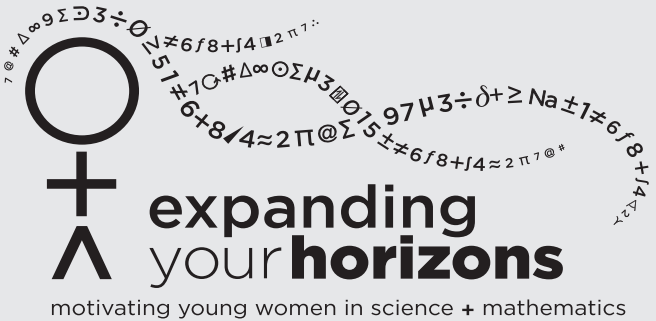


SAN JOSÉ STATE UNIVERSITY
EYH 2008
30TH ANNUAL CONFERENCE



Saturday, March 8, 2008
www.expandingyourhorizons.org
expandingyourhorizons@sjsu.edu

For 6th to 9th grade young women
and interested adults, presented by
SAN JOSÉ STATE UNIVERSITY and the
EXPANDING YOUR HORIZONS™ NETWORK

EXPANDING YOUR HORIZONS™

SATURDAY, MARCH 8, 2008
SAN JOSÉ STATE UNIVERSITY

Conference Schedule

The conference begins **promptly** at 9:15 am Saturday, March 8. Please pick up your conference information packet (containing your workshop assignment) between 8:15 am and 9:10 am on the day of the conference at the STUDENT UNION, San José State University. *Groups should arrive before 8:30 am.*

- 8:15 Registration begins at the STUDENT UNION
- 9:15 Welcome: **Bem Cayco**
EYH Coordinator
Professor, Department of Mathematics
San José State University
- 9:20 The Brainiacs
Lawrence Hall of Science
- 10:10 Snack
- 10:25-11:30 Morning Workshop I
- 11:45-12:50 Morning Workshop II
- 12:50 Lunch
- 1:40-2:45 Afternoon Workshop
- 3:00 Closing Remarks, Door Prizes, Conference Evaluation
- 3:30 End of Conference

Participants are expected to remain on campus and attend all scheduled activities.

CONFERENCE SPONSORS

Expanding Your Horizons Network

*American Association for Artificial Intelligence
Amgen
Association for Computing Machinery
Bayer Pharmaceuticals
Genentech Foundation for Biomedical Sciences
Google Inc.
HOME Campaign-Lawrence Livermore National Laboratory
Lam Research
Lockheed Martin
Puget Sound Center for Teaching, Learning and Technology
Seagate Technologies
The Henry Luce Foundation
Underwriter Laboratories*

San Jose Conference

*American Assoc. of University Women:
Sunnyvale-Cupertino, San Jose, and Los Gatos Branches
Expanding Your Horizons Network
Offices of Education:
Monterey, San Benito, Santa Clara, and Santa Cruz Counties
San José State University - College of Engineering & College of Science
Seagate Technologies
Society of Women Engineers, Santa Clara Valley Chapter
Women in Science and Engineering, SJSU Chapter*

EXPANDING YOUR HORIZONS™

Saturday, March 8, 2008
San José State University

STUDENT REGISTRATION FORM

PRINT CLEARLY. USE ONE FORM PER STUDENT. **INCLUDE A SELF-ADDRESSED STAMPED ENVELOPE AND A CHECK TO COVER \$18 PER STUDENT (INCLUDES LUNCH).**

NAME _____
Last First

MAILING ADDRESS _____

CITY _____ ZIP _____

PHONE _____ GRADE _____

SCHOOL &
SCHOOL DISTRICT _____

- Check if you want a VEGAN lunch.
 Check to request fee waiver (applies only to girls in school lunch programs)

If you have other special needs, please enclose details so we can help you during the conference (e.g., signer or interpreter).

Please read the Student Responsibility section opposite. A photographer may take pictures of you or your child. These photos may appear on our web site or in publications. If you register yourself or your child, you have given us permission to use your/her photos.

- NO** I grant permission for my child to receive emergency first aid, while attending the EYH Conference at SJSU.
 YES

PARENT/GUARDIAN SIGNATURE (required)

STUDENT WORKSHOP CHOICES

Write the numbers of your first 10 choices. You will be assigned 3 workshops.

1st	2nd	3rd	4th	5th
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6th	7th	8th	9th	10th
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

ADULT REGISTRATION FORM

PRINT CLEARLY, **INCLUDE A SELF-ADDRESSED STAMPED ENVELOPE AND A CHECK TO COVER \$18 FOR EACH ADULT. THIS INCLUDES LUNCH.**

NAME _____
Last First

MAILING ADDRESS _____

CITY _____ ZIP _____

PHONE _____ PARENT TEACHER

You may silently observe student sessions your students/daughters are not currently attending. If you wish to attend any adult workshops, please circle and rank your choices below (up to three).

A1 A2 A3 A4

EXPANDING YOUR HORIZONS™

WHY SHOULD YOU COME?

- *Discover how interesting and fun math and science can be*
- *Learn about career opportunities for women in mathematics, engineering, and science*
- *Form personal contacts with women working in traditionally male occupations*
- *Meet other young women interested in science, math, and engineering*

Who is invited?

- Young women in grades 6-9
- Interested adults

What will we do?

The conference begins with an opening welcome and presentation. The rest of the day is devoted to workshops. Each workshop is a small class involving hands-on activities led by women who have careers in math, science or engineering. All workshops provide an opportunity for you to experiment in a specific area such as computer science or medicine. You will attend three workshops. We will provide lunch.

Student Responsibility

If you attend this conference you must be mature enough to follow instructions and directions provided by signs and guides on campus. **Also, you must attend all the events scheduled for you, including lunch, and remain on the SJSU campus from 9 a.m. until the conference ends at 3:30 p.m.**

REGISTER EARLY!

Often the conference is full several weeks before the actual conference date. Also, popular workshops fill up quickly and early registration will help you get your top choices. If your choices are full, we will place you in other workshops. We think they are all terrific, and you may discover some great careers you had not considered before.

Registration Fee

The fee of \$18.00 (which applies to both students and adults) includes lunch. Mail your form, a check (made out to EYH-SJSU), and a self-addressed, stamped envelope to:

**EYH Coordinator
Department of Mathematics
San José State University
San Jose, CA 95192-0103**

INFORMATION ABOUT GROUPS, FEE WAIVERS, CANCELLATIONS, ETC.

Groups: If you wish to bring a group of 10-40 students, call (408) 924-5074 between January 21 and February 1, 2008. Send the registration forms and checks for your students all together and indicate you have a reservation. These must be postmarked by Friday, February 8. Groups must provide chaperone(s) with one chaperone designated to oversee at most 10 girls, e.g. a group of 25 needs 3 chaperones. We reserve the right to limit the size and number of groups.

To request fee waivers and cancellations: (408) 924-5277

A student's application fee may be waived if the student is in a school lunch program. Please check the appropriate box on the student application form.

Refunds: Fees will be refunded if you call (408) 924-4917 before 5:00 p.m. on Feb. 27, and cancel; or if your application arrives after the conference is full.

All other information (such as whether conference is full): (408) 924-4917

BIOLOGICAL/MEDICAL WORKSHOPS

1 DID HUMANS TRADE CHEWING POWER FOR A BIGGER BRAIN?

Humans share a common ancestor with chimpanzees, gorillas, and orangutans. An interesting event that occurred about 2.4 million years ago has given us a bigger brain and a smaller jaw today. We'll use bioinformatics tools to investigate what might have happened to our DNA that allows our brains to grow much bigger than the chimpanzees' and other great apes' brains.

*Wendy Lee, Graduate Student, San Jose State University;
Mouna Jarbi, Santa Cruz Biotech; Annie Hung and Nancy Fong,
Graduate Students, San Jose State University*

2 EPHALUMPS AND WUZZLES

"Doc says you have what?" Learn about common eye conditions and see what they really look like. Let's dissect an eyeball!

Wani Wynne, Optometrist, SSF Kaiser Permanente Medical Center

3 MEDICAL DETECTIVES

Learn how scientists use epidemiology and solve medical mysteries like disease outbreaks and how they spread. We'll follow clues and solve the mysteries — prizes at the end!

Candra Abraham, B.S., M.P.H., Biologist & Health Educator

4 MICROBE HUNTERS — WHAT'S BUG IN YOU?

Come and learn how medical microbiologists help doctors to diagnose bacteria-related diseases. We will identify some medically important bacteria, fungi and parasites, and do some interesting hands on experiments, such as streaking/examining agar plates, reading microorganisms under the microscope.

*Cheryl Tau, Clinical Laboratory Scientist; Indre Budvytiene,
CLS; Shannon Sockett CLS*

5 "REWIRING" THE BRAIN

Is your brain hard-wired or flexible? Can it adapt on its own to the world around you, or do you need to constantly give directions to your brain to learn? We rely on our brains to sense and interact with the world around us. With this workshop, you'll become more aware of just how much learning your brain does for you effortlessly. Put on special prism goggles and run experiments using hand-eye coordination to put your brain to the test!

Jeannie David, Workshop Leader

COMPUTER/MATHEMATICS WORKSHOPS

6 BRINGING MATH TO LIFE

Find out how math is alive around us, in art, environment, culture, and our communities.

Katy Suld, South Bay Area Director, Girls Moving Forward

7 KALEIDOCYCLES AND SYMMETRY

Participants will construct an individually designed 3-dimensional kaleidocycle of both geometric and artistic interest.

Nedra Shunk, mathematics professor Santa Clara University; Betty Weiss, mathematics professor West Valley College; Phuong Lam, mathematics professor Foothill College

8 LOVE AT FIRST BYTE

Write a computer program in BASIC! Debug (fix) an adventure game program. Write a madlibs story on the computer and play with other computer games.

Adrienne Jardetzky, Senior Director, Network Appliance

9 THE HUMAN INTERNET GAME

Have you ever wondered how the Internet works? When you type www.myspace.com, how does your computer connect to Myspace? The Human Internet Game (HIG) is a fun, interactive activity designed to teach you how the Internet operates. You will take on roles of computer devices and work together to route as many "human" packets through the network as fast as possible.

Yanting Li, Software Engineer, Cisco Systems, Inc.

10 YOUR NAME HERE

Create your own web page or blog using MediaWiki markup, graphics, HTML markup. Workshop instructions are posted at http://www.editthis.info/expanding_your_horizons/.

Alta Elstad, Technical Writer, Sun Microsystems Inc.; Mary Nguyen, Senior Software Engineer, Synplicity Inc.; Diane Scott, Partner Systems Engineer, Sun Microsystems Inc.

11 USING MATH IN REAL LIFE — TRADING IN THE STOCK MARKET

Have you ever wondered what the stock market is and how it works? Come and learn how to read stock charts, pick good stocks, and buy and sell stocks!

Melanie Swan, hedge fund manager, registered investment advisor and futurist, Cygnet Capital

12 TOTALLY INTO TELEVISIONS

How do TVs work? Why are some so heavy and others so light? We'll show you inside all different types of TVs, talk about how they work, and you will get to make some images of your own!

Lindsey Sunden, Systems Engineer, Texas Instruments DLP Products; Colleen Barneson, Electrical Engineer, Texas Instruments

13 GOOGLE GUIDE: MAKING SEARCHING EVEN EASIER

Google is so easy to use, why attend this workshop? If you're like many people, you use only a small number of Google's services and features. Learn how to go beyond Google's deceptively plain interface and take advantage of many shortcuts and underutilized capabilities.

Nancy Blachman, author and developer of Google Guide, www.googleguide.com

EARTH AND ENVIRONMENT WORKSHOPS

14 MAGIC OF WATER

Become spell bound with a whiz-bang performance of the water cycle, non-point source pollution, water quality, stream stewardship and water awareness. The Water Wizard will demonstrate the critical importance of this resource and how your behaviors affect the supply — who knew water could be so much fun!

Kathy Machado, Education Outreach Coordinator, Santa Clara Valley Water District

15 RENEWABLE ENERGY FOR EVERYONE

Come learn about renewable energy and what the City of San Jose is doing in your neighborhoods!

Jesse Denver, Workshop Leader

16 CLINGING FOR DEAR LIFE: EXPLORING SEAWEEDS FROM WAVE-SWEPT ROCKY SHORES

Students will examine seaweeds, exploring how they survive—with ease—one of the most intense habitats on Earth. We will think about life amidst crashing waves where temperatures are extreme and there is no way to hide.

Katie Mach, PhD Candidate in Marine Biology, Stanford University; Jennifer Skene, PhD Candidate in Marine Biology, University of California at Berkeley

PHYSICAL SCIENCE WORKSHOPS

17 FOOD ON FIRE: MEASURING CALORIES

My favorite food has how many calories?!? Build a calorimeter and use it to determine the number of calories stored in common foods.

Clare Lawson, Sr. Director of Systems Engineering, Zing Systems, Inc. and Hannah Lewbel, Product Design Engineer, Element Labs

18 LIFE IN A VACUUM

Vacuums are not just for cleaning! Learn about silicon wafers and how a vacuum is used to make integrated circuits. Coat surfaces with metal films in our plasma chamber and learn how these are used to make such things as mirrors. Find out how water, steam and ice can exist at the same time when we perform experiments in a vacuum.

Kathy Arnold, R&D Program Manager, Agilent Technologies

19 MAGIC TRICKS FOR SCIENCE—SMART CHICKS!

Learn three very cool magic tricks that take advantage of everyday physical properties! Leave your wand behind — using stuff you can find in you kitchen, we'll do tricks that will leave you spellbound. Handouts at the end so you can practice and perform at home!

Kirstin Milks, Bioscience Graduate Student, Stanford University

ENGINEERING WORKSHOPS

20 BENDING, BOUNCING AND COLOR MIXING: PLAY WITH LIGHT

Find out for yourself how light bends, reflects without mirrors, and travels along curves and loops. Learn how light can be used to transmit your phone calls and make up color displays.

Shalini Venkatesh, Optical Physicist, SmallTech Consulting LLC, Menlo Park; Annette Grot, Avago Technologies, San Jose; Lisa Seeman, Graduate Student of Electrical Engineering, Stanford University.

21 GIRLS ROCK!

Girls learn the basics of audio engineering and recording technology, then work together to make their own music recordings!

Leah Smith, Women's Audio Mission

MATERIALS SCIENCE WORKSHOPS

22 M&M'S (MAGICAL MEDICAL MATERIALS)

A hands-on experience with the shape memory and superelastic material, Nitinol. Activities will include aspects of medical device design and manufacture, phase transformation in metals and a special surprise.

Michelle Bartning, Development Engineer, Nitinol Devices & Components

23 POLYMER PANACEA

Enter the bouncing, oozing, rubbery world of polymers. From your pajamas, chewing gum, toothbrush to bike tires, polymers are everywhere! How are they the same? How are they different? Get your fingers dirty making, testing and comparing polymers. Why do some bounce and some splat? Learn what gives polymers their amazing range of properties.

Linda De Young, Ph.D., President, IND Enabling Consulting

24 MATERIALS MADNESS

How do you make a flower shatter like glass? Ever met a metal with a memory? Why does aluminum foil bend while china plates break? Do we really eat the same stuff cars are made out of? Come discover how materials shape the world around you!

Whitney Gaynor and Cynthia Ginestra, Materials Science and Engineering Graduate Students, Stanford University

25 POLYMER PLAYGROUND

Make a polymer (gak) using ordinary household chemicals and discover that "polymers are us."

Lachelle Arnt, Scientist at The Clorox Company; Susan Bernhard, Scientist at Elan Pharmaceuticals; Stacie Hunt, Product Developer at The Clorox Company

26 STRANGE LIQUIDS

The way liquids flow can be really strange. Some are thin, some are thick and some are springy. Come learn about the difference between a polymer liquid and other liquids and what makes liquids flow the way they do. You will make your own polymer liquid (gak) that you can take home with you.

Shirley Johnson, Ph.D., Program Director, Applied Biosystems; Wendy B. Levine, Ph.D., Sr. Quality Assurance Engineer, Abbott Vascular, Inc.

27 MAGIC OF CHEMISTRY

Have you ever wanted to change the world? Come and change a liquid into a solid, change a solid into a gas, and make a liquid that is a solid. Come change the world.

Michealle Havenhill, Director, Quality Control, HemoSense

CAREER WORKSHOPS

28 NURSING YOUR HEALTH CARE OF THE FUTURE

Find out about the importance of nursing in the health care system we all use. Discover nursing as a rewarding lifelong profession.

Barbara Willard, DNP, RN, Assistant Professor, San Jose State University

WORKSHOPS FOR ADULTS

A1 FINANCIAL AID: MEETING COLLEGE COSTS

Information on the types of financial aid available.

Coleetta E. McElroy, Assistant Director, Financial Aid and Scholarship Office, San Jose State University

A2 FOCUS ON COLLEGE FUNDING—INVESTING IN YOUR CHILDREN'S FUTURE

It may be hard to imagine but before you know it, your children will be ready for college. Attend the College Funding seminar and learn about: sources of college funding, tax advantaged college saving, and practical ideas from realistic case studies.

Carol A. Hack, FIC, Financial Associate, Thrivent

A3 POLYMER PANACEA

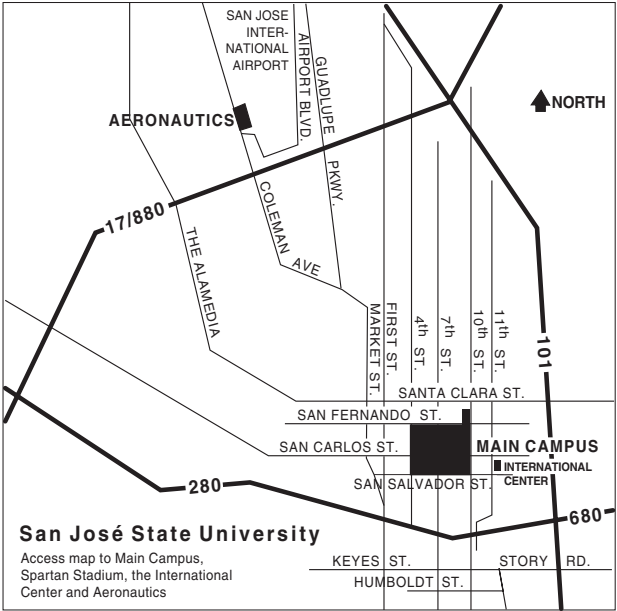
Enter the bouncing, oozing, rubbery world of polymers. From your pajamas, chewing gum, toothbrush to bike tires, polymers are everywhere! How are they the same? How are they different? Get your fingers dirty making, testing and comparing polymers. Why do some bounce and some splat? Learn what gives polymers their amazing range of properties.

Linda De Young, Ph.D., President, IND Enabling Consulting

A4 RENEWABLE ENERGY FOR EVERYONE

Come learn about renewable energy and what the City of San Jose is doing in your neighborhoods!

Jesse Denver, Workshop Leader



San José State University is bordered by San Fernando, 10th, San Salvador, and 4th Streets. **Parking is free at the city garage on 4th Street at San Fernando.**

From U.S. 101: Take Interstate 280, exit at Seventh St., proceed north to the main campus.

From Interstate 880 South: Take 101

to Interstate 280, exit at Seventh St., proceed north to the main campus.

From Interstate 680 South: Interstate 680 becomes Interstate 280 (at U.S. 101), exit at Seventh St., proceed north to the main campus.

From Interstate 280: Exit at Seventh St., proceed north to the main campus.

