**Expanding Your Horizons**

For all conference participants
Regina Stanback Stroud
President, Skyline College

**Fran Kalal**
"Digital Tailoring: Art and Technology Woven Together"
Pixar Animation Studios

**Conference Goals**
- To promote education as a means of expanding young women’s options.
- To increase young women’s awareness about science and math.
- To foster awareness of career opportunities for women in science- and math-related fields.
- To provide an opportunity for participants to meet and form personal contacts with women working in traditional and non-traditional fields.

**How to find us**
SKYLINE COLLEGE
3300 College Drive, San Bruno CA 94066

From the North:
Westborough exit off I-280.

From the South:
Pacifica, Skyline Blvd. (Highway 35) exit off I-280.

Public Transportation:
SAMTrans #140 from Pacifica and San Bruno BART

You may park anywhere except in handicapped and red zones. Skyline parking permits will not be needed for the day of the conference. The preferred parking is in Lot M.

**Problems and Puzzles Contest**
Contest entry forms will be in your registration packet. Pick it up early. Answers will be due at lunch. Contest winners will be:
- Prizes
  - A Day With A Scientist
  - Tickets to:
    - Aquarium of the Bay
    - Children’s Discovery Museum
    - CuriOdyssey at Coyote Point
    - Fine Arts Museums of San Francisco

**Planning Committee**
AJ Bates
Shari Bookstaff
Christine Case
Arlene Chang
Gary Cheang
Stephen Fredricks
Jon Freedman
Mousa Ghanma
Ray Hernandez
Barbara Irli

**Sponsors**
President’s Innovation Fund
Soroptimist, North San Mateo County
Gilroy Gardens
Hiller Aviation Museum
San Francisco Maritime National Park Association
S.S. Jeremiah O’Brien
The Marine Mammal Center
Walt Disney Family Museum

**Earn College Credit**
High school students:
Earn 0.5 units of college credit. Get the concurrent enrollment application at skylinecollege.edu/eyh/

**Registration**
Register early. Register online.
skylinecollege.edu/eyh

We will assign 3 sessions in order of preference, if possible. While we’d like you to get your first choices, popular workshops fill up quickly. If all your choices are full, we will place you in other workshops. We think all our workshops are terrific, and you may discover some great careers you hadn’t considered. Early registration will help you get your top choices.

High school girls are welcome in all of the Workshops for Students. One session of the following workshops will be reserved for high school girls only:
- #5, #17, #23, #30, #38, #41

**Arrival**
When you arrive, pick up your registration packet in the gym, building 3. Campus buildings are clearly marked; conference registration is in the Gym, building 3. During the conference, Skyline College students will escort participants to their sessions. The morning snack includes juice and fruit. Lunch is sandwich, fruit, and beverage.

**Schedule**
March 12, 2016
8:15 a.m. to 3:00 p.m.
March 12, 2016

In partnership with Skyline College, the non-profit organization dedicated to expanding young women’s awareness and interest in science and math-related fields, we are excited to announce the 36th San Mateo County Math and Science Conference.

**Schedule**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:15 am</td>
<td>Pick-up registration packet</td>
</tr>
<tr>
<td>9:00 am</td>
<td>General Assembly I</td>
</tr>
<tr>
<td>9:40 am</td>
<td>Workshop 1</td>
</tr>
<tr>
<td>11:10 am</td>
<td>Workshop 2</td>
</tr>
<tr>
<td>12:40 am</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:25 pm</td>
<td>Workshop 3</td>
</tr>
<tr>
<td>2:50 pm</td>
<td>General Assembly II</td>
</tr>
</tbody>
</table>

**General Assembly**

For all conference participants

Regina Stanback Stroud
President, Skyline College

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Gary Cheang
Barbara Hir
Aina Utsumi

**Sponsors**

President’s Innovation Fund
Soroptimist, North San Mateo County

SMCCCD Board of Trustees
Maurice Goodwin, Richard Holober, Dave Mandelkern, Thomas Mohr, Karen Schwarz, Rupinder Bajwa

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3. Bioinsimicent Bacteria: Glow-in-the-Dark Art! Invincible organisms can team up to produce their own light, not only shine but also glow. They can grow these fascinating little creatures and observe their beautiful glowing art. Nada Nekrep. Skyline College.

4. C.S.I. San Bruno: Murder in the produce aisle. Interview and fingerprint the suspect, then analyze DNA to solve the crime. Pauline Macaulay, Henry Strom, Sophia Yunanda, Daniel Martinez, Jose Campos, John Ellis, microID, Karen Lui. Skyline College Phi Theta Kappa.

5. Fantastic Whales! Learn about marine mammals and conservation. How can you help? Find out more about potential career and college paths (e.g., research, marine biology, music, conservation) for all ages. San Francisco Bay Area Chapter American Cetacean Society.

6. Marvelous Microbiology. Discover microbes in food production, nature, our bodies, and in biochemistry. We will make the earliest developers of life, bacteria and protozoa, and produce them through a microscope, and perform biochemical tests done in a real lab. Lillian Burmer, Erika Noorda, Leslie France, Conversation Kings, Victorian Angels. Skyline College.

7. Synthetic Biology. Come and explore all the things that bacteria can do for us. We will play with bacteria that can produce their own light, and even grow. You have heard about the bad side of bacteria now how you can use them to work for us. Pierre Alvin Go, Skyline College.

8. Microscopic Life in Water. Look at a various microscope and learn about aquatic organisms. We will look at living organisms and prepare stained specimens for a closer look at these microscopic creatures! Janelle Barbier. Skyline College.

9. Our changing Oceans. Students will measure and observe changing chemistry in an ocean-like environment, explore the complex food web, and discuss potential solutions to slow that change. Mayrin Rivas, Daniel Elkin, Roisin Magee. Aquarium of the Bay.

10. Scrambled Eggs with a Side of Flu Vaccine. At Skyline Vaccines Inc. participants will develop and produce a mock-up of a potable Flu vaccine. How can your scientific method skills using chicken eggs to produce a vaccine that you will test. Viviana Tran, Nick Kapp. Skyline College.

11. Walk Above the Bay. Learn about geology, plants, and animals as you enjoy views from the Ocean to the Bay. Comfortable shoes and jacket advised. Carla Grandy, Oceanic Life in Water.


14. 3D Make You Breathe. What is your Super Power? Field the exploration of Respiratory Therapy in a fun and friendly environment. Discover what cigarette smoking really does to your lungs and learn about the disease such as Asthma with future Respiratory Therapists. Heather Esparaz, Ingrid Bansoki, Alyssa Lemelle, Jessica Nastor, Jaclyn Sampson, Varvara Kuznetsova, Tash Garigari, Regina Wong, Olga Arvelo. Skyline College CPCM.


16. Watch Out! How are these three things connected: balancing on one leg, jigsaw puzzles, and playing checkers? The answer lies in how your ability to see is actually affected by other abilities, whether it be memory, attention, or coordination, for the future, and of course, competing to win a prize. Also, did you know you have a blind spot? We will also explore how your brain is affected, under the stress of increasing distractions, such as doing math problems and responding to simple questions. Explore how your eyes are used for more than just seeing the world! Sandra Hsu. Skyline College.


18. Covergirl Chemist. Join us for a hands-on workshop in a chemistry lab and make your own flavored lip balm! Participants will learn the chemical makeup of beeswax, several basic oils of essential oils. Ashlynn, Bailey Warner, Dani Tran, Sima Kasear, Jenene Arian. University of San Francisco.

19. Fast and furious! The automotive industry is a multi-billion dollar industry. Learn about all kinds of careers from “turning a wrench” to careers in journalism, marketing, sports, and more! Julia Johnson. Skyline College.

20. Girls on the Mic! Explore the careers of Recording Engineers, Music Producers, Sound Engineers, and more. Learn to record music and produce music, see all the different roles in a pop concert. Come ready to make some noise at Girls on the Mic! Kelly Coney. Women’s Audio Mission.

21. Let There be light. In this workshop, you’ll build your own “shakable” LED light guide with micro, and a few connectors. Use R, G and B LEDs to experience the components of a simple LED light fixture, microconsumerscapable, and simple to make for white light. By the end of this workshop, you’ll see your light! Liji Gopalakrishnan, Laura Sturk, Kaneez Tumpa. Rambus, Inc.

22. Life in a Vacuum. Learn about low pressure processes, watch a Peep grow before your eyes, see water boil and ice form without adding or removing heat. See how this is related to Silicon Valley. Janice (dr J) Mconber, Lucia Feng. Skyline College.

23. The Scientist in the Kitchen: Molecular Gastronomy. Explore the physical and chemical changes that occur while cooking. Participants will conduct the culinary process of cooking to see how the method of preparation affects the final product. Jaimey B. Alvarez, Michael Wong, Dorway Sy. Skyline College Phi Theta Kappa & UC Santa Cruz.


25. Teens, Nutrition, Health, and Fitness. Learn about healthy habits that are easy and fun to do! Learn simple tips to improve your fitness. Build confidence in your food selections and fitness habits! Learn about nutrition and fitness industry as a career option. Laura Winter. Skyline College.

26. Dare to be different! Come and learn about the exciting field of psychology! We will get to discover our Myers-Briggs Personality Types and make our own Rorschach Ink Blots. Ashleigh Redmond. Linden University.

27. How can You own it? This workshop is designed to expose students to entrepreneurship and encourage students to think like an entrepreneur in every facet of their life. The entrepreneurship lab, based on the tools and experiences learned by successful entrepreneurs, will take them into the world of codes and areas of interest. Pecya Stroud. Bay Area entrepreneur Center of Skyline College.

28. Engineering and Computer Science. Discover microbes in food production, nature, our bodies, and in biochemistry. We will make the earliest developers of life, bacteria and protozoa, and produce them through a microscope, and perform biochemical tests done in a real lab. Lillian Burmer, Erika Noorda, Leslie France, Conversation Kings, Victorian Angels. Skyline College.

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30. How do computers compute? Explore digital logic. Students will learn the binary numbering system, starting by using their fingers and then moving to electronic logic demonstration circuits. Learn how data is represented by “bits” and “logic gates” and how to design a simple equation. You’ll implement simple logic operations: first with a single bit, then more with to create “state machines” - Alan Turing’s simplest computing elements. Lee Feleisten. Fortly LLC.

31. How do we make cool space Vacuum. Learn about the CSS code used techniques and become a creator of the technology you use everyday! Learn what codes mean when they show up on your phone, computer, or TV. Learn the basics necessary to make your own larger designs working in small groups using double and triple team work. Women’s Audio Mission. Skyline College.

32. Love at First Byte. Students will learn how to use sorting algorithms and see how sorting algorithms relate to the organization of things. Jing Folsom. Skyline College.

33. “Hey, Siri!” How Computers Understand Language. Come learn about topics in natural language processing! We’ll explore questions like, how does Siri understand and talk to us? How can we correctly fit our mistakes? How do our phones guess the next word we’ll type? Shannon Laboych, Sarah Judn. Google Inc.


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37. Let Me Tell You About Your Immune System. Learn what personal information confidential is harder, yet more important, than ever in the Internet Age. Your personal information is important and you should take steps to protect it. Learn more about the tools you want. In this workshop you’ll learn how data encryption and secure communication can be used to protect your personal data. You’ll also learn how to protect your identity, and how to share only with your friends. Megan Wachs. Rambus Cryptography Research Division.

38. Pang Peng Without the Pang! Network Engineering. Play ping with a machine on the network to see if it’s okay—then it is, it will be the alpaca! Then give your machine a human nickname and see if it answers to its new name. Wendy = Covered. Skyline College.


41. Let’s Explore! Bring your curiosity and learn about fascinating little creatures and observe their beautiful glowing art. Nada Nekrep. Skyline College.

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