

# **EXPANDING YOUR HORIZONS IN SCIENCE AND MATHEMATICS**

**AMERICAN ASSOCIATION OF UNIVERSITY WOMEN  
WEST HARRIS COUNTY BRANCH**

in affiliation with the

**MATH/SCIENCE NETWORK**

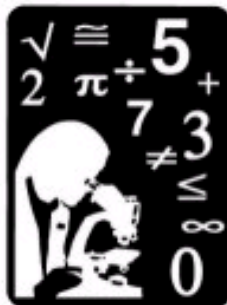
presents

**THE 12<sup>TH</sup> ANNUAL CONFERENCE  
FOR YOUNG WOMEN IN GRADES 6, 7 AND 8,  
THEIR TEACHERS, PARENTS AND COUNSELORS**

**SATURDAY, MARCH 27, 2004**

**8:30 A.M. – 3:15 P.M.**

**The Rice School/La Escuela Rice  
7550 Seuss Drive, Houston, Texas 77025**



# 9 AM: Keynote for all participants: "You Go Girl" by Jennifer Cowan

HIGH TOUCH-HIGH TECH OF HOUSTON

## MORNING SESSION: 10 AM - NOON

### Adult Sessions

#### Suggested for Teachers

##### A. Expand Your Mind Through Robotics and Technology

— Learn how science, technology, engineering and math (STEM) play an important role in robotics and technology through this hands-on experience with these exciting fields. *Reagan Flowers*, CEO, C-STEM Teacher and Student Support Services, Inc.

**B. Use Digital Libraries to Find Teaching Tools** — Look into digital libraries and discover teaching tools appropriate for middle school. *Siva Kumari, EdD*, Assistant Dean, Rice University, School of Continuing Studies and *Laura Russell*, Digital Library Content Specialist

**C. EXCEL in Math and Science** — Try out hands-on examples of digital technologies used in math and science classrooms. *Cynthia Lanius*, Technology Integration Specialist, Sinton ISD

**D. Let's Get ALL of our Students in the Math Fast Track** — Explore the mathematics pipeline, examine drop-out rates of various students, and support the successful movement of all students through it. *Dr. Anne Papakonstantinou*, Director of the Rice University School Mathematics Project

**E. Girls and Technology** — How do middle school girls like to use computers? Learn how to start a girls technology club at your school. *Remi Willoughby*, Computer Teacher, HISD and 2003-2004 AAUW Eleanor Roosevelt Fellow

#### Suggested for Parents

**F. Get Smart About College** — Which schools are right for your daughter? Find out how college coaches help narrow down the list. *Beth Dennard, EdD*, Bright Futures Consulting

**G. Girls' Health: National Problems, Local Solutions** — What are the key issues facing adolescents today? Hear about a local initiative to address young women's health problems. *Dr. Kathryn E. Peek*, Director, TWU Institute for Women's Health

**H. Academic Anxiety in Girls: How to Help** — Could you or your daughter have academic anxiety? Learn to spot it and develop strategies for dealing with it. *Diane N. Roche, PhD*, Clinical Psychologist, Tarnow Center for Self-Management

**I. Enhance Your Relationship With Your Middle Schooler** — Explore the joys and challenges of your daughter's world and add a few more tools to your parenting toolkit. *Sharon Takahashi*, School Counselor, HISD

### Student Sessions

**1. Sour News About Sweets** — Learn why people get diabetes and how to control it with medical researcher *Lydia Aguilar-Bryan, MD*. Measure your blood glucose levels before—and after—eating candy.

**2. It's a Wild Life!** — Be an exotic pet vet for a day. Meet some unique animals, hear their hearts, look at x-rays and prepare for surprises with veterinarians *Natalie Antinoff, DVM*, and *Martha Needham, DVM*.

**3. The Life and Times of a Physical Therapist** — Physical therapist *Christine Baker* helps you identify the bones in your body; shows how balls can exercise muscles and introduces fun ways to use bean bags with young children.

**4. Art: The Creative Science** — Da Vinci studied the art of science and the science of art. Agronomist and artist *Nell O'Briant Bednarz* presents his whole-brained approach to problem solving, plus a modern way to study nature using fractal geometry and technology.

**5. Pantyhose, Tupperware and Roller Blades?** — Compare products made with petroleum as engineer *Jennifer Bell* demonstrates porosity, permeability and the properties of this ancient organic substance.

**6. Make Good Smiles Great: Be a Dentist** — Open wide and learn what a dentist does on a daily basis. Make an impression of your thumb in plaster with pediatric dentists *Rita Cammarata, DDS*, and *Jennifer Cunningham, DDS*.

**7. Bulls Make \$\$, Bears Make \$\$, Pigs Get Slaughtered!** — Learn about Wall Street as you use the lingo and tools to execute mock trades with traders *Rosanne Dillon, Linda Tran* and *Kelley Welch*.

**8. CSI: Houston** — Learn what really happens to samples after they are collected with laboratory technicians *Balencia Dove-Kimble, MT*, and *LaTonia Austin*.

**9. So You Want to Be a Doctor?** — Join *Letosha Gale, MD*, in a lively discussion about the skills, classes and personality traits you need to become a doctor. See if you've got what it takes to pursue this challenging career.

**10. It's All in the Genes** — Geneticist *Claire Gelfman, PhD*, introduces DNA—what it is, where it's found, and why it's important. Then join in a demonstration that makes it visible to the naked eye.

**11. Who's Your Best Self?** — Take this quiz and discover your personal skills, strengths and style while you think about what you want to be, and develop a plan for getting there with psychologist *Jennifer Hays, PhD*.

**12. Animal Blood from Angora to Zebra** — Use a microscope to examine blood cells from various animals with vet paramedics *Pam Huebner* and *Felicia Hill*.

**13. The Magic of Money** — Experience a hands-on approach to managing your money with bank manager *Tracye Lassus* and learn just where it should and shouldn't go.

**14. The Eyes Have It** — Dissect an actual cow eye as biochemist *Kathryn Louie, PhD*, helps you explore how we see and how the environment affects the things we see.

**15. It's Crystal Clear: Solving the Mysteries of Gems and Minerals** — Identify minerals using a take-home kit and a range of methods and tools with geologist *Karen Love*.

**16. Fruit-Powered Blow Dryers?** — Turn fruit into a battery for everyday items. Power up with electrical engineers *Sherilyn Martinez* and *Tamara Carlson* to learn the basics of electricity.

**17. Fish Soup: Life as a Marine Biologist** — Get your hands wet with marine biologist *Julie Massey* as you learn what water testing, fish, crabs and shrimp tell you about the sea!

**18. Pulling Salaries out of a Hat!** — To spend money, you have to earn it. Certified public accountants from *Mir Fox & Rodriguez* help you compare salaries for math and science-related professions and compute what pay they take home.

**19. Mission Not Impossible: Clean Up Black Gold** — Environmental engineers *Graciela Moore, Gabriela Payares, Christina Robinson*, and *Claudia Sanchez de Lozada* help you use tools and techniques of the trade, including soil sampling, chemical fingerprinting and photography, to clean up a simulated oil spill.

**20. The Reaction Is Chemical!** — See the magic of chemistry as chemist *Sharla Papiitto* illustrates chromatography, crystal formation and other chemical reactions. Make your own paper butterflies, crystal gardens and homemade mystery goop.

**21. Passing Gas Pays Cash** — Anesthesiologist *Vivian Porche, MD*, demonstrates how she turns her patient's lights out as she shows you how to intubate a dummy and talks about the rewarding aspects of her career.

**22. S.P.A.R. "Semper Paratus Always Ready"** — Ensigns *Lisa Taylor* and *Sabrina Richardson* give life to this motto as they relate how women in the U.S. Coast Guard save lives and protect the environment.

**23. Exercise for Health, Money and Fun!** — Learn about the fitness profession as personal trainers *Hope Sampson* and *Vickie Williams* put you through a workout of strength training, Pilates and yoga.

**24. Think Outside the Box: What is Tech Selling?** — Selling high-tech goodies is a hot field, but there is more to selling technology than you think. Learn all about it with sales manager *Lisa Walla*.

**25. Invention, the Mother of our Society** — Take products apart as patent attorney *Marcella Watkins* shows how new ideas make everyday products better than ever.

**26. Whooo's for Dinner?** — Explore the world of owls with wildlife biologist *Mary Anne Weber*. Meet live owls and dissect wild owl pellets to learn about the food chain.

**27. Bioterrorism, SARS and More** — Compete for a free video rental as you learn the history of public health and major concepts of disease control with public health researcher *Erin Whitney*.

**28. Hearing Colors, Tasting Shapes!** — Nose out the connection between smell and memory. Discover how the brain handles information to help you see, smell and taste with science educator *Irmgard Willcockson, PhD*.

**29. A Dog-Gone Good Career!** — Veterinarian *Barbara Willhouse, DVM*, introduces dogs, cats, cows, pigs, turtles and rabbits on slides as she shares various vet school activities. Listen to her dog's heart.

**30. Etch-A-Sketch** — Learn simple drafting skills using computer software; see different software capabilities and how to apply them to design with designers *Amanda Zeller* and *Crista Hanser*



### Schedule

8:30am	Check-in and light breakfast
9:00 am	Keynote for students and adults
10:00 am	Morning Session 1
11:00 am	Morning Session 2
12 noon	Box lunch provided
12:45 pm	Afternoon Session 1
1:45 pm	Afternoon Session 2
2:45 pm	Closing and door prize drawings
3:15 pm	Student pick-up

## Noon: Box lunches will be provided

### AFTERNOON SESSION: 12:45- 2:45 PM

#### Student Sessions

41. **Decorating with Math** — Design and furnish your dream room using scale drawings and tools of the trade under the guidance of general contractor and interior designer *Donna Archer*.

42. **Be a Doctor's Best Friend!** — Physician assistant *Cheryl Arena, PA-C*, helps you use medical equipment to examine eyes, ears, hearts and lungs, then check for reflexes as she shares what a physician assistant does and what is required to become one.

43. **Rate Your Food Smarts!** — Learn to read food labels, then visualize fat and share a healthy snack with dieticians *Barbara Bahm, RD,LD*, and *Rita Zapfen, RD,LD*.

44. **Seeing Is Believing** — Peer into the life of an eye doctor while learning how telescopes, optics and prisms work. Test your vision, find your blind spot and make a telescope with the help of ophthalmologist *Elizabeth Baze, MD*.

45. **It's Not Monopoly Money!** — Learn the basics of credit cards and budgeting so you can keep a better handle on the real thing with attorney *Amalia Berrios, Esq.*

46. **Rigs and Bugs: A Microscopic View of the Oilfield** — Learn how bacteria and other microscopic organisms cause problems in oilfield systems. Help microbiologist *Jennifer Cowan* hunt down and kill those pesky little "bugs" in an oilfield system.

47. **Start a Business. Be Your Own Boss!** — Beyonce and J Lo did it. Why not you? Energy marketer *Kim Godfrey* shows how easy it is to market your ideas when you develop a plan and successfully locate your buyers.

47. **Start a Business Like Beyonce or J Lo!** — Energy marketer *Kim Godfrey* shows you how easy it is to market your ideas when you develop a plan and successfully locate your buyers.

48. **No Guts, No Gory!** — Pathologist *Laurie Holley, MD*, shares interesting specimens and tales of hospital-based pathology including basic forensics, autopsies, and organ examination.

49. **The Truth in Testing** — Learn how lab tests affect our daily lives—and how important it is to get them right—as research assistant *Summer Jackson* shows you how to test your own glucose level and read the results.

50. **What is the Notorious Super Stretch Slime?** — How are baby diapers, surgical gowns and potting soil alike? Experiment with the wonderful world of polymers and make slime to take home with chemist *Lorraine Laut*.

51. **Critters in the City** — Saving lives doesn't always involve people. Meet some wonderful critters that are on the mend, thanks to the efforts of wildlife rehabilitator *Rebecca McKeever*.

52. **On Account of All the Fun** — Accounting is more than adding and subtracting numbers. Join certified public accountants from *Mir Fox & Rodriguez* and learn about all the things number crunchers do, including becoming celebrities.

53. **Mission Not Impossible: Clean Up Black Gold** — Environmental engineers *Graciela Moore, Gabriela Payares, Christina Robinson*, and *Claudia Sanchez de Lozada* help you use tools and techniques of the trade, including soil sampling, chemical fingerprinting and photography, to clean up a simulated oil spill.

54. **If You Build It, They Will Come** — Create a vacation house, lake house or ski lodge for your favorite celebrity, while architect *Irene Nigaglioni* shows what's involved in designing a building. Share your design.

55. **Bridge Games** — Team up to design and build your own bridge as you learn how these amazing structures work with structural engineer *Julie Patin-Larson*

56. **Be Prepared for Mayhem!** — Keeping the workplace safe is a full-time job. See how it's done by participating in an emergency response scenario with industrial hygienist *Melissa Perez*.

57. **Be Still My Heart** — Listen to tapes of normal and abnormal heart beats to discover how the beating heart works. Distinguish two heart sounds, as you listen to the abnormal heart beat of physician *Tres Radford, MD*.

58. **Pump It Up or Push It Out** — Assist petroleum engineer *Natalie Reagan* in demonstrations that show how oil gets from thousands of feet below ground to the surface.

59. **Robotics in Space!** — Learn how NASA uses robotic arms to assemble the International Space Station. Create your own robotic end effector to see how it's done with *Jill Reisman*, NASA Robotics Flight Controller.

60. **See Ears Hear Here** — Learn about careers in ears with audiologist *Sandra Robinson* as you peer at the tympanic membrane and see why we hear.

61. **Play the Numbers Game** — Actuarial analyst *Rebecca Rosser* demonstrates how companies use math to make a profit while competing for your business.

62. **Sweat Equity** — Learn how starting daily exercise now can pay off for the rest of your life. Fitness instructor *Pamela Sampson* leads a sample class of kickboxing, boot camp and Pilates.

63. **Create Something Exciting Every Day** — If you like to daydream, create and make things happen, a career in interior design is the profession for you. Interior designer *Barbara Schlattman* shares insights as she details what her day is like.

64. **Take the Pepsi Challenge!** — Be part of a blind taste test and conduct a brainstorming session with market researchers *Genese Scott* and *Lisa Tidwell, PhD*, as you learn how companies decide which products to sell and how to sell them.

65. **Connect the Dots!** — Look for clues and analyze data with epidemiologist *Andrea Shelton* as you determine what caused food poisoning at a community gathering.

66. **Learn to Draft like a Pro!** — Every successful project starts with an accurate drawing. Landscape architect *Kelly Snook* shows how to use a scale and pencil to create scaled drawings that are sure to sell the job.

67. **Talk About Real Star Power!** — Marine engineer *Rebecca Stephens* and *Chief Mate Katrina Haselman* review life at sea from an engineering and deck officer perspective as you learn how ships generate their own electricity and use the stars to plot their course.

68. **Where There's Smoke, There's Trouble** — Play an interactive quiz that shows how nicotine affects your body with behavioral scientists *Veronica Torres* and *Hillary Hunter*. Compare the health of a smoker and non-smoker as you learn why nicotine is so damaging.

69. **Make the World Your Oyster** — Search for pearls, Girls, and make a necklace as you discover how the incredible oyster makes pearls with marine biologist and Sea Camp Director *Judy Wern, PhD*.

70. **Fasten Your Seatbelts!** — Enjoy the ride as Continental Airlines *Captain Linda Wright* pilots you through the basics of aviation while you make and fly your own plane.

#### Adult Sessions

##### Suggested for Teachers

J. **From Barbie to Bridges** — Discover how educators can use content and cooperative learning to encourage girls to pursue careers in engineering. *Susan Golden, PE*, Science Teacher, HISD

K. **Join the Revolution Against Ozone Pollution** — Discuss ways to design and implement environmental research in the classroom while you learn to test for ground level ozone. *Judy Lee*, Science Teacher, Texas City ISD

L. **Lego Robotics: What are the Possibilities?** — See Lego Robotics vehicles and projects created by my 8th grade students. After a brief lesson on RoboLab™ programming, including how to use touch sensor, light, light sensor, and sound, experiment with creating a RoboLab™ program for one of these projects. *Pam Ossorio*, Computer Teacher, HISD

M. **GirlTECH'ers: Boom or Bust?** — Hear how I convinced our district to have an engineering course that seemingly invited only girls to be in the class. What were the guidelines? How did it grow? *Judy Woods*, Media Specialist, Aldine ISD

##### Suggested for Parents

N. **Put Your Child on the Road to Financial Success** — Handling money is something we do almost every day. Financial education begins at home, and parents can be the best educators. Learn how to teach your child lifetime financial skills. *Laury Adams*, Financial Resources Consultant

O. **Peers and Fears: Help Our Daughters Thrive as Teens** — Is your daughter struggling with negative peer pressure? Learn how to spot the warning signs, plus ways to help. *Laurie Baldwin, PhD*, Adams' Mediation & Financial Resource Center

P. **The 529 Plans Opportunity: Saving for College Just Got Easier** — Learn how to save for your child's or grandchild's college education while realizing significant tax benefits. *Sana Kalaf* and *Jeanette Mattiza*, Financial Advisors

Q. **Prepare Today for Tomorrow's Future** — Learn what you need to know about preparing for high school, college admissions and scholarships. *Dell McGee* and *Larry Laurent*, Student Recruiters, and *Cynthia Harris*, Financial Aid Officer, Houston Community College

#### Looking for an EYH memento?



Conference T-Shirt  
\$5.00

## Expanding Your Horizons Conference Goals

The Expanding Your Horizons in Science and Mathematics™ Conference is designed to nurture the interest of middle school girls in math, science and technology and expand their career vision in these areas. EYH fosters an awareness of opportunities in science- and math-based careers for women. The girls have the opportunity to meet and interact with women using math and science in their professions and participate in fun and exciting hands-on workshops. EYH encourages young women to study as much math and science as possible by showing them the benefits of education and its relevance to their lives. EYH seeks to create a culture that says, "It's cool for girls to become scientists, mathematicians and engineers."

### Don't Miss Your Big Chance For Great Door Prizes

Drawings at 2:45 P.M.

- **Sea Camp - Texas A&M University at Galveston.** Discover the world of marine biology during this week-long adventure. Explore the bay and gulf. Observe birds. Take an oyster collection trip. Trawl for shrimp, crabs and fish. Tour a turtle research facility. Learn about whales and dolphins. Live in the dormitories at the TAMUG campus on Pelican Island.
- **Tickets to Space Center Houston.** Tour the Johnson Space Center. Venture into the final frontier. Relive the accomplishments of America's manned space flight program.
- **Tickets to the Houston Museum of Natural Science.** Learn about the wonders of science from dinosaurs to space exploration.
- **Houston sports team posters.** Take a hometown team home with you !

### Funding for 2004 EYH Conference

Expanding Your Horizons, a 501 (c) 3 organization, is supported through gifts from corporations, foundations and individuals. We are grateful to the following local sponsors:

#### **Benefactors (\$5,000-\$10,000)**

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#### **Sponsors (\$1,000-\$5,000)**

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#### **Friends (\$100-\$999)**

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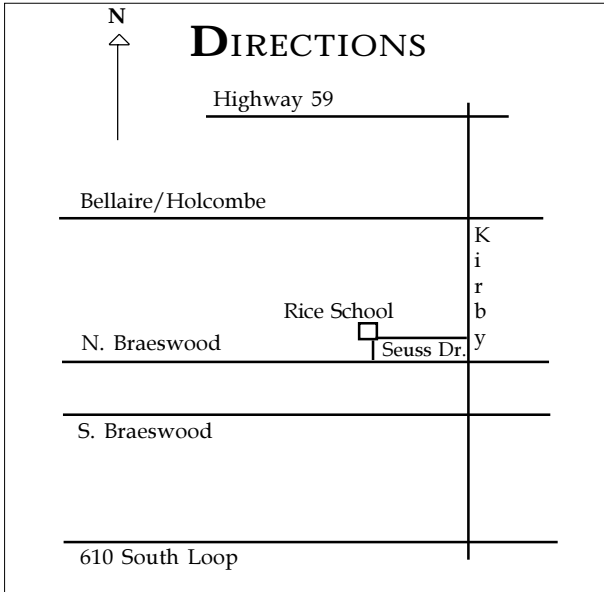
Texas Higher Education Coordinating Board

This year we honor the memory of Marcella Dawson and Dr. Fred Rudolph, long-time supporters of Expanding Your Horizons, with scholarships for twelve girls and their teachers.

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THE 12<sup>TH</sup> ANNUAL CONFERENCE FOR YOUNG WOMEN IN GRADES 6-8,  
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Saturday, March 27, 2004 8:30 A.M. – 3:15 P.M.



The Rice School/La Escuela Rice  
7550 Seuss Drive, Houston, TX 77025

- ◆ **Registration Deadline: Friday, March 12, 2004**
- ◆ Register Early! The Conference is limited to 600 girls.
- ◆ One registration form per participant. Photocopy the registration form or download it from our website as needed.
- ◆ Pre-registration required. No registration at the door.
- ◆ The postcard confirming your registration is your ticket to the Conference. Please bring it with you.

**Need more information? Contact**

Mary Ann Stanley (281-496-9964) or [maryannstanley@sbcglobal.net](mailto:maryannstanley@sbcglobal.net)

Check our website: [www.aauw-whc.org](http://www.aauw-whc.org), link to EYH



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