

GELFAND OUTREACH

Rigorous - Educational - STEM Focused - Hands-on - Fun
Spring 2020 Saturday Series Classes - Carnegie Mellon University

All Gelfand Outreach Spring Saturday Series Classes are \$55 per class from 9AM to noon. Scholarship funds are available through gifts from several Carnegie Mellon alumni. Please see last page to learn more.



Marieke Van Der Maelen

BIOMIMETICS AND THE ART OF ORIGAMI GRADES 7-9

January 25th

This workshop will be an introduction to mechanical engineering and basic coding skills for Arduino. Students interested in paper folding and interactive art are encouraged to join us! With a unique focus on biomimetics, or the imitation of natural models and creatures, this program is designed to challenge students to critically observe and find inspiration from the natural world. Through the integration of Shape Memory Alloys (SMA), LEDs, and paper engineering, students will work together to create a high/low tech sea creature with movable jaw and blinking lights. Each student will take home their own moving creation. This course is intended for students with little to no coding experience.

Marieke Van Der Maelen is a graduate student in ETC at CMU and is a 3D modeler and product of the Carnegie Mellon Pre-College Art program. At CMU, she was exposed to local art conservators, and later pursued a career as an art conservator in Chicago, where she preserved period clothing for the Harley Davidson Museum in Milwaukee, conserved ethnographic textiles from Japan and West Africa, and restored a rare Finn Juhl "floating couch." Her desire to share her knowledge with the next generation as well as connect traditional conservation practices with modern technology led her to bring her work to the classroom where she taught the science behind art conservation to students at the University of Chicago's Charter School System.



Dr. Lynley Doonan

BLOOD TYPING, DISEASES, AND DIAGNOSES GRADES 5-7

February 29th at the Mellon Institute

Blood typing is of critical importance, especially if a transfusion is needed. In this project, we will explore blood and blood typing through a variety of techniques. Using synthetic blood, students will learn about how blood interacts with the body and how blood typing occurs. Students will conduct an experiment using antibodies to identify blood type followed by examination with slides of blood smears. This will ultimately let students identify the needed blood type for a mock transfusion.

Dr. Lynley Doonan joined the Department of Biological Sciences at Carnegie Mellon University as Special Faculty in 2018. She earned her Ph.D. at the University of Pittsburgh in Molecular, Cell, and Developmental Biological Sciences with teaching minor and her B.S. in Biological Sciences at Carnegie Mellon University. She has been teaching introductory laboratory classes to expose students to a variety of basic biology laboratory techniques.



Megan Wellener

BUG BOTS GRADES K-2

January 25th and March 21st

Bounce your way into the exciting world of robots by exploring motion, power, and electricity. Discover the way motors and batteries operate. Discuss robots and bugs and then create a robot, explain how it moves, and take the robot home to share with your family and friends! Parents are invited into the class at 11:45 for a Bug-Bot parade of all the class creations.

Megan Wellener is a junior undergraduate student at Carnegie Mellon in the Tepper School of Business. Megan is focusing her studies on Marketing and Leadership and Organizational Effectives, while also working towards a minor in Global Systems Management. She has worked with the Gelfand Outreach programs over the past year and has really enjoyed her experiences. Megan is passionate about teaching and working with students to explore their different passions and interests to help make them feel supported. Prior to her time at CMU, she interned as a teacher's helper in a 3rd grade classroom and in a preschool setting. Megan has also worked at a variety of summer camps.



Jenna Wizzard Kappelt

BUILDING UP! GRADES 3-5

January 25th

From concept sketch to building, skyscrapers must be designed with geometry and physics in mind. Learn the math, science, and design behind skyscrapers. Work as a team and individually to add to Pittsburgh's skyline. How can a new skyscraper be inspired by geometry found in native Pittsburgh plants? Join us to find out!

Jenna Kappelt explores experiential architecture within the framework of environmental sustainability and social engagement. As the manager of the outreach programs at the Carnegie Mellon University School of Architecture since January 2019, she works to curate lifelong learning opportunities for people of all ages and backgrounds. She holds both a Bachelor of Architecture and a Master of Science in Sustainable Design from Carnegie Mellon and had been practicing primarily in architecture, urban design, and the solar energy industry before turning her focus to education.



Dr. Carrie Doonan

CHEMISTRY OF SHAMPOO GRADES 4-6

February 29th at the Mellon Institute

With all the hair products on the market, did you ever wonder what makes a good shampoo? Does your shampoo work the best? What does work the best mean? In this lab, you will test shampoos by doing a pH test, Determination of percent solids, Flash Foam Formation, Foam Retention, Relative Viscosity, India Ink Dispersion, and Cost of the Shampoo. After you have completed each of the tests, we will graph and compare the data on all the shampoos, and as a class, determine which shampoo works best on your hair. You may bring your own shampoo to test, and there will also be shampoo samples in the lab to test.

Dr. Carrie Doonan is the Director of Undergraduate Laboratories and a Teaching Professor in the Department of Biological Sciences at Carnegie Mellon University. She was educated at Chatham College (BS) and the University of Connecticut (Ph.D) and began her teaching career at Carnegie Mellon University in 1993. Her primary area of focus involves the teaching and administration of a range of experimental laboratories in the department. She is responsible for writing and developing experimental units, training of junior faculty and teaching assistants and is actively involved in all aspects of the undergraduate program. Dr. Doonan has adapted many of her curricular innovations for use in K-12 outreach and has been invited to present this work at regional and national forums. She served as a Biotechnology Institute National Biotechnology Teacher-Leader in 2003 and 2005 and was awarded the Julius Ashkin Teaching Award in the Mellon College of Science in 2000. She was also awarded the Mark Gelfand Award for Service Learning and Outreach in 2011.

COLORFUL CHEMISTRY CREATIONS GRADES 4-6

February 22nd

Have you ever wondered how your clothes, accessories, and foods get their color? Many are dyed using natural materials and processes dating back hundreds of years. Join us as we explore the history, economics, and chemistry of natural dyes including cochineal scales and a variety of vegetables and plants. The class features several exciting demonstrations to illustrate chemistry in action. Students will get to experiment, mixing substances and testing a variety of types of paper to determine their impact on color. Students will bring home many colorful creations of their own!



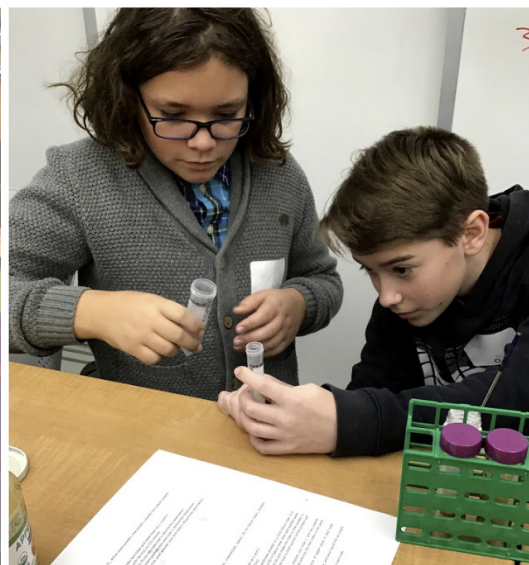
Dr. Judith Hallinen

Dr. Judith Hallinen is the Assistant Vice Provost for Educational Outreach at Carnegie Mellon University. Dr. Hallinen works with faculty and students at Carnegie Mellon to design and implement activities and events that share information about university research with external populations, including K-12 educators and students. She has worked with learners of all ages, including, but not limited to, teaching kindergarten at the CMU Children's School, science education methods to graduate students at Chatham University, and computer applications to senior citizens. Judith coordinates the Gelfand Center's STEM Ambassador program and advises university students who are interested in pursuing a career in education. She holds an EdD from the University of Pennsylvania, MAT from the University of Pittsburgh and BS from Carnegie Mellon.



Max Sprigg-Dudley

Max Sprigg-Dudley is a sophomore in the chemistry department at CMU. His career interests include the pursuit of sustainable practices in energy, water, and transportation. Max is currently doing research in the Collins Lab, working to understand and improve the performance of a revolutionary new type of water purification catalyst. Outside of class, Max is the president of the Treblemakers a Cappella group, helps host the annual CMU Science Olympiad invitational, and plays club ultimate Frisbee at Carnegie Mellon. He is excited to share his passion for chemistry with the next generation of scientists!



Students participating in hands-on STEM activities in Gelfand Outreach workshops.



Athena Chen

CRIME SCENE: DO NOT CROSS GRADES 4-6

March 21st and April 4th

Are you the next Sherlock Holmes? Do you think you have what it takes to be a detective? Come find out and solve a crime with us through forensics skills and techniques. This hands-on workshop will allow students to delve into the world of a crime scene investigator and forensic scientist. Students will investigate a mock crime scene, collect evidence, and analyze samples such as fingerprints in an attempt to catch the culprit. The workshop will deepen the understanding of the science used in a crime scene investigation and students can hopefully leave with a case closed!



Shree Patel

Athena Chen is a junior undergraduate student studying biology at CMU on the pre-optometry track where she shadows and works at an optometry clinic in her free time. She is a co-president of Future Leaders of Science, an organization dedicated to engaging students from K-12 in STEM and is the secretary of the Minority Association of Pre-Health Students. In addition, Athena is also involved in CMU Emergency Medical Services and a lead mentor for the Emerging Leaders Program at CMU. Prior to CMU, Athena had experience as a private tutor and has a passion for working with children.

Shree Patel is a freshman studying chemistry at CMU with an interest in applying science to technical problems and public policy. She played softball in high school and currently dances for CMU Raasta when she isn't teaching other students through CMU's Future Leaders of Science. In addition, she interned at a forensics laboratory over the summer where she was able to conduct the same kinds of processes that you will be utilizing in this class!



Sarah Wu

Sarah Wu is a junior studying Biology and Psychology. She is currently one of the co-presidents of the Future Leaders of Science, an outreach organization at CMU. She has teaching experience from her high school and is also an EXCEL leader through CMU's Academic Development program.



Courtney Daylong

DYNAMICS OF SUGAR GRADES 2-4

January 25th and March 21st

Have you ever wondered what sugar really is, what happens to our bodies if we eat too much and just how much is too much? You will discover how sugar is made, processed by the body and just how much gets consumed every day. Students will create their own shopping basket of common items to take home while learning and understanding the math of sugar grams in our daily diet using simple sugar cubes. This workshop deepens our understanding of an improved nutritional foundation while creating a fun, lasting impression!

Courtney Daylong is a Carnegie Mellon University, Heinz College alum. She served as a Teaching Assistant for the Communications/Public Speaking course and holds a Masters in Public Management with a focus in Strategic Planning. She spent a decade in executive leadership as a District Manager and Regional Vice President in higher education and American Honda Motor Co. throughout Minnesota and California. She also completed doctoral studies from the University of Southern California in Public Policy and earned a Bachelor of Arts in Education. After having three boys, she is now the co-Founder of Totally Fit Mama, LLC, a national nutrition business focused on women's health, giving back, and partnering with the Magee Women's Research Institute.

HEAR ME RAWR! GRADES K-2

April 4th

Have you ever wanted to understand more about dinosaurs? This workshop is for K-2 students to deepen their knowledge of dinosaurs, their existence, prehistoric life, their extinction, and the roles of paleontologists and archaeologists. Students will complete STEM based, hands-on activities such as simulated dinosaur bone excavation and fossil replication. They will also use their creativity and written work to better understand and respect the dinosaur world of the past, how it has shaped our current existence, and what implications that has on the future.

Courtney Daylong is the instructor for this class. Please see her biography on page 4.



Dr. Ioannis Gkioulekas

INTRODUCTION TO DIGITAL PHOTOGRAPHY GRADES 7-9

April 4th

This class provides an introduction to photography, optics, and imaging. We will begin by investigating properties of optical elements such as lenses, prisms, and filters, and see how we can use them to manipulate light. Then, we will go over how digital image sensors work and take a look at the internals of a digital camera. We will use this background to understand the various settings (focus, zoom, exposure) and stages (optical, analog, digital) of the modern photography pipeline. In parallel, we will get a hands-on experience with all these concepts using high-end digital cameras, including a photography competition at the end.

Dr Ioannis Gkioulekas is an assistant professor at the Robotics Institute of Carnegie Mellon University, where he has been since 2017. Before that, he was a PhD student at Harvard University, and even before that an undergrad student at the National Technical University of Athens, Greece. He works on computational imaging, which can be broadly described as coming up with systems that combine imaging (optics, sensors, illumination) and computation (physics-based modeling and rendering, inverse algorithms, learning) in innovative, unexpected, and meaningful ways. Particular problems he is interested in include imaging around walls or through skin, material acquisition, differentiable rendering, and the integration of physics-based simulation, learning, and optics. He is also more broadly interested in computer vision and computer graphics. His work has received the Best Paper Award at CVPR 2019.



Girls of Steel

INTRODUCTION TO MOBILE ROBOTICS GRADES 6-8

April 4th

This class will be conducted by members of the Girls of Steel FIRST Robotics Team, an all-girls robotics team mentored at Carnegie Mellon's Field Robotics Center. Learn about the basic tools, electronics, and materials used to build a robot chassis similar to those used for the FIRST® Robotics Competition (FRC) level robots (www.firstinspires.org). Assemble a 6-wheel drop center chassis and learn to drive it!

Girls of Steel Robotics is an organization offering outreach and FIRST team experiences to youth from the Pittsburgh area. Teams include the award-winning all-girl tenth-year FIRST® (FRC) team based at Carnegie Mellon University's Field Robotics Center. Team members are students in grades 8 (junior members) through 12 from 30+ different schools around Pittsburgh and four different educational options including traditional public, private, cyber, and home school. Girls of Steel was founded in 2010 and competed in their first FIRST robotics competitions in the spring of 2011. The Girls of Steel – more than just a robotics team – has a mission to “...empower everyone, especially women and girls, to believe they are capable of success in STEM.” The team has offered “Introduction to Mobile Robotics” multiple times – at outreach events such as Carnegie Science Center’s “Girls Rock Science” and at other workshops at Carnegie Mellon and at CalU’s Center for Innovation, as well as presentations at schools and K-12 STEM related events in the area. (www.girlsofsteelrobotics.com)



Biohybrid and Organic
Robotics Group

IT'S ALIVE! SCIENCE BEHIND LIVING ROBOTS GRADES 7-9

March 21st

How do you make robots more like animals? How do muscles work? How do you keep cells alive outside the body? The answer to all of these questions and more will be discovered in this workshop! Learn about bioinspired robots, cyborg robots, muscles and the effects of liquid nitrogen on living tissue. Explore hands-on activities to discover how electricity can control your muscles, build a syringe-powered robot and investigate the effect of super cold temperatures on the body.

Animals have long served as an inspiration for robotics. However, many of the mechanical properties, physical capabilities, and the behavioral flexibility seen in animals have yet to be achieved in robotic platforms. Towards addressing this gap, research in the CMU Biohybrid and Organic Robotics Group (B.O.R.G) focuses on the use of organic materials as structures, actuators, sensors, and controllers towards the development of biohybrid and organic robots. The research group's long-term goal is to develop completely organic, autonomous robots with programmable neural circuits. These robots will have future applications in medicine, search and rescue, and environmental monitoring.



Emily Drill

MICROSCOPIC WORLD OF CELLS GRADES 2-4

February 29th at the Mellon Institute

What do a person, an onion, and bacteria all have in common? All of these, and all living organisms, are made of cells. Most cells are too small to see by eye, but in this workshop you will use microscopes to explore what cells from organisms including plants, yeast, and bacteria look like when you get really, really close. You will prepare samples on microscope slides and see what happens to cells when you change their environment. You will learn how microscopes work – and make one of your own to take home!

Dr. Emily Drill is an Assistant Teaching Professor in Biological Sciences at CMU. She has been teaching laboratory courses at CMU since 2012 in a variety of topics including genetics, cell biology, developmental biology, and neuroscience. She teaches high school students through summer programs including the Pennsylvania Governor's School for the Sciences; most recently, she worked with a group of students on a research project using CRISPR technology.



Dr. Veronica Hinman

OCEAN LIFE GRADES K-2

February 29th at the Mellon Institute

Have you ever wondered about the animals that live in the ocean? Do you like exploring creatures of the sea? Join us in an actual marine biology lab located in the Mellon Institute of Carnegie Mellon University. You will see different sea life and learn about them and their environment. Using craft supplies, you will be able to create a model of one of the sea creatures to take home! Included in this class will be a discussion about clown fish and coral reefs. Sign up to "sea"!

Dr. Veronica Hinman is a Professor in the Biology Department at CMU. She grew up in Australia, spending time exploring the sea near her home, and camping and fishing with her family. This has given her a lifelong fascination with nature, and in particular life in the oceans. Prof Hinman did her bachelors and PhD degrees at the University of Queensland in Australia, specializing in Molecular Marine Biology. She was a postdoctoral fellow at Caltech. Her research uses several marine organisms (e.g sea stars and sea urchins) to understand how diversity evolves and also understand some of the fascinating properties that these animals have, including the ability to completely regenerate their arms. She teaches a class on the Evolution and History of Life for freshmen at CMU.



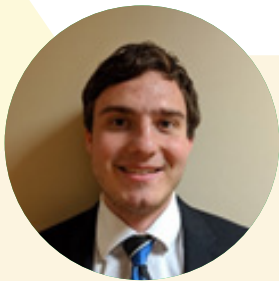
Stephanie Blackwood

OWLS: WHAT A HOOT! GRADES K-2

February 22nd and March 21st

What do owls look like? Where do they live? What do they eat? If you want to know the answers to those questions sign up for this workshop. You will discover the answers and much more as we explore the life, habitat and diet of an owl. You will be able to examine owl pellets, the regurgitated remains of an owl's prey, build a skeleton, make observations and determine what the owl ate. What a hoot, who will go out on a limb to join us?

Stephanie Blackwood is a junior undergraduate student at CMU and has been a part of the Leonard Gelfand Center's Saturday Outreach programs since her freshmen fall semester. She is studying biology and psychology with a minor in biomedical engineering while involved in on-campus biology research. In addition to her research, Stephanie has a passion for teaching. Prior to her time at CMU, she was a math and Spanish tutor, and over the summer, she is a teacher for Destination Science summer camp, where she leads science lessons about robots, programming, chemistry, and physics to students in grades K-6.



Nathan Holzmueller

PHYSICS IS PHUN! GRADES 5-7

March 21st

Have you ever been fascinated by the physical world? Come, get a behind the scenes look at it. We will explore fundamental properties of physics and how they affect our day-to-day lives. This workshop will include formal instruction (topics including Newton's Laws, gravity and gravitational forces, and sound waves) along with group activities where students will perform activities such as making their own scale and stethoscope.

Nathan Holzmueller is a fourth-year student at Carnegie Mellon University pursuing a Bachelor of Science in Physics along with a minor in Statistics. Nathan has experience as a research assistant for Professor Randall Feenstra of Carnegie Mellon University Physics. He has also been a mentor in Carnegie Mellon University's physics outreach program and worked as a teaching assistant for the Leonard Gelfand Center this past summer and fall.



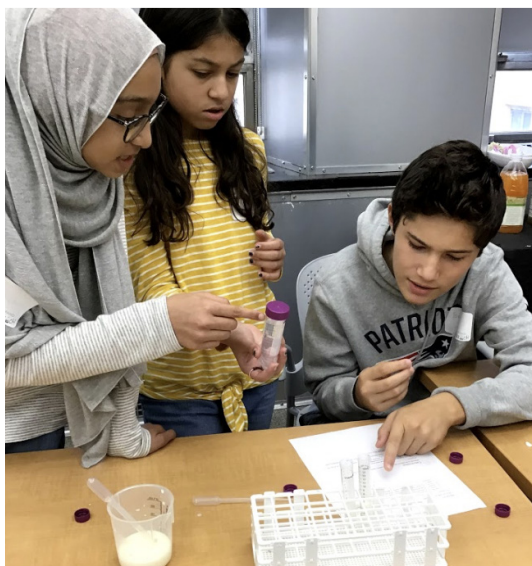
Mimi Wertheimer

POLLINATION STATION GRADES K-2

April 4th

Do you like Pizza? Fries? Ice cream? If so you owe bees a big thank you! Bees are responsible for pollinating 80% of the world's plants, getting all our favorite foods to the table. In this class we will investigate and simulate all aspects of pollination to better understand the role bees play in our food system and our ecosystem.

Miriam "Mimi" Wertheimer joined the Leonard Gelfand Center for Service Learning and Outreach in the fall of 2019 as Program Administrator and LGC Tutor Coordinator. She has a Master of Arts in Teaching from Chatham University (K-6) and has worked in public, private, and charter schools, teaching everything from Early Childhood Education to Middle School English Language Arts. As the Program Administrator, Miriam facilitates enrollment for the Gelfand Outreach Saturday and Summer Series programs. Additionally, Miriam coordinates tutoring programs in collaboration with Pittsburgh area schools and after-school programs that provide CMU students with opportunities to work as tutors, teaching assistants, and mentors.



*Left: A group of Gelfand Outreach students in the How Enzymes Work class work together on an experiment.
Right: Students learn about polymers in the Fall 2019 Marvelous Macromolecules class.*



Dr. Natalie McGuier

POWERFUL PROTEINS GRADES 3-5 February 29th at the Mellon Institute

Students will investigate the power of enzymes present in the foods we eat, like pineapples, and those used to make the foods we love, like mozzarella cheese. We will complete short experiments to illustrate how and why enzymes break down proteins in milk to form cheese and how enzymes present in fresh pineapple can break down carbohydrates. No food of any kind will be consumed during this class.

Dr. Natalie McGuier is an Assistant Teaching Professor in Biological Sciences at CMU. She has been a laboratory instructor since 2016 teaching a variety of labs and topics including experimental genetics, modern biology, brewing science, phage genomics, and course-based undergraduate research experience courses. Through these courses she has worked with first-years, non-majors, and upperclassmen biology majors. Natalie has also worked with high school students through the Pennsylvania Governor's School for the Sciences teaching neuroscience electives and leading group research projects.

SHAPING OUR WORLD GRADES 4-6 January 25th

Shaping our world is structural geometry at work! Lego lovers, block builders, and future engineers: come put your building knowledge to the ultimate test! Together we will attempt to literally carry our weight as we engage with mathematical and scientific principles of shapes. Using a variety of materials, students will build weight bearing structures, both experimentally and through the implementation of structural geometry, in which specific shapes are incorporated into designs for their weight-bearing capabilities.

Miriam "Mimi" Wertheimer is the instructor for this class. Please see her biography on page 7.



Dr. Coty Jen

SMOG, CLOUDS AND CLIMATE GRADES 6-8

February 22nd

The air we breathe in is filled with millions of tiny dust particles and gas molecules emitted from trees, wildfires, cars, and thousands of other sources. These particles and gases affect visibility and our health. This hands-on workshop will explore the different ways dust particles form in the atmosphere to create smog and clouds. We will also investigate how particles in the air impact Earth's climate.

Dr. Coty Jen is an assistant professor of Chemical Engineering at CMU. She joined the department in fall 2018 and is member of the Center for Atmospheric Particle Studies. Her research focuses on how nanoparticles form and grow in the atmosphere and ultimately impact the environment. In addition, her group designs and builds instruments capable of measuring the composition of 1 nm particles formed from manmade pollution and biogenic emissions. Her previous research examined the millions of organic compounds emitted during wildfires and how these compounds impact human health and air quality. Dr. Jen completed her B.S. in Chemical Engineering at Columbia University, M.S. in Chemical Engineering at University of Minnesota- Twin Cities, Ph.D. in Mechanical Engineering at University of Minnesota- Twin Cities, and postdoc in Environmental Science, Policy, and Management at University of California, Berkeley.



Dr. Carla Bevins

STOCK MARKET GRADES 3-5

April 4th

What are stocks? How do people make decisions about buying stocks? See what it's like to be a stock trader by participating in a stock market simulation. Buy stocks, pay commissions, and trade stocks with your friends. We have a challenge for you: can you invest some "money" and turn it into a whole lot more? Play our game and find out!

Dr. Carla Bevins is an Assistant Teaching Professor of Business Communications in the Tepper School of Business at Carnegie Mellon University (CMU). Dr. Bevins taught in the School of Information Sciences at the University of Kentucky (UK) and as a Visiting Educational Scholar at Qingdao Technological University. She earned her B.A. in English and Creative Writing with a concentration in Public Relations from Butler University and her Ph.D. in Communications from UK. She holds Graduate Certificates from the UK in Health Communications, Medical Behavioral Sciences, Statistics, and Distance Education. At CMU, Dr. Bevins mentors undergraduate and MBA students and teaches Business Communications, Business Presentations, and Interpersonal Managerial Communication.



Shannon Wertz

WEDO ROBOTICS GRADES 3-4

January 25th or February 22nd

New and improved! Explore the world of robotics using the new LEGO WeDo 2.0 kit designed specifically for younger students. Build LEGO models that feature working motors and sensors, then program them to move and react to the world using an intuitive "drag-and-drop" interface. This class will include completely new build projects and programming challenges from previous semesters!

Shannon Wertz is a second-year undergraduate student at CMU studying Decision Sciences and Business Administration. She is involved in research with CMU's Center for Behavioral and Decision Research, and is a teaching assistant with the Psychology Department. She has worked with the Leonard Gelfand Center's outreach program since her first semester at CMU, as a Saturday Session TA and an afterschool tutor at Assemble. She is also heavily involved in STEM outreach through FIRST Robotics; as a high school senior, Shannon initiated a \$2,500 FIRST program at her elementary school including 10 robotics teams, and she currently coaches the Girls of Steel high school FIRST team which meets on the CMU campus.

YOUNG ENTREPRENEURS: AN ECONOMICS MARKET GRADES 3-5

February 22nd

Have you ever wanted to run your own business? This workshop encourages creativity and deepens the understanding of being both an entrepreneur/producer while also being a consumer. Each student will create a good to "sell" in class, and a store "front", to understand the dynamics between supply and demand. This workshop allows students to experience what it's like to own and operate a business through virtual simulations and in-class explorations. It will also include simple and complex business vocabulary and accounting.

Courtney Daylong is the instructor for this class. Please see her biography on page 4.

Gelfand Outreach Spring 2020 Saturday Series Classes

Classes are \$55.00 each and are conducted from 9:00AM to noon
at Carnegie Mellon University and the Mellon Institute.*

January 25th

Gr. K-2: Bug Bots
Gr. 2-4: The Dynamics of Sugar
Gr. 3-4: WeDo Robotics
Gr. 3-5: Building Up!
Gr. 4-6: Shaping Our World
Gr. 7-9: Biomimetics and the Art
of Origami

February 22nd

Gr. K-2: Owls: What a Hoot!
Gr. 3-4: WeDo Robotics
Gr. 3-5: Young Entrepreneurs - An
Economics Marketplace
Gr. 4-6: Colorful Chemistry Creations
Gr. 6-8: Smog, Clouds and Climate

February 29th

**ALL Classes on this date
take place at the Mellon Institute**

Gr. K-2: Ocean Life
Gr. 2-4: Microscopic World of Cells
Gr. 3-5: Powerful Proteins
Gr. 4-6: Chemistry of Shampoo
Gr. 5-7: Blood Typing, Diseases,
and Diagnoses

March 21st

Gr. K-2: Bug Bots
Gr. K-2: Owls: What a Hoot!
Gr. 2-4: Dynamics of Sugar
Gr. 4-6: Crime Scene: Do Not Cross
Gr. 5-7: Physics is Phun!
Gr. 7-9: It's Alive! Science Behind Making Living Robots

April 4th

Gr. K-2: Hear me RAWR!
Gr. K-2: Pollination Station
Gr. 3-5: Stock Market
Gr. 4-6: Crime Scene: Do Not Cross
Gr. 6-8: Introduction to Mobile Robotics
Gr. 7-9: Introduction to Digital Photography

To apply for scholarship funds, please submit a copy of the first page of your IRS 1040 tax form from 2018

SAVE THE DATE!



SAVE THE DATE!

Gelfand Outreach will be back with the 2020 Summer Series running from June 15th - June 26th and July 6th - 24th. STEM Classes will be 9:00am - 12:00pm, with an aftercare option until 4:00pm each week! More information coming soon!

