

**Carnegie Mellon University**  
Leonard Gelfand Center

Spring 2023  
Saturday Workshop Series



# GELFAND OUTREACH

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GelfandCenter@andrew.cmu.edu

RIGOROUS - EDUCATIONAL - STEM FOCUSED - HANDS-ON - FUN!



**FEE FOR EACH  
WORKSHOP IS \$55\***

\*Scholarship funding is provided by CMU alumni and available for eligible students. Please see last page for more information.

Workshops are conducted on selected Saturdays each month on CMU's campus.

## **BLOOD TYPING, DISEASES AND DIAGNOSES GRADES 5-8**

February 18th 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 a 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.

## **BUG BOTS GRADES K-2**

January 28th OR April 1st

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 to attend the Bug Bots parade at the end of class.



**Rose Luttmer** is a second-year student studying Mathematical Sciences. She is involved in the math club and quiz bowl team at CMU and is a teaching assistant with the math department. She enjoys sharing her love of STEM with others, and has volunteered as a math tutor, quiz bowl coach, and at a science summer camp in the past. Additionally, Rose has worked in a variety of childcare settings, including an after-school program, as a ski instructor, and most recently, as a supervisor at an overnight camp for children with social, emotional, and behavioral challenges. In her free time, Rose enjoys reading, playing quidditch, and spending time with friends and family.

## BUILD AN AUTONOMOUS ROVER GRADES 5-7

March 18th

Have you ever wondered how robots on Mars navigate and explore the planet on their own? How do they sense the environment around them and avoid obstacles? This session will introduce you to the basics of robotics exploration by discussing perception and motion planning applied on a planetary rover. Use those skills to build and code a small robotic rover that perceives and avoids obstacles just as it would on other planets!

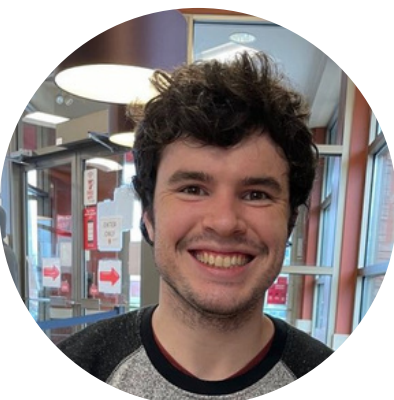


**Aditi Srivastava** is a first-year undergraduate student in Cognitive Science at CMU. She is currently a research assistant in the Social and Decision Sciences Department. In high school, she was a member of the Girls of Steel Robotics program for 5 years, first as a FIRST Tech Challenge team member, then as a FIRST Robotics Competition team member and finance lead. With Girls of Steel, she also worked on a Lemelson-MIT Grant-winning project called BuzzBand, a wearable device to help individuals with sensory sensitivities. She was also a member of the Student Advisory Board for the newly opened Moonshot Museum in Pittsburgh, developing and hosting a podcast to share stories of women in the space industry. Aditi loves working with and mentoring kids, showing them how cool technology and innovation can be!

## BUILDING BLOCKS OF 3D PRINTING GRADES 3-5

April 1st

What do Legos, sandcastles, and 3D printing have in common? In this workshop, we will explore how building up layers of material forms the foundation behind 3D printing. Through building up parts using different materials and techniques, students will learn about novel manufacturing methods while working to achieve goals with their built parts.



**Alex Gourley** is a first-year Ph.D. student in mechanical engineering working on additive manufacturing at CMU. He was born and raised in Iredell County, North Carolina. Alex went to Duke University and double majored in mechanical engineering and chemistry. While at Duke he played on the football team as a center for the offensive line. He was a member of the Duke Motorsports team and worked one summer for a NASCAR team. Outside of his studies, Alex enjoys playing video games, music, and woodworking.

## CAMERAS AND DISPLAYS GRADES 5-7

March 18th

Let's play with light! Building your own cameras and displays is not just fun—it's good engineering practice. We will convert your cellphone into a microscope and use it to magnify tiny objects and explore interesting subjects. Then we will explain how we see in 3D and build a glasses-free 3D display. Next, we will produce the illusion of motion with a zoetrope microscope and magnify tiny objects and explore interesting subjects. Finally, we will understand how we see in 3D and build a 3D display, the opposite of a camera.



**Dr. Matthew O'Toole** is an Assistant Professor with the Robotics Institute and Computer Science Department at CMU. Before moving to Pittsburgh, he received a Ph.D. from the University of Toronto and completed a postdoctoral fellowship at Stanford University. His research interest is in computational photography, a topic that lies at the intersection computer graphics and computer vision. Matthew is also a member of the CMU Computational Imaging group (<https://imaging.cs.cmu.edu/>), whose research goal is to develop the next generation of camera and display technologies.

## CHEMISTRY OF SHAMPOO GRADES 4-6

February 18th at the Mellon Institute

With all the hair products on the market, do 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 testing the pH, determining the 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, and the Richard Moore Award in 2022.

## COMPLEX FLUID TOYS GRADES 5-7

April 1st

Is slime a liquid or a solid? What about a gummy worm? In this workshop we will explore the world of complex fluids, which are materials that aren't quite solids, but aren't quite liquids either! We'll learn all about the chemistry that makes these types of materials squishy and gooey, along with how chemical engineers use these materials to make products we use every day, including toys like silly putty and bouncy balls.



**Dr. Joanne Beckwith** is an assistant teaching professor in the Department of Chemical Engineering at Carnegie Mellon University. She earned her Ph.D. from the University of Michigan where she studied bacterial and fungal biofilms which are a common cause of medical device infections. She also worked as a manufacturing engineer at a company that makes paint pigment. Currently, she teaches Intro to Chemical Engineering, and the Chemical Engineering Lab courses. She is passionate about helping students understand the impact that chemical engineering has on their everyday lives and the wide range of job opportunities a degree in chemical engineering offers. When she is not teaching, you can find her going for a run or rock climbing.



**Harrison Lawson** is a third-year Chemical Engineering doctoral student at Carnegie Mellon University. He conducts research in Professor Si-Yang Zheng's Biomedical Engineering Lab, where he focuses on designing novel nanoparticle formulations for delivering nucleic acid therapeutics. Harrison hopes his research will lead to new vaccine formulations and therapies for rare genetic diseases. He received his B.S. in Chemical Engineering at the University of Pittsburgh in 2018 and his M.S. in Chemical Engineering at Michigan State University in 2020. When he's not working, Harrison enjoys listening to music, cooking, and going to trivia nights with his friends.



**Megan Walsh** is a second-year Ph.D. student in the Chemical Engineering department at Carnegie Mellon. She enjoys exploring chemical engineering problems through math and coding lenses. Specifically, she works on computational research aimed at optimizing large-scale pharmaceutical production processes. Before coming to CMU, Megan attended the University of Connecticut to study chemical engineering and graduated with a B.S. in 2021. Outside of school, Megan enjoys hiking, baking, and playing the flute.

## DNA AND EVOLUTION GRADES 5-7

February 18th at the Mellon Institute

You may have heard of DNA, but have you ever wondered what DNA looks like and what its job is? DNA is what makes you you, a strawberry a strawberry, and is what made a T-rex a T-rex. We will explore how DNA functions and changes by mutation, and how DNA mutations cause animals on the Earth to evolve and change. In this activity, you will get to break apart the cell membrane of a strawberry and extract its DNA. You will get to see, touch, and take-home actual DNA. You will get to see and touch diverse types of live animals and put together a tree to show how they are related to one another, like a family tree. Finally, you will be able to play games to explore how evolution happens by a process called natural selection.



**Dr. Amber LaPeruta** has been a part-time lecturer at CMU since 2021. She earned her Ph.D. from Carnegie Mellon University in Molecular Biology and Genetics and her B.S. in Biological Sciences from Stevenson University where she minored in Mathematics and Chemistry. She has been teaching Evolution at CMU and introductory laboratory classes at Pitt which allow students to learn basic biology lab techniques while contributing to authentic research projects.

## HOW ENZYMES WORK GRADES 6-8

February 18th at the Mellon Institute

You've heard about lactose intolerance, but have you ever wondered what is missing in the body to cause it? What is the "magic" ingredient in our body to help us digest food and to sustain life? This ingredient is called an enzyme. Come and join us in this introductory course to explore what enzymes are, how enzymes work, what affects enzyme activities, and how we can use this knowledge to improve our daily life, fight disease, and even power our planet in the near future. The scientific principles introduced in this course will also be put into action through hands-on activities. In these activities, you will experience the conversion of hydrogen peroxide ( $H_2O_2$ ), a corrosive and harmful chemical, to oxygen ( $O_2$ ) by catalase; the development of the brown color on an apple or potato when cut open by catecholase; and the disappearance of egg white in a test tube by pepsin. You will also learn the cutting-edge experimental tools used to understand enzyme functions.



**Dr. Yisong Guo** is an Assistant Professor in the Chemistry Department at Carnegie Mellon University (CMU). Dr. Guo received his B.S. in Material Science and Engineering from Fudan University in China, and Ph.D. in Applied Sciences from University of California-Davis. His research group at CMU is working on an interdisciplinary field where efforts from biochemists, synthetic chemists, physicists, and spectroscopists are joined together to understand the mechanisms of chemical transformations catalyzed by enzymes. The chemical principles discovered through his research will help improve the technologies needed to make the transition to a sustainable energy future and enrich scientific knowledge in fighting disease.

## INTRODUCTION TO MEDICAL DEVICES AND BIOMATERIALS GRADES 6-8

January 28th

Medical devices vary from simple tongue depressors to complex implanted devices. We will discuss some medical devices such as pacemakers, simulators, pumps and implants. We will then follow with an introduction to biomaterials, the nonliving devices used to interact with biological systems. Hands-on activities will be used to solve some realistic medical situations.



**Women in Biomedical Engineering at CMU** This class will be conducted by members of the Women in Biomedical Engineering Team at Carnegie Mellon University. Learn about medical devices and biomaterials with demonstrations and hands-on activities on how these devices and biomaterials are designed, manufactured, and contribute to the medical field.

# LEARN ENGINEERING THROUGH MINECRAFT GRADES 5-8

April 1st

THIS WORKSHOP IS FOR STUDENTS WHO ARE FAMILIAR WITH MINECRAFT AND HAVE A MINECRAFT ID. THE TIME WILL NOT BE SPENT TEACHING THE GAME BUT WILL FOCUS ON USING MINECRAFT TO LEARN ENGINEERING.

Learn how real engineers build and launch rockets in Minecraft. What about building a Robot in Minecraft? Imagine the strongest material in the universe. Can Minecraft teach you how to build it? Interested in video games? Do you play Monopoly? Learn how to make your own fun and educational game in Minecraft. Do you collect stones? Did you know Minecraft can build and help you learn about precious stones like diamonds? Do you want to become an Engineer @ CMU? Come learn how to do this while playing Minecraft!



**B. Reeja Jayan** is an Associate Professor in Mechanical Engineering and Dean's Early Career Fellow at Carnegie Mellon University (CMU). She also holds courtesy appointments in Materials Science and Engineering, Chemical Engineering, and Electrical & Computer Engineering departments. She leads the Adaptive Experimentation Thrust at the Air Force Research Laboratory (AFRL) Center of Excellence at CMU. Her multidisciplinary lab explores ways by which electromagnetic fields can synthesize materials hitherto unavailable to conventional synthesis routes. These low temperature processed materials directly grow on flexible, lightweight substrates, enabling structurally integrated energy and sensing. Dr. Jayan is a strong believer in game-based learning methodologies that she uses extensively in her undergraduate and graduate engineering courses. Dr. Jayan is a recipient of the 2018 National Science Foundation (NSF) CAREER Award, 2017 Army Research Office (ARO) Young Investigator Award, 2016 Air Force Office of Scientific Research (AFOSR) Young Investigator Award, CMU Engineering Dean's Early Career Fellowship, the George Tallman Ladd Research Award, the Donald L. and Rhonda Struminger Faculty Fellowship, the Berkman Faculty Development Fund, and Pittsburgh Magazine's 40 Under 40 Award. Her research is also funded by the Department of Energy (DOE), Defense Advanced Research Project Agency (DARPA), and by private sponsors.

# LET'S GET BUILDING GRADES 2-4

January 28th

The world around us is filled with towering skyscrapers and bridges spanning great distances. Have you ever wondered... how do they stand? How are they built? From simple sketches to the final product, these monumental tasks are achieved to stand proudly and beautifully through the collaboration between architects and engineers. This hands-on class begins this exploration as students learn about the history, physics, and geometry of structures, before testing their own designs. How can designers balance the beauty of a building while still making it structurally sound? Come and build to find out!



**Charlie Hymowitz** is a second-year student at Carnegie Mellon University pursuing a Bachelors of Architecture with minors in Engineering and Sustainability. He is on the board for the CMU Freedom By Design chapter, a community service organization interested in engaging the Pittsburgh community through fabrication and design and is a teaching assistant within the School of Architecture. He has worked with the Leonard Gelfand Center from his first semester at CMU as both a Teaching Assistant and behind the scenes to help prepare workshops. He also previously taught K-12 courses at the Center for Architecture in NYC and at his local art museum. In his free time, you can find Charlie either running through the streets of Pittsburgh, pushing a buggy, or drawing for hours on end.

## LIQUID SCIENCE GRADES K-2

March 18th

Normal liquids can do crazy things when you look at them in the right way. Did you ever think you could watch them crawl on top of or below other liquids? This class is an introduction to the chemical and physical properties of different liquids and will allow you to apply critical thinking skills and the scientific method to make observations about liquids. Learn about physical properties such as density, viscosity, cohesion, and adhesion by observing the behavior of different liquids. You've never seen liquids this crazy!



**Teddi Bishop** is a second-year undergraduate student at Carnegie Mellon University, double majoring in chemical and biomedical engineering. Teddi works for the Leonard Gelfand Center as a teaching assistant and an office member where she organizes and prepares the classes. She also conducts research in a laboratory at the University of Pittsburgh where she works with PDMS microfluidic devices and breast cancer cell lines to study the interactions between T-cells and cancer cells. During the summer of 2023, Teddi will be working as a research and development engineering intern for Procter and Gamble. In the future, she plans on pursuing a fifth-year master's degree in Biotechnology and Pharmaceutical Engineering.

## MICROBIAL WORLD GRADES 7-9

January 28th

We are living in a microbial world. Can you imagine how many different microbes are around us or inside our body? In this project, we will introduce basic concepts of what microbes are and how they communicate with us. We will learn that some microbes are beneficial to our health while other microbes can cause diseases. The project will also consist of a hands-on lab session to help students identify microbes on our body parts and in our environment. Students will also learn how to grow bacteria and maintain a sanitary habit. Ultimately this project will let students gain new insight into the microbial world and how we should live harmoniously with it.



**Dr. Zheng Kuang** is an assistant professor in the Department of Biological Sciences at Carnegie Mellon University. He received his Ph.D. and MHS degrees from Johns Hopkins University. After that, he joined Lora Hooper's laboratory as a postdoctoral fellow at the University of Texas Southwestern Medical Center. His lab at Carnegie Mellon focuses on how gut microbes regulate mammalian circadian rhythms in metabolism and immunity. He is also interested in exploring epigenetic pathways that integrate microbial and circadian signals to regulate mammalian health and disease. This work is the basis for an NIH Director's New Innovator Award, a K99/R00 Pathway to Independence award and a Charles E. Kaufman Foundation award. Dr. Kuang's work has been published in Science, Nature Structural & Molecular Biology, Genome Research, eLife and Nucleic Acids Research.



**Dr. Junjie Ma** joined the Department of Biological Sciences at Carnegie Mellon University as a research associate II in October 2021. She received her Ph.D. in food science and technology from University of Nebraska-Lincoln, and a master's degree in diagnostics of clinical laboratory from the Medical School of Wuhan University. Before joining CMU, she worked as a postdoctoral research associate and studied the omics dataset on how dietary effect could shape the gut microbiome community. She continued her research in the gut microbiome field. Currently, she is investigating how commensal bacteria modulate the splicing patterns in the host, which could be a new communication channel between the gut microbiota and the host.



## MICROSCOPIC WORLD OF CELLS GRADES 2-4

February 18th 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; recent projects include using CRISPR technology in yeast and testing natural antimicrobial products. She holds a Ph.D. in Neuroscience from the University of Pittsburgh and a B.S. from CMU.

## PERCEIVING THE WORLD THROUGH ROBOT SENSORS GRADES 4-6

April 1st

Which household chore would you like a robot to do for you? What does the robot need to know about its surroundings to perform that chore? We will explore different sensors and discover the various types of information that they provide. Learn about how robot sensors mimic human sensing capabilities and sometimes exceed them! Build a sensor-actuator loop that reacts to its environment. Learn how machine learning is making it easier for robots to perceive the world around them.



**Dr. Oliver Kroemer** is an assistant professor at the CMU Robotics Institute. His research interests are in machine learning and robotics, with a focus on learning for grasping and manipulation. Before joining CMU, Oliver was a postdoctoral researcher at the University of Southern California. He received his Master's and Bachelor's degrees in engineering from the University of Cambridge in 2008, and he defended his Ph.D. thesis at the Technische Universitaet Darmstadt in 2014.

## SECURITY IN A COMPUTER WORLD GRADES 5-6

January 28th

Have you ever wondered what's inside your phone or tablet? Are you curious about how computers work? This workshop will introduce students to the exciting world of computing and how processors interact with security. The workshop will include a short lecture and hands-on activities on how processors compute and how fast processors can break weak passwords. We will also do hands-on activities on simple hardware operations.



**Dr. Dimitrios Skarlatos** is an assistant professor in the Computer Science Department at Carnegie Mellon University. His research bridges computer architecture and operating systems focusing on performance, security, and scalability. He has received several awards for his research including the 2021 ACM SIGARCH & IEEE CS TCCA Outstanding Dissertation award, an ASPLOS Best Paper award, two MICRO Top Picks in Computer Architecture, and two MICRO Top Picks Honorable Mentions. He earned his Ph.D. and M.S. from the University of Illinois at Urbana-Champaign and his B.S. from the Technical University of Crete in Greece.

## STOCK MARKET GRADES 3-5

March 18th

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.

## TALKING TO YOUR ROBOT GRADES 4-6

April 1st

Robots are everywhere in our daily lives, but do we recognize them all? Do we understand how we can talk with these robots? This workshop will introduce students to the basic concepts of robotics including the definition of a robot, locomotion, and planning frameworks. Students will build on these concepts through hands-on activities, coding their own robots to accomplish simple daily tasks. We are committed to students building both their coding skills and confidence in themselves.



**William Scott** is a senior computer engineer at the University of Pittsburgh. As a 2022 CMU RI Summer Scholar, he performed research with the Search-Based Planning Lab at CMU. He tested three informed path-planning algorithms to discern the best performance in cluttered urban environments. Motivated by his study abroad experience in South Africa, Will focuses on community engagement and exposing young minds to the vast possibilities of a life connected with robotics. Will has taught similar educational outreach programs at the University of Pittsburgh's Community Event Center and the greater Pittsburgh area.

## USE YOUR NOGGIN: LEARN THE BRAIN GRADES 3-5

January 28th

Come explore your brain and senses! In this workshop you will have the opportunity to learn about the electrical and chemical signals that drive your brain to see, hear, feel and think. We will have hands-on demonstrations allowing you to explore your amazing brain in action and see some surprising ways in which your senses get things right and other ways that your senses can be fooled.



**Sanjana Krishna** is a student at Carnegie Mellon majoring in neuroscience and minoring in machine learning. She is the current president of the Neuroscience Advisory Council at CMU and is passionate about research and teaching.

# YOU ARE WHAT YOU EAT GRADES K-2

March 18th

Ever wonder what happens to an apple after you eat it? From bite to breakdown, we will track its path. You will discover how food is processed and how we get energy from the nutrients. You will also create a model of the digestive system to take home to savor your experience. Can't you just taste the fun?



**Dr. Rosalyn Abbott** is an Assistant Professor in Biomedical Engineering at Carnegie Mellon University. Prof. Abbott received her B.S. and M.S. degrees in Biomedical Engineering from Rensselaer Polytechnic Institute and her Ph.D. degree in Bioengineering from the University of Vermont. She was subsequently a postdoctoral fellow in the Biomedical Engineering Department at Tufts University, working under the supervision of Professor David Kaplan, where she developed adipose and skin tissue engineered models. Her lab at CMU focuses on using tissue engineering to study metabolic regulation during the complex transition of obesity to insulin resistant type II diabetes.

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## Gelfand Outreach Spring 2023 Saturday Series Classes

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

### January 28th

Gr. K-2: Bug-Bots  
Gr. 2-4: Let's Get Building  
Gr. 3-5: Use Your Noggin: Learn the Brain  
Gr. 5-6: Security in a Computer World  
Gr. 6-8: Intro to Medical Devices and Biomaterials  
Gr. 7-9: The Microbial World

### February 18th at Mellon Institute

Gr. 2-4: Microscopic World of Cells\*  
Gr. 4-6: Chemistry of Shampoo\*  
Gr. 5-7: DNA and Evolution\*  
Gr. 5-7: Blood Typing, Diseases and Diagnosis\*  
Gr. 6-8: How Enzymes Work\*

\* These Classes take place at Mellon Institute

### March 18th

Gr. K-2: You Are What You Eat  
Gr. K-2: Liquid Science  
Gr. 3-5: Stock Market  
Gr. 5-7: Build an Autonomous Rover  
Gr. 5-7: Cameras and Displays

### April 1st

Gr. K-2: Bug-Bots  
Gr. 3-5: Building Blocks of 3D Printing  
Gr. 4-6: Perceiving the World thru Robot Sensors  
Gr. 4-6: Talking to Your Robot  
Gr. 5-7: Learn Engineering with Minecraft  
Gr. 5-7: Complex Fluid Toys

*To apply for scholarship funds, please submit a copy of the first page of your IRS 1040 tax form from 2021*

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