief liaison between the EYH conferences, their conference coordinators, and the Network. For her part, Stacey is anticipating the new challenge. In her own words "One of the best parts of this position is that I get to be a support provider to EYH sites all over the United



Levitin admires 'going away' gift, an elegant knitting basket and yarn to support her knitting hobby.

States. I am looking forward to working with a wide variety of people. It's exciting to think that I will get to work with people from all over the U.S who share a common goal. Another best part of the job so far is that the Network office is minutes from

## Impressions of a Local Conference

by Teri Perl

It was a blustery cold morning up there. The first clue that I was definitely in the right place was the line of yellow school buses ... at least five of them. I parked and asked a small group of adults and girls the way to registration. As usual, I had gotten confused, this time about the starting time, and missed the opening session. Also just missed Chris Case. I managed to take away a registration packet and one of those great red ponchos. The girls also received a very substantial backpack. Armed with a list of rooms and workshop titles, I headed for a couple of buildings to check out the sessions and take some photos.



Designing Straw Bridges: Engineering Workshop

My general impression was "WOW"!! What an incredible scene. Seemed like there were millions of workshops going on during that first session. Also, clearly visible was a very mixed group of attendees ... girls of many races and nationalities. I took photos in three sessions and left the parking lot while some girls wearing white suits were completing one phase of their soil investigation workshop.

The conference attendance was 1226 girls + 80 adults!!

Note also, the huge number of facilitators all round, young men and women, easily identifiable in their green EYH T-shirts. All very impressive!!

**Saturday, March 8th, 2003**  
**Official EYH Conference date**  
**Official Colors: Royal Blue text on white**

my home, and the Mills campus is indescribably beautiful."

Stacey started working on the planning for the 2002-2003 EYH conferences in mid-June after a great camping trip in Northern California. Betty plans a brief respite to catch up on other areas of her life before seriously considering new job offers. Her ideal new position would involve working in the gender equity area.

### Montana

Bozemon  
Butte  
Kallispell

### Nebraska

Bellevue  
Chadron  
Crete  
Lincoln  
Omaha

### New Mexico

Albuquerque  
Los Alamos  
Silver City

### New York

Ithaca  
Westchester

### North Carolina

Raleigh

### North Dakota

Fargo  
Jamestown

### Ohio

Wooster

### Oregon

Klamath Falls  
Portland  
Salem

### Pennsylvania

Pittsburgh  
University Park

### Rhode Island

Portsmouth

### Tennessee

Murfreesboro

### Texas

Arlington  
Austin(2)  
College Station  
Denton  
El Paso  
Farmers Branch  
Fort Worth  
Houston  
Kerrville  
Killeen  
Lancaster  
Nacogdoches  
Richardson  
San Antonio  
Stafford  
Temple  
Tyler  
Wichita Falls

### Utah

Orem

### Washington

Bellevue(2)  
Bellingham  
Centralia  
Des Moines  
Ellensburg  
Olympia  
Richland  
Seattle(2)  
Spokane

### Wisconsin

Madison  
Platteville

**Are you an EYH alumnus? Join our longitudinal study.**  
**Register at <http://echo.gmu.edu/surveys/contributions.php?survey=horizons>**

## Interesting Web Sites!

<http://www.nasa.gov/women/milestones.html>

This site shows the history of women in aviation and space and how the contributions of women to flight and aeronautics date back almost to the first successful powered flight on December 17, 1903.

<http://www2.edc.org/makingmath/>

Making Mathematics matches students and teachers in grades seven through twelve with professional mathematicians who mentor them via electronic mail as students work on open-ended mathematics research projects. Click around for lots of student activities such as the Simplex Lock puzzle. Great resource for teachers!

<http://www.uic.edu/orgs/gem-set/welcome.htm>

This interesting program, sponsored by the Women's Bureau of the Department of Labor, called Gem-SET (Girls' E-Mentoring in

Science, Engineering & Technology), provides mentoring services for girls and women. "We believe that women in SET fields can help encourage girls to take the classes in science, engineering and technology; show girls that SET careers are fun, exciting and challenging; and share experiences to help girls overcome concerns and barriers."

<http://www.edc.org/CCT/pwg/>

This website showcases the range of solutions that innovators across the country have developed to address key gender equity issues in science, engineering and mathematics, at every developmental stage in women's lives.

<http://www.womentechworld.org/bios.htm>

Inspiring stories about women in traditionally male tech occupations. Find out what career path led them to where they are today and read their career advice to other women. Featured are over 100 women from different occupations and ethnic backgrounds.



*Practicing Mouth-to-Mouth at Skyline College EYH*

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Stacey Roberts-Ohr

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