

Great Explorations In Education
c/o **Carol Morgan**
1765 Gray Lynn Drive
Walla Walla, WA 99362

Nonprofit Org.
Postage
PAID
99324
Permit No. 44

CONFERENCE GOALS

To provide 5th through 8th grade girls with an informal, hands-on experience with careers that utilize science, technology, engineering and math.

• email: gewallawalla@gmail.com

SCHEDULE	
Saturday, March 9, 2019	
8:20 to 8:50 am	Student Check-in (Cordiner Hall Foyer)
9:00 to 10:00 am	Orientation / Keynote (Cordiner Hall Foyer)
10:15 to 11:15 am	Workshop A (Science/Olin Hall)
11:30 to 12:15 am	Break / Food (Cordiner Hall Foyer)
12:30 to 1:30 pm	Workshop B (Science/Olin Hall)
1:40 to 2:40 pm	Workshop C / evals (Science/Olin Hall)
2:45 pm	Students Escorted back to Cordiner Hall for pick-up

***Lunch Provided:** We cannot accommodate special dietary needs. If you need special food, we recommend you pack your own lunch. Water and fresh fruit will be available.

GRANDE EXPLORACIONES

Una Aventura de Ciencias, Tecnología, Ingeniería y Matemáticas para chicas del 5º al 8º grados

SABADO, MARZO 9, 2019

Registro de Estudiantes 8:20 AM – 8:50 PM

Evento 9:00 AM – 2:45 PM

En el Cordiner Hall el campus de Colegio Whitman

La esquina de Park y Boyer, Walla Walla

?Habla usted español?

?Necesita ayuda para entender esta forma? Para mas ayuda llame a Della Gutierrez 509-851-4195

1. Preguntar a tu maestro.
2. Llamar a Carol Morgan al 509-520-9977
3. Preguntar en la YWCA de WW. email: GEwallawalla@gmail.com
4. Visitar el sitio web:

www.gewallawalla.com

30 Talleres que se imparten en laboratorios y salones de clases del colegio

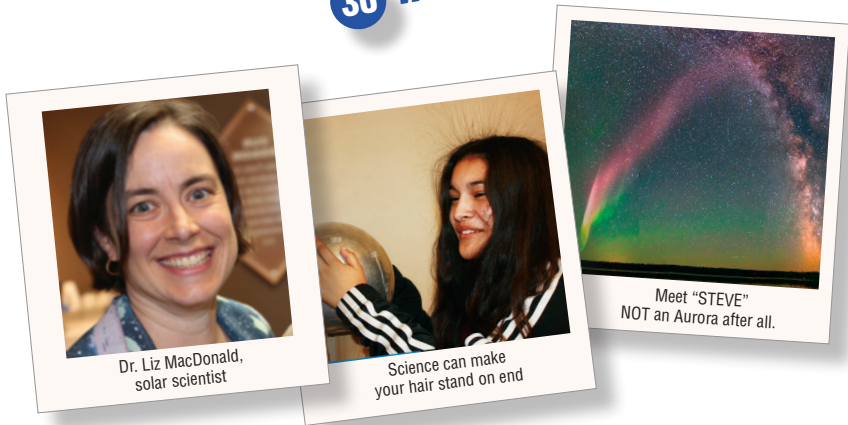
Ven y aprende cuál podría ser tu futuro

It's Time FOR
GREAT EXPLORATIONS
REACH BEYOND THE STARS
A hands-on science, technology, engineering math and arts adventure for 5th through 8th grade girls

Cordiner Hall - Whitman College Campus
Corner of Park and Boyer Streets, Walla Walla

SATURDAY, MARCH 9, 2019
Student Check-in 8:20-8:50
Event 9:00am to 2:45pm

30 WORKSHOPS



Liz is our 2019 GE Key Note Speaker, and a WA-HI Graduate of Distinction.

NEW THIS YEAR - REGISTER ONLINE !
www.gewallawalla.com • gewallawalla@gmail.com

PRE-REGISTRATION IS REQUIRED. SPACE IS LIMITED!
Registration accepted until classes are full
OR no later than Wednesday, March 6th
Registration fee of \$5.00 per person.

"What are the Northern Lights and how do you know when is the best time to see them? How can you make contributions to NASA science from Walla Walla?"

Liz will introduce you to the beautiful basics of the physics that cause the aurora borealis. She will share how you can participate in this discovery, and how scientists are using both satellite data and information from the public to figure out where and when Northern Lights are best seen. During the keynote address, you will also learn more about the Sun, magnetic fields, and glitter (!) by putting the amazing Northern Lights in the spotlight.



KEYNOTE SPEAKER

Dr. Liz MacDonald,
a 1995 Wa-Hi graduate and former Great Explorations attendee, works for NASA (National Aeronautical and Space Administration) at the Goddard Space Flight Center in Maryland. She leads a citizen science project called Aurorasaurus (<http://www.aurorasaurus.org/>), which uses citizen observations and social media to predict the Northern Lights, which can even be seen in Washington! In 2018, she announced the discovery of a new aurora called STEVE (Strong Thermal Emission Velocity Enhancement).

Liz has been studying the glitter of the Northern Lights for more than 20 years, and it never ceases to amaze her. In addition to citizen science and outreach, Liz does some amazing high-tech space physics. She has also led teams that build instruments to measure charged particles in the space environment for NASA and DOE (Department of Energy) satellite and rocket missions.

SPONSORS

Great Explorations in Education thanks the following sponsors for their generous support of the **2019 Great Explorations** in Science, Technology, Engineering and Math Conference.

Walla Walla Public Schools • Whitman College • YWCA of Walla Walla American Association of University Women - Walla Walla

GENERAL OPERATING SUPPORT

J.L. Stubblietfeld Trust • Clara and Art Bald Trust • Mary Garner Esary Trust
George T. Welch Testamentary Trust • Yancey P. Winans Testamentary Trust
Blue Mountain Community Foundation

SPECIAL THANKS TO

Whitman College Computer Science Department,
Dr. Janet Davis and the Senior Capstone Project
for developing and creating the new online registration website.

# 1. ASTRONOMY <i>Andrea Dobson</i> Star Light, Star Bright Explore how chemistry explains become an astronomer, and cross into the universe of the stars.	# 6 CHEMISTRY <i>Marion Gotz</i> Magical Chemistry Explore how chemistry explains unexpected color changes. Take home a piece of magic!	# 11 PLANT BIOLOGY <i>Britt Moss</i> Can you think like a plant? How are plants able to grow towards the light, send roots down, and decide when to flower without a brain? Use computer simulation to become a plant. Manage growth & seed production, while balancing your natural resources.	# 15 OPTICAL BIOLOGY <i>Peggy Willcuts</i> Eye Spy: The Science of Optical Illusions Learn how your eyes can be totally fooled to see things that aren't really there! Experience optical illusions that you can make and then take home.	# 19 MICROBIOLOGY <i>Elizabeth Danka</i> Breath-taking Bacteria! Tiny organisms live on us, in us, and in the world. Learn how bacteria grow, how some cause illness, and ways to prevent the spread of disease.	# 23 VETERINARY MEDICINE <i>Brooke Cox & Claudia Mattice</i> Critter Care Examine live animals, skeletons, x-rays, and more! Learn to care for those who can't tell you where it hurts.	# 27 BLOOD TYPING <i>Leslie Hubbard</i> What's Your Type? Lab coats and gloves are your uniform while you discover what happens to a blood sample in a medical laboratory. Use a microscope to see blood cells. Find out about blood type and how it can be used to save lives or solve crimes. We'll provide the "blood."
# 2 WOMEN IN MEDICINE <i>Jaime Bowman</i> Yes, We Can! Join professor Jaime Bowman, WSU School of Medicine, to explore medical careers through the eyes of female medical students and physicians.	# 7 PHYSICAL & OCCUPATIONAL THERAPY <i>Andrea Gass</i> Handy Work Try your hand at rehab. What can you do for a hand injury? Examine x-rays. Make a wrist splint. Explore electrical stimulation & other therapeutic tools.	# 12 MOLECULAR BIOLOGY <i>Mary Burt</i> Getting Cheeky Create a K'NEX DNA model and using your own cheek cells, isolate your DNA, then make it into a necklace to take home!	# 16 PHARMACY <i>Amy Amerein</i> Simple Beauty Recipes Lip gloss and dry skin cream are two everyday items which are part of pharmacy, past and present. A little math, a little chemistry, and alot of fun! Make your own lip gloss or skin cream to take home.	# 20 ROBOTICS/COMPUTER SCIENCE <i>21st CCLC / WWPS</i> Spheros, Cubelets, and littleBits Solve everyday problems using programming logic, robotics, and circuits in this hands-on, creative workshop.	# 24 HUMANE SOCIETY <i>Sara Archer</i> Puppies & Kitties & Science - Oh My! Understanding how to care for those needing a forever home.	# 28 BIOLOGY <i>Karen Hedine</i> Model DNA Make a sweet model of DNA using edible supplies.
# 3 SPACE PHYSICS <i>Liz MacDonald-KEYNOTE SPEAKER</i> Snap, Crackle, Pop Make your hair stand on end, explore what is plasma and uncover the inner workings of static electricity. Discover how tiny particles create "weather" in space and how this affects satellites.	# 8 STRUCTURAL ENGINEERING <i>Monica Nelson</i> Toothpicks and Gumdrops Discover the world of building through tasty geometry.	# 13 ENVIROMENTAL SCIENCE <i>Erendira Cruz</i> Talking Trash Trash! What do we do with it? Look behind the scenes at how we process our trash and care for our environment. Guess how long it takes for an item to decompose and build a model landfill.	# 17 AQUATIC BIOLOGY <i>Felicia Williamson</i> Crayfish Cut-Up Get to know our local little lobster, the crayfish. Dissect this important indicator species.	# 25 MEDICINE <i>Elizabeth Boland</i> Give It A Shot Discover the secret battle between germs and antibodies. Do something no doctor would ever do: Give a pretend shot to an orange or banana, then eat the patient!	# 29 MICROSCOPY <i>Nancy Forsthoefel & Michelle Shafer</i> The Secret Garden Flower pollen can fly through the air and cause us to sneeze. Take a super close look under million dollar microscopes and see why pollen is an amazing grain of life.	# 30 MOLECULAR MODELING <i>Dalia Biswas</i> Atoms to Molecules Discover how to use computers to build 3D molecules.
# 4 NEUROSCIENCE <i>Leena Knight</i> Electricity in the Brain Explore how electricity transfers messages through your neurons.	# 9 ART IN SCIENCE <i>Marianne Smith</i> Zoetrope Animations Uncover the secrets of early animation.	# 14 FORESTRY <i>Amber Mahoney</i> Up in Flames Build a fire resilient landscape. Understand the benefits of trees. Test your skills of forest management by setting it ablaze.	# 22 ENTOMOLOGY <i>Beth Thiel</i> Bee Smart Discover the amazing world of flowers and bees. Learn why bee survival is so important.	# 26 NURSING <i>Eileen Seifert</i> The Telltale Heart Lubdub, lubdub, lubdub...That sound is You! Measure pulse, temperature, blood pressure and more. What is your body saying? Understand some basic tests of health. Dissect a sheep heart to see what keeps it ticking!		
# 5 FORENSIC BIOLOGY <i>Arielle Cooley</i> DNA Crime Lab See how it's done. Discover the way DNA evidence solves crimes.	# 10 VIRTUAL REALITY <i>21st CCLC / WWPS</i> Discover the Virtual World Experience VR, AR and Mixed Reality using VR computers and headsets, iPads/iPods, and Google Cardboard technology.					

REGISTRATION
and DEADLINE
INFORMATION
HERE!



REGISTRATION

ONLINE REGISTRATION PREFERRED

WWW.GEWALLAWALLA.COM

Cut out and return this Student Registration Form with your registration fee. Please print clearly!
SPACE IS LIMITED! All spots are usually filled a week before the conference, so don't delay!

I HAVE ENCLOSED (Please check one): ☐ \$5 check **OR** ☐ \$5 cash **OR** ☐ I have made arrangements for a scholarship. (Call Carol Morgan 509-520-9977, **OR** email: GEwallawalla@gmail.com).

NOTE: Lunch will be served. We cannot accommodate special dietary needs. If you need special food, we recommend you pack your own lunch.
Water and fresh fruit will be available.

Student's First Name _____	Last Name _____
Address _____	City _____ State _____ Zip _____
Phone Number () _____	E-mail _____
School _____	Grade _____

I HAVE ATTENDED GREAT
EXPLORATIONS BEFORE.

☐ Yes ☐ No

Contact information, including email, is for registration confirmation only, and will not be shared.

- 1. Workshops are for Students ONLY.**
- Please indicate your top six different choices for workshops.
- Put each **WORKSHOP NUMBER (#)** in the space provided below.

First choice: # _____ Second choice: # _____ Third choice: # _____

Fourth choice: # _____ Fifth choice: # _____ Sixth choice: # _____

PRE-REGISTRATION IS REQUIRED. SPACE IS LIMITED!

Registration accepted until classes are full OR no later than Wednesday, March 6.

All spots are usually filled a week before the conference.

DON'T DELAY! Visit our *ONLINE REGISTRATION TODAY!* [www.gewallawalla.com](http://WWW.GEWALLAWALLA.COM)

Students who register after the conference is full will be placed on a waiting list and notified. Some students on the waiting list will be able to attend the conference due to cancellations prior to March 9th and/or no-shows the day of the conference.

Students on the waiting list who are not admitted to the conference will have their registration fee returned shortly after the conference.

Registration fee of \$5.00 per person.

For information on available scholarships, Contact Carol Morgan no later than Wednesday, March 6.

Call: 509-520-9977 **E-mail:** gewallawalla@gmail.com

ONLINE REGISTRATION 1. PREFERRED

THREE WAYS TO REGISTER!

- 1. PREFERRED**
[www.gewallawalla.com](http://WWW.GEWALLAWALLA.COM)
(Site is not mobile phone friendly)
Credit card, PayPal, Mail-in or Drop-off to Great Explorations in Education) with your registration form
Mail to: Great Explorations, Carol Morgan,
1765 Gray Lynn Drive, Walla Walla, WA 99362
- 2. Mail-in Registration**
Must be received no later than March 6.
Please enclose \$5 - cash or check (payable to Great Explorations in Education) with your registration form
Mail to: Great Explorations, Carol Morgan,
1765 Gray Lynn Drive, Walla Walla, WA 99362
- 3. Drop-off Registration**
Must be received no later than Wednesday, March 6th.
Please turn in your completed form with cash or check payment to:
YWCA, 213 S. First Avenue
Walla Walla, WA 99362