

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.

www.gewallawalla.com • gewallawalla@gmail.com

NEW THIS YEAR - REGISTER ONLINE !

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



30 WORKSHOPS

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

GREAT EXPLORATIONS
 It's Time For
REACH BEYOND THE STARS
 A hands-on science, technology, engineering math and arts adventure for 5th through 8th grade girls
 Corner of Park and Boyer Streets, Walla Walla
 Cordiner Hall - Whitman College Campus

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).



“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.

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. Stubblefield 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.

CONFERENCE GOALS

To provide 5th through 8th grade girls with an informal, hands-on experience with careers that utilize science, technology, engineering and math. To provide an opportunity to meet and form personal contacts with women in these exciting careers.

www.gewallawalla.com • [email: gewallawalla@gmail.com](mailto:gewallawalla@gmail.com)

SCHEDULE

Saturday, March 9, 2019

Cordiner Hall Lobby - Whitman Campus

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

***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 Delia Gutiérrez 509-851-4195

Pregunta cómo puedes asistir:

1. Pregunta a tu maestro.
2. Llama a Carol Morgan al 509-520-9977
email: GEwallawalla@gmail.com
3. Pregunta en la YWCA de WW.
4. Visita 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

- # 1. ASTRONOMY**
Andrea Dobson
Star Light, Star Bright
Enter an extraordinary lab, become an astronomer, and cross into the universe of the stars.
- # 2. WOMEN IN MEDICINE**
Jaime Bowman
Yes, We Can!
Join professor Jaime Bowman, WSU School of Medicine, to explore medical careers through the eyes of female medical students and physicians.
- # 3. SPACE PHYSICS**
Liz MacDonald-KEYNOTE SPEAKER
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.
- # 4. NEUROSCIENCE**
Leena Knight
Electricity in the Brain
Explore how electricity transfers messages through your neurons.
- # 5. FORENSIC BIOLOGY**
Arielle Cooley
DNA Crime Lab
See how it's done. Discover the way DNA evidence solves crimes.
- # 6. CHEMISTRY**
Marion Goetz
Magical Chemistry
Explore how chemistry explains unexpected color changes. Take home a piece of magic!
- # 7. PHYSICAL & OCCUPATIONAL THERAPY**
Andrea Gass
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.
- # 8. STRUCTURAL ENGINEERING**
Monica Nelson
Toothpicks and Gumdrops
Discover the world of building through tasty geometry.
- # 9. ART IN SCIENCE**
Marianne Smith
Zoetrope Animations
Uncover the secrets of early animation.
- # 10. VIRTUAL REALITY**
21st CCLC / WWPS
Discover the Virtual World
Experience VR, AR and Mixed Reality using VR computers and headsets, iPads/iPods, and Google Cardboard technology.
- # 11. PLANT BIOLOGY**
Brit Moss
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.
- # 12. MOLECULAR BIOLOGY**
Mary Burt
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!
- # 13. ENVIRONMENTAL SCIENCE**
Erendira Cruz
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.
- # 14. FORESTRY**
Amber Mahoney
Up in Flames
Build a fire resilient landscape. Understand the benefits of trees. Test your skills of forest management by setting it ablaze.
- # 15. OPTICAL BIOLOGY**
Peggy Willcuts
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.
- # 16. PHARMACY**
Amy Amerein
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 a lot of fun! Make your own lip gloss or skin cream to take home.
- # 17. AQUATIC BIOLOGY**
Felicia Williamson
Crayfish Cut-Up
Get to know our local little lobster, the crayfish. Dissect this important indicator species.
- # 18. DRONES**
21st CCLC / WWPS
The Future of Flight
Build and fly drones!
- # 19. MICROBIOLOGY**
Elizabeth Danka
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.
- # 20. ROBOTICS/COMPUTER SCIENCE**
21st CCLC / WWPS
Spheros, Cubelets, and littleBits
Solve everyday problems using programming logic, robotics, and circuits in this hands-on, creative workshop.
- # 21. PHYSICS**
Sue Schulz
Rocket Science!
Make and launch rockets! Blow things up! Enough said!
- # 22. ENTOMOLOGY**
Beth Thiel
Bee Smart
Discover the amazing world of flowers and bees. Learn why bee survival is so important.
- # 23. VETERINARY MEDICINE**
Brooke Cox & Claudia Mattice
Critter Care
Examine live animals, skeletons, x-rays, and more! Learn to care for those who can't tell you where it hurts.
- # 24. HUMANE SOCIETY**
Sara Archer
Puppies & Kitties & Science - Oh My!
Understanding how to care for those needing a forever home.
- # 25. MEDICINE**
Elizabeth Boland
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!
- # 26. NURSING**
Eileen Seifert
The Teletale 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!
- # 27. BLOOD TYPING**
Leslie Hubbard
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."
- # 28. BIOLOGY**
Karen Hedine
Model DNA
Make a sweet model of DNA using edible supplies.
- # 29. MICROSCOPY**
Nancy Forsthoefel & Michelle Shafer
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**
Dalla Biswas
Atoms to Molecules
Discover how to use computers to build 3D molecules.

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

Due to space constraints, parents will NOT be permitted to attend student workshops.

- 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: # _____

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DON'T DELAY! Visit our ONLINE REGISTRATION TODAY! 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

THREE WAYS TO REGISTER!

ONLINE REGISTRATION 1. PREFERRED

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 March 6.
5:30 pm, Wed., March 6th.
Please turn in your completed form with cash or check payment to:
YWCA, 213 S. First Avenue
Walla Walla, WA 99362