#### **Registration Information**

#### How to select workshops

Choose three workshops from each column: A, B and C, for a total of nine choices for workshops. We will do our best to honor your request but since this is not always possible, you may have a totally unexpected opportunity.

#### Parents in Classrooms

During the conference, parents should plan to attend the parent workshop (or the time could be used to explore local shopping and restaurants). We aim to minimize all distractions in the classrooms; we also ensure that all adults in the workshops have gone through background checks. If a parent needs to accompany their daughter in the workshops, we ask that they receive advanced permission from the organizers.

#### Parent pickup

Please pick up your student at 2:10 p.m. in the Gym, Bldg. 31.

The conference fee is \$15. This includes all materials, conference T-shirt, and a light lunch. Parent Workshop is an additional \$15. All fees are non-refundable. Scholarships are readily available thanks to funding from our sponsors.

#### How to register

Pre-registration is required for both students and parents. There will be no on-site registration. Register online at www.thurstonEYH.org with payment via Paypal or credit card. Or register via mail, sending this completed registration form along with your check to Expanding Your Horizons, P.O Box 4254 Tumwater, WA 98501. Register as soon as possible; student and parent workshops fill up on a first come, first serve basis. The deadline to register is March 4. Confirmation will be made by e-mail only.

#### Additional conference materials

An information packet will be given to each student on the day of the conference.

#### Special Accommodation

To request special accommodations call Joy Ramstack Hobbs 651-895-7673 or Kelly Green 360-338-8020.

#### **Student Registration Form**

- [ ] Check box if scholarship is requested
- [] Check box if you are a returning EYH participant

Phone:

Address:

Zip Code:

Indicate your first nine choices for workshops by putting the workshop letter and number in the blanks provided.

Column B #1 \_\_\_\_\_ #2 \_\_\_\_ #3 \_\_\_\_ Column C # I #2 #3

Parent's E-mail: (for registration confirmation)

### **Parent Workshop Registration Form**

[ ] Check box to request a scholarship

[ ] Check here if special assistance is needed

School:

We need your help. Let us know if you are interested in joining EYH to help plan future conferences by printing your name and contact information here:

## Register online at www.thurstonEYH.org

Photos and video will be taken during the conference. These materials may be used for promotional purposes. Please contact Kelly at chair@thurstonEYH.org if you have any concerns.

#### **Directions to Main Campus** From I-5

- North or South
- Take Exit 104
- Take first exit on RIGHT Cooper Point Rd. Crosby Blvd.
- From exit ramp turn LEFT
- At second light, turn RIGHT onto Mottman Rd.

#### From Highway 101 from Shelton/Aberdeen

- Take Cooper Point Rd. Crosby Blvd. Exit
- From exit ramp turn RIGHT - At light turn RIGHT onto Mottman Rd.

Main entrance is the first left off Mottman Rd. Conference signs will guide you to parking and the Gym Building (Bldg. 31). Please pick up your student at 2:10 p.m. in the Gym.

South Puget Sound Community College 2011 Mottman Rd. SW, Olympia, WA 98512 | Campus map: www.spscc.edu/map-and-directions Day of event contact number: 651-895-7673 or 360-338-8020

The school district is not a sponsor of this event and assumes no responsibility for it.

# CAPITAL LAKE CROSBY EXIT CROSBY EXIT 101 NORTH OLYMPIA - YELM RD.

## **Organizing Committee:**

Sarah Clarke Leatta Dahlhoff Nancy Deakins Mary de Jesus

Melanie Golob Kelly Green, Co-chair Alexandra Johnson Theresa Kimball

Katya Miltimore Gwen Morris Kelsea Overman Kylie Phillips

Joy Ramstack Hobbs, Co-chair Samantha Soto Rosalinda Turk

# **2017 Conference Program**

# SCIENCE, TECHNOLOGY, **ENGINEERING & MATH CONFERENCE FOR GIRLS** IN 6<sup>TH</sup>, 7<sup>TH</sup> & 8<sup>TH</sup> GRADE

Saturday, March 11, 2017 AT SOUTH PUGET SOUND COMMUNITY COLLEGE





# **CONFERENCE KEYNOTE** AND VIDEO CONTEST

Ever wondered why the earth spins? How to make fruit ripen faster? Why straight hair never stays curled? Why dogs don't see the color red? Make a video of yourself answering your own burning scientific question or problem and submit it for your chance to win a prize! Contest details and regulations can be found on our website (www.ThurstonEYH.org)

Melanie Golob, MS in Biochemistry and Molecular Biology from UCLA, will be presenting the award and is the keynote speaker for the 2017 EYH Conference. She won the 2014 Flame Challenge award in the written category, answering the question "What is Color?" The contest is designed to explain complex science questions to a young audience. Ms. Golob will be discussing "How to Find Your Inner Scientist".

Conference Presenting Sponsor:

Conference Silver Sponsors:













### STUDENT WORKSHOP CHOICES

#### - COLUMN A

#### **A-I** Eyes Under Puget Sound

Ever wonder what types of creepy crawlies lurk in the mud beneath the waters of Puget Sound? Learn how marine scientists identify theses fascinating marine invertebrates. Use a microscope and get up close and personal with worms, sea stars, clams, crabs and more!

Dany Burgess & Angela Eagleston, Marine Taxonomists, WA State Dept. of Ecology

#### A-2 Rescuing and Rehabbing Wild Birds

What happens when someone finds an injured or orphaned bird? Learn how wildlife rehabilitators capture and restrain birds, perform physical exams, administer fluids, apply splints and bandages, review x-rays, run diagnostic tests, and condition birds for release. WARNING: Bird carcasses are used during this workshop.

Stephanie Estrella, Wildlife Rehabilitator, Raindancer Wild Bird Rescue

#### A-3 Get the Word Out About Recycling

Interested in helping the environment? Heard of the 3 R's? This workshop melds science and communication together. You will learn various communication and educational tools to help increase Thurston County's recycling and waste reduction efforts. By brainstorming creative solutions to make recycling easy and to get the message out, you can have a positive effect on the environment.

Colleen Minion, Recycling & Waste Reduction Specialist, Thurston County Public Works

#### A-4 Show Me the Money

Spend a fun and interactive workshop learning how to manage your money.

Suzanne Klenk, Community Relations Coordinator & VAULT Instructor, WA State Employees Credit Union

#### A-5 Your Body's Wall of Protection

Did you know that hair and nails are classified as appendages of the skin? Explore the various functions of the skin and how it provides protection for the body by making natural remedies to prevent and/or treat acne and pimples.

Gwen Morris, Clinical Compliance Auditor, Cas Of Cary, Inc.

#### A-6 The Sky is Falling

This workshop is really out of this world—learn about asteroids, comets and meteors.

Where do they come from? What are they made of? What happens when they reach planet Earth?

You will see sublimation in action and even check out a piece of a meteorite.

Kathleen Ensenat, Professor of Physics and Astronomy, & Courtney Lynn, Physics Student - South Puget Sound Community College

#### A-7 Carbon Footprint

How much of your personal greenhouse gas emissions are due to where you live? How much are due to what you eat, or what you buy? Measure your own carbon footprint, and find out how to make it smaller.

Donna Albert, R.E., Energy Engineer & LEED Accredited Professional - WA State Dept. of Enterprise Services

#### A-8 The Wonderful World of Watersheds!

What is a watershed? Why is watershed health important for us and the ecosystem? Learn about watersheds through the science of river erosion as well as habitat loss and restoration through this hands-on activity using a flowing river model! Participants will also discover optimal water quality for salmon through experiments using our water quality testing methods.

Rachel Van Dam & Jennifer Fields, Conservation Scientists & Educators with AmeriCorps partnering with US Fish & Wildlife Service

#### A-9 How to Reconstruct a Car Wreck

Learn how State Patrol detectives use math, DNA, and physics in collision reconstruction, sometimes called Advanced Vehicular Investigations.

Stacy Moate, Detective Sergeant - Criminal Investigation Division, WA State Patrol

#### **A-10 Radiation: Myth Busters**

In 1898 Marie Curie, a scientist, discovered a new mysterious highly radioactive element which glowed in the dark. They named it Radium. See the glow. Find out what inspires modern mythology like "Spiderman" The "Teenage Mutant Ninja Turtles," and the "Hulk." Try your skill at detecting radiation in household objects; learn about beneficial uses of radiation; careers involving the safe use of radiation; and tips for fashionable protective gear.

Anine Grumbles, Laboratory and Academic Program Manager WA State Dept. of Health, Office of Radiation Protection

#### A-II Get Out of My Hair - Toxins in Personal Care

Let's talk about personal care products! Everyone uses items such as shampoo, lotion, nail polish, and perfume but what's in them? You will make an all-natural lip balm to take home to remind you that you can keep looking and smelling good without toxic products!

Elisa Kaufman & Jennifer Johnson, Education & Outreach Specialists - Thurston County Public Health and Social Services

#### - COLUMN B

#### **B-I** Visualizing DNA

Get a chance to help set up, load, and run gel electrophoresis. This method of DNA visualization is a critical component of work in any molecular biology lab!

Telissa Wilson, Biologist, WA State Dept. of Agriculture

#### **B-2** Identifying Aquatic Insects

Did you know that there are amazing insects that live under the water in streams, rivers, and lakes? Attend this workshop with Dr. Carri LeRoy, a professor at The Evergreen State College to learn more and see these insects up close and personal. Learn to use a microscope and sketch from observations! Learn a ton of awesome facts about these creatures!

Dr. Carri LeRoy, PhD, Professor, The Evergreen State College

#### **B-3** Storytelling with Data

Have you ever looked at a bunch of numbers and thought, "I have no idea what this means"? Data has lots of stories to tell — if you can get it to talk! In this workshop we will use Microsoft Excel to find the story the data tells, and make that story come alive with charts and graphs.

Joy Adams, Performance Management Coordinator & Cynthia Forland, Director of Labor Market & Performance Analysis Division, WA State Employment Security Dept.

#### **B-4** Let's Talk about Plants

How do you identify plants? What characteristics help you know which plant you see? How do you identify "native" plants from "invasive" plants? What plants help your local ecosystems and fish habitat? Come explore some basic botany techniques to identify plants. Learn some key "restoration superstars" found in the Puget Sound. Walk away with a better appreciation for our native flora, salmon habitat, and what makes our area truly unique.

Amee Bahr, Outdoor Grants Manager, Recreation and Conservation Office

#### **B-5** Disease Detectives

Do you like a good mystery? Well, an epidemiologist's job is all about solving mysteries, but instead of figuring out "who dun it" like a police detective would, they figure out "what caused it." Come use your critical thinking and logic to investigate what it takes to protect the public's health.

Elisabeth Long, Epidemiologist, WA State Dept of Health

#### **B-6** Spark the Heart!

Can you revive a dead heart? Use CPR and the latest emergency medical tools to treat a cardiac arrest. See a demonstration of an Automatic External Defibulator (AED).

Chrystal Murphy & Claire Carlson, Firefighters/EMTs - Lacey Fire District 3

#### **B-7** Money Talks!

Is your money always saying "Goodbye?" In this interactive workshop, you will learn the basics of budgeting, as well as helpful tips on saving money. Start saving now and your wallet will thank you!

Amanda Stevens, Community Development Manager - TwinStar Credit Union

#### **B-8** Dental Assisting - The Art of Teeth

Explore taking dental x-rays, molding dental composite filling material into sculptures, and making thumb molds with dental impression material.

Dr. Dana Larson, DDS, Dental Assisting Program Director and Evelyn Harry, EFDA, CDA, AAS, Clinic Dental Assistant and Student Supervisor - South Puget Sound Community College

#### B-9 Quakin', Shakin', and Bakin' in Washington

Find out what causes earthquakes & volcanoes by learning about plate tectonics.

Beth Norman, Geologist - Pierce College

#### **B-10** Bivalve Biology

Have you ever eaten an oyster, a clam, a mussel? Ever wondered what they are made of? What parts of their body are similar or different to ours? In this session you will get to dissect your own oyster and learn about how amazing these creatures are at keeping our ecosystems healthy! WARNING: Potential for eating raw oysters during this workshop.

Jennifer Whipple, Education & Outreach Coordinator, Taylor Shellfish

#### **B-II** The Amazing World of Polymer Chemistry

What do slime, nylon, rubber, and Styrofoam have in common? They are all polymers! Here you can learn about, and make all different kinds of polymers.

Sidnee-Marie Dunn and Dr. Gal Aviram-Keren, Professors of Chemistry, South Puget Sound Community College

#### B-12 Fun with Finances or You Just Won \$10,000!!!

What if you just now won \$10,000? What would you do with it? What could you do with it? What is \$10,000 really worth anyway? No matter how much money you make or how old you are, it is important to understand how to manage your finances. Come join us as we engage in interactive, hands-on discussions about money and budgeting! Crystal Flaten, Financial Examiner, WA Dept. of Financial Institutions

#### C-I Beat the Heat!

Students will learn about the three types of heat transfer - conduction, convection, and radiation - through discussion and hands-on experiments.

Shelbie Davis, Mechanical Engineering Master's Student, Saint Martin's University

#### C-2 Everyday Acids & Bases

Chemicals- even acids- are not always as scary as they sound! This session will explore the chemistry of some common household chemicals, explain what it means to say something is an acid or a base, and provide an opportunity for testing and observing the reactivity of everyday substances.

Brandy Fox, PhD, Assistant Professor-Chemistry, Saint Martin's University

#### C-3 Medicine and Your Body

How do various classes of drugs work in our bodies through receptor mediated action? We'll talk about common receptors in the body, how they work and why side effects are so common. Participants will make their own receptor and drug molecule models using clay to help illustrate these concepts. This is a great workshop for anyone interested in a career in healthcare, research, chemistry or for anyone interested in learning more about how their body works.

Kristine Gillas, Clinical Pharmacist, Saint Peter's Hospital

#### C-4 Real Life Nursing

They talk, they blink, they do everything but walk. Explore the use of simulation in healthcare education. Talk to our life like models and see just how real they are.

Nursing Faculty- South Puget Sound Community College

#### C-5 Pick Your Poison- Intro to Forensic Toxicology

Have you ever wondered what a forensic toxicologist actually does? Or what discoveries you can make as a forensic toxicologist? Come find out about what we do at the WSP Toxicology Lab and learn about one of the oldest drugs: alcohol!

Lindsey Knoy, Forensic Scientist, WA State Patrol Toxicology Laboratory

#### C-6 Light Up the Night!

Come learn how solar lights are helping people in disaster areas, and make your own LED solar powered night light.

Jayna Williams, LC, Lighting Designer

# C-7 Robots Can Line Dance

COLUMN C -

Become a creator of technology not just a user. Learn how to use simple computer programming to make domobots synchronize their movements into a wave or dance routine.

Jessica Wade, 8th Grade JAMS & Robotics Teacher, Jefferson Middle School

#### C-8 Micro-Organisms: Our Smallest Workers

Come with us on a fun virtual field trip of LOTT's wastewater treatment plant. You'll learn from women working at the treatment plant how wastewater gets cleaned up and about some of the different jobs that are involved. Then put on your lab coat and gloves for a hands-on microscope lab to see some of the cool micro-organisms up close!

Amber Smith, Environmental Educator Laurie Pierce, Operations & Facilities Director Terri Prather, Process Control Supervisor All with LOTT Clean Water Alliance

#### C-9 A Day in the Life of a Veterinarian - Scruffy the Dog

Gown up and scrub in for surgery! Learn to draw blood, review X-rays and diagnose real patients. Take a whirlwind experience through the life of a Veterinarian.

Dr. Kim Martin, Veterinarian - Hawks Prairie Veterinary Hospital

#### C-10 Chocolate Asphalt

How is a road made? What properties are important? Learn about road-building and blacktop paving by simulating the process with chocolate pavement. WARNING: nuts will be used and eaten during the course of this workshop.

Nanette Graham, P.E., Civil Engineer & Lead Project Manager – WA State Dept. of Corrections

#### C-II Air Experimenté

What is air pollution and where does it come from? Think you know? You might be surprised. Also learn how weather affects air quality and what you can do right now to keep your air clean.

Katie Wright, Air Quality Specialist, and Jennifer DeMay, Engineer and Emissions Inventory Specialist, Olympic Region Clean Air Agency

#### C-12 Welding is HOT!

How do those pieces of steel join together? Find out how fire and steel form structures. Learn the science of welding and discover your artistic side.

Welding Professor Sarah Patterson & Students from the SPSCC Welding Program

#### PARENT WORKSHOP: ADVICE TO HELP IGNITE YOUR DAUGHTER'S FUTURE

Our 2017 conference offers a workshop that gives practical advice for parents as they guide their daughters on the journey from middle school to high school to college & career. These are critical and exciting times so we highly encourage your participation in the parent workshop!

#### Please register early - this workshop fills to capacity quickly!

#### The Agenda:

College Planning with SPSCC

South Puget Sound Community College staff will share free community resources on campus, academic and non-academic ways to prepare your child for higher education, college funding source options, and dual enrollment opportunities in high school.

# Brains, Bodies & Behavior: how to help our daughters grow during middle school.

Bombarded by peer expectations about grades, clothes and choices, girls often feel compared and confined in middle school. Come hear parent coach Emily McMason talk about how we can support girls' growth during these formative years.

#### For General Information:

Web:

Phone: Joy Ramstack Hobbs 651-895-7673

or Kelly Green 360-338-8020 www.thurstonEYH.org. Watch for updates!

E-mail: info@thurstonEYH.org

Find us on Facebook: Expanding Your Horizons Thurston County www.facebook.com/ThurstonEYH

#### Student Workshop Schedule

9:00 - 9:30	Check-in/Registration (Gym, Bldg. 31)
9:30 - 9:50	Opening Ceremonies (Gym, Bldg. 31)
10:00 — 10:50	Workshop 1 (Various)
11:00 — 11:50	Workshop 2 (Various)
12:00 — 12:30	Break and Light Snack (Gym, Bldg. 31)
12:40 — 1:30	Workshop 3 (Various)
1:40 – 2:10	Presentation by Melanie Golob, Wrap Up and Prizes (Gym, Bldg. 31)
2:10	Please pick up your student (Gym, Bldg. 31)

#### Parent Workshop Schedule

-	
9:00 - 9:30	Check-in/Registration (Gym, Bldg. 31)
9:30 — 9:50	Opening Ceremonies (Gym, Bldg. 31)
10:00 - 10:50	College Planning, Part 1
11:00 — 11:50	College Planning, Part 2
12:00 — 12:30	Break and Light Snack (Gym, Bldg. 31)
12:40 — 1:30	Workshop with Emily McMason
1:40 – 2:10	Presentation by Melanie Golob, Wrap Up and Prizes (Gym, Bldg. 31)
2:10	Please pick up your student (Gym, Bldg. 31)