

5TH ANNUAL
PROJECT FIBONACCI®
STEAM LEADERSHIP CONFERENCE



- info@projectfibonacci.org
- ProjectFibonacci.org
- **(1)** 315.527.6030
- PO Box 424 Rome, NY 13442-0424





THE GRIFFIN CHARITABLE FOUNDATION'S MISSION IS TO CELEBRATE THE LEGACY OF THE GRIFFIN FAMILY BY ENHANCING THE QUALITY OF LIFE IN ROME AND THE SURROUNDING COMMUNITIES.

https://www.griffincf.org

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"The Earth without Art is just eh."
-Demetri Martin



THE MISSION OF PROJECT FIBONACCI®

The Project Fibonacci® Foundation, Inc. is a 501(c)(3) non-profit organization that provides a series of immersive learning programs on STEAM topics in cooperation with local schools, businesses and non-profit organizations.

Our year-round initiative is focused on STEAM leadership education with an entrepreneurial focus to engage scientific and artistic critical thinkers in working together to solve complex STEM problems impacting society.

Our program is further intended to grow the STEM workforce in a new way--by tapping into artistic creativity to spur technological innovation, catalyze workforce preparedness, and contribute to economic development on a broad scale.

We use the ARTS to grow tomorrow's STEM workforce, to cultivate a mindset of limitless possibilities, and guide the development of an inclusive cohort of diverse critical thinkers to tackle complex STEM problems, address future societal-technological challenges, and act as an AGENT to promote the creation of ecosystems for community revitalization and economic prosperity.

OUR MISSION

To introduce our youth to a culture of interdisciplinary STEAM learning, teaching them to become creative, independent leaders of community resurgence.

OUR VISION

Enriched STEAM Communities Driving a Modern Renaissance



MESSAGE FROM THE CHAIRPERSONS

Welcome to a week of thinking differently!

We would like to extend a warm welcome to the STEAM scholars, educators, business and community leaders, volunteers and facilitators attending the 2023 Project Fibonacci® STEAM Youth Leadership Conference. This is our Fifth annual summer conference. We have had a wonderful team planning and preparing to get ready to welcome you all! We are so excited to be back! For one amazing week, scholars will be immersed in a culture of interdisciplinary STEAM learning that is focused on innovation, while tapping into artistic creativity.

The theme of this year's conference, Adapting to Climate Change: Sustaining our Planet, Its Oceans and the Global Population, is both timely and important. Scholars will discuss global warming, attend workshops on energy density and learn to use Janusian thinking to address food and water conservation. The effects of geoengineering and carbon neutrality, along with potential unintended consequences, will be explored and discussed. In addition, a special STEAMpunk art project with Bruce Rosenbaum will be used to introduce Janusian methods of creative thinking.

Scholars will interact and collaborate with one another to solve complex STEM problems that are relevant and currently impacting society. We need imagination, creativity and determination to take us farther than we have ever gone before. Scholars are exposed to big problems and empowered to think of themselves as part of the solution.

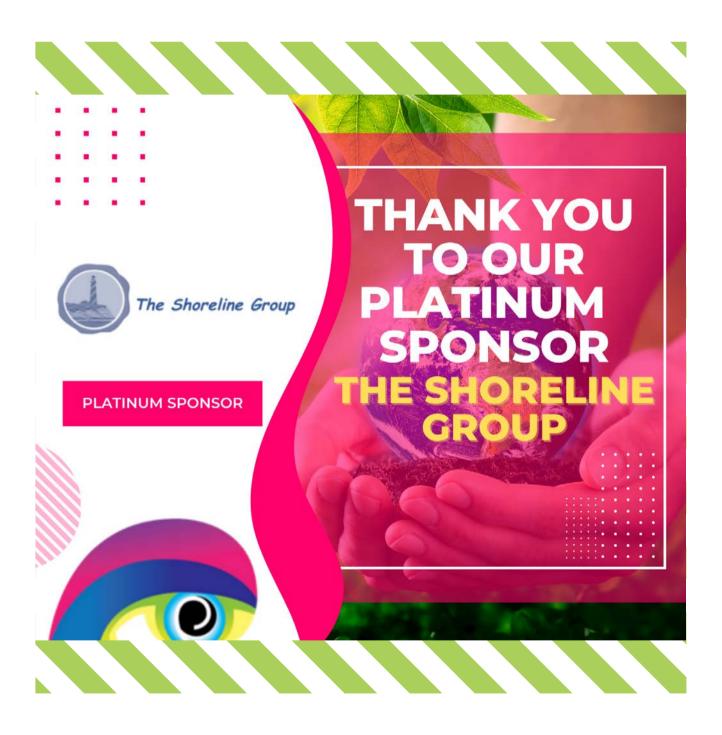
We have experts in the field of climate change joining us to share their knowledge and experience - Author, "Symphony in C", and scientist - Robert Hazen has extensive knowledge of the Carbon cycle and global warming, both its known/unknown sources; ABC Good Morning America's Chief Meteorologist, Ginger Zee will share her passion for our planet and share her experiences traveling to areas of the world affected by climate change; Galen Treuer, Director of Climate Tech & Economic Innovation Miami Dade County Florida will present a real world use case; SUNY ESF and Cornell Cooperative Extension speakers will conduct important workshops, Science Bob and many more will complete the weeks adventure.

The "Fuel your Future Fair" is a fantastic opportunity for scholars to explore potential career paths. For some, this may be a first experience in networking, as well as an opportunity to develop professional relationships. 'Ikigai' is a Japanese term, which means, reason for being. We are not preparing scholars for something, rather we hope to prepare them for anything.

We wish to extend our gratitude to the exceptional committee and team of dedicated individuals who have helped to make this conference possible. We want to thank our sponsors and supporters who are noted throughout this program. Thank you for joining us on our journey to the future!







"A good planet is hard to find."
-Robert Swan

STEERING COMMITTEE MEMBERS



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DR. MITCHELL WILBERT STEAM Outreach

NOT PICTURED: Jean Burgdorf, Colleen Potter

MEET THE BOARD



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"You are a reader, therefore, a thinker, an observer, a living soul who wants more out of this human experience."

-Salil Jha

Platinum Sponsor





Connections

We help people connect with resources We facilitate networks of support and build relationships so that they can services which foster the development of transforming the places where they live realize their full potential.

Collaboration

healthy patterns of independence.

Community

Engaged community of leaders and work for the better.

SCALING PHILANTROPIC INVESTMENTS

"We use an entrepreneurial mindset to scale philanthropic investments through connecting and collaborating with community partners."



WHAT WE DO -

WE HELP PEOPLE CONNECT

- To resources and relationships to realize their full potential
- We facilitate networks of support services for healthy independence
- Engaged community of leaders transforming where they live & work

info@upmobility.org

Little Falls, New York

TEAM FACILITATORS



DANIEL BERNABE

Physics / Aerospace Engineering Student at Le Moyne College and Syracuse University, Former STEAM Scholar



ZACHARY BERLE

Student Services Advisor, On Point for College



SHARON BIELBY

Retired School Teacher, Camden Central School District



ERIN GANNON

Science Teacher, Camden Central School District



ZACHARY GIOPPO

New York State PTA Youth Committee Chair, and Board Member; Undergraduate Research Assistant at MSU, Former STEAM Scholar



MARTHA GROUP

Superintendent, Vernon Verona Sherrill Central School District



PENNY MANN

Physics & Chemistry Teacher, Oriskany Central School, 2023 Workshop Presenter



GUY MARTIN

Retired Drug & Alcohol Counselor /
Administrator for Corrections



KEVIN MORRISROE

Math & Ethics Teacher, Notre Dame High School 2023 Workshop Presenter



JOEL SIEF

Engineer at Periton Corp. & AFRL, Member of MVAS



DEB VAN SLYKE

Director of Curriculum & Instruction, Clinton Central School District



SAFIA ZAMAN

Frost School of Music, University of Miami '23 2023 Workshop Presenter



2023 CONFERENCE THEME

The 2023 STEAM Leadership Conference will focus on the theme of adapting to climate change and sustainability as it applies to protecting the planet, its oceans, and the global population. Scholars from all over New York State and beyond will gather to confront the relevant issues while networking, developing new acquaintances, and exploring the academic and professional opportunities our area has to offer. Scholars will gain perspectives from inspiring leaders, advocates, scientists, innovators, and artistic thought leaders who are at the forefront of combatting the climate crisis.



CONFERENCE GUIDE

The Project Fibonacci®(PF) Conference is not a debate on global warming; NASA data regarding global warming is accepted as accurate and factual. STEAM scholars will be instructed to refrain from governmental / legal debates and environmental issues not related to global warming.

"Like music and art, love of nature, is a common language that can transcend political or social boundaries." -Jimmy Carter



TEAM PROJECT OVERVIEW

Each color team will produce video shorts (minimum 30 seconds) targeting specific groups with their message on Climate Change and Sustainability. The videos, along with their poster presentation, will be used by judges to select the team which best addresses the conference global warming topic – Adapting to Climate Change Sustaining Our Planet, Its Oceans, and the Global Population. The poster presentations will also be judged by the public during closing ceremonies. Completed posters and videos are due by Friday, July 28th at 5:00 pm.

The scholars will self-select participation in workshops ensuring adequate participation in all topic areas. The first topic, Communications, is focused on science communication; the second and third topics address global warming and sustainability. Team members work together to produce their team videos and poster presentations.

A successful project would know their audience and communicate their project plan in an easy-to-understand video shorts augmented by a poster presentation. The project would have selected an energy / geoengineering solution directly addressing global warming and a food / water sustainability model. The questions presented to each of the proposal teams need not be addressed in a Q & A format, but must be addressed as part of their project.

In addition to topical questions, each color team must articulate:

- The potential unintended consequences of their approach to global warming
- · Their strategy to mitigate risk associated with their approach
- · The feasibility of their approach

Our world is home to 1.8 billion young people, making it the largest generation of youth in history Together, you can make a difference by developing sustainable solutions for a better tomorrow.

VISIT OUR RESOURCE LIBRARY



In addition, team facilitators, STEM experts, and volunteers will be on-site throughout the day to help teams develop their projects.

CONFERENCE STRUCTURE

The conference includes both topical workshops and STEAM workshops, which may or may not relate to the conference topic. STEAM workshops are designed to provide a break from the topical workshops providing young scholars an opportunity to relax and participate in non-traditional STEAM activities.

The handbook addresses topical workshops, conference projects and judging. A complete conference schedule, including topical and STEAM workshops, is attached as an appendix to this handbook

STEAM scholars attending the conference will be divided into color teams. Each color team will produce video shorts and a poster presentation for judging and display during the conference STEAM Project Fair.

Each color team will participate in workshops covering three topical areas. The teams will be judged on answers to topical questions. The table below represents color team and proposal topics.

Team Color	Communications	Energy / GeoEngineering	Food / Water Sustainability
Red Team	4-6 Scholars	4-6 Scholars	4-6 Scholars
Orange Team	4-6 Scholars	4-6 Scholars	4-6 Scholars
Blue Team	4-6 Scholars	4-6 Scholars	4-6 Scholars
Green Team	4-6 Scholars	4-6 Scholars	4-6 Scholars

PROPOSAL TEAMS

COMMUNICATIONS

The Communications proposal team will focus on science communications and will assist other proposal teams in crafting a global warming and climate change message designed to engage their audience in a critical discussion of this important topic. The communications proposal team's mission is to use the skills it developed during their workshops to assist other proposal teams in answering their proposal team questions and integrating them into a single-color team video message.

Elements to Incorporate:

- Develop and integrate into their project, a strategy to communicate global warming and resulting climate change to a potentially skeptical public.
- Articulate to their community why they should, or should not be, concerned about global warming.
- Use facts to communicate their project strategy.
- Use emotion to communicate their project strategy.

ENERGY / GEOENGINEERING

The energy / geoengineering proposal team will focus on energy production, energy density and the potential of geoengineering. The proposal team's mission is to use the skills it developed during their workshops to address the proposal team questions and integrate their answers into a single-color team video message.

Questions to consider:

- How does the generation, storage and transport of power impact global warming?
- How do you recommend we generate the power we use?
- What is your recommended solution for rural areas? Urban areas?
- What is your regional strategy?
- Can we intentionally affect human impact on global warming?
- Should we actively engage in geoengineering?
- When would it be appropriate to engage in geoengineering?

SUSTAINABLE FOOD / WATER

The sustainability proposal team will focus on ensuring a sustainable food and water supply during a period of global warming. The proposal team's mission is to use the skills it developed during their workshops to address the proposal team questions below and integrate their answers into a single-color team video message.

Questions to consider:

- How does global warming impact water systems?
- How does global warming affect distribution of moisture in the atmosphere?
- What is your fresh water reuse and conservation plan?
- · How do changing weather patterns affect food availability, supply chain and storage?
- How would you modify growing environment and plants to accommodate climate changes?
- How do climate related changes to the food supply affect nutrition? At what cost?

JUDGING RUBRIC

Wt	Category	Score of 5	Score of 4	Score of 3	Score of 2
15%	Required Element	Three (3) or more questions from each question set are addressed. Potential unintended consequences are discussed and mitigated.	Two (2) questions from each question set are addressed Potential unintended consequences are discussed	Did not respond to at least one question in a required question set	Did not respond to several questions in the question set
10%	Videos	Two (2) to Three (3) short videos are produced. Target demographic is clearly understood	Two (2) to Three (3) short videos are produced. Demographic target is ambiguous	One (1) short video is produced. Target demographic is clearly understood	One (1) short video is produced. Target demographic is ambiguous.
25%	Completeness and Overall Effectiveness of Presentation	A fully integrated presentation, seamlessly integrating the three (3) topics, the videos and poster display	All required elements are addressed. A clear attempt was made to integrate the topics, videos and poster	All required elements are addressed, however minimal attempt was made at integration	One or more of the topics are not addressed in the presentation.
25%	Understanding of Content	Presented plans based on current STEAM state of art. Explained projected future technologies based on referenced sources.	Demonstrated an understanding of the STEAM solutions required for their project	Used STEAM references appropriately	Demonstrated minimal understanding of STEAM and/or proposed nonscientific approaches
15%	Creativity	Exceptionally clever and unique demonstration of clear understanding	Thoughtfully and uniquely presented while demonstrated an understanding of material	A few original touches enhanced presentation; demonstrated some understanding of material	Little creativity, originality and / or effort to understand material
10%	Quality of Presentation and Posters	Exceptionally attractive presentation	Attractive quality presentation	Acceptable, but may show lack of organization	Does not demonstrate pride in work product. A poorly conceived presentation



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SPECIAL WORKSHOP LIMITED TO ONLY 8 STEAM SCHOLARS!

STEAMPUNKINETICS: USING JANUSIAN (OPPOSITE) THINKING TO CREATIVELY SOLVE FOR CLIMATE CHANGE

Creating a Vertical Natural Garden with a Mechanical Solar Powered 'Sunflower' Water Irrigation System

STEAM Scholars will work with Bruce Rosenbaum. Steampunk artist and ModVic creator, to learn how Steampunk art and design - the fusion of history + art + technology can help us become better creatively problem solvers, collaborators and be more resilient. Students will also learn how to use Janusian (opposite) Thinking to solve challenges ranging from the small to the earth-scale, planet impact of climate change. Workshop attendees will design and build organic and mechanical vertical gardens integrating a mechanical solar powered 'Sunflower' that can pump water to the garden's plants and foliage.

Opening Ceremonies Keynote Speaker & Special Workshop Presenter

Bruce Rosenbaum is an American artist and designer based out of Palmer, MA. He is known for his work in Steampunk design, both in his home, The Steampunk House, and for what has produced by his company, ModVic. Bruce has been called the 'Steampunk Guru' by the Wall Street Journal and the 'Steampunk Evangelist' by Wired Magazine.



Rosenbaum and his wife started ModVic (from Modern Victorian), a Victorian-home restoration company, in 2007. ModVic is a steampunk art and design company that repurposes antiques and salvaged objects by transforming them into useful residential and commercial items.

Projects include his personal computer workstation housed in a Victorian pump organ, a 6foot mechanical whale for a hotel in Nantucket, Massachusetts, and a late 1800s bandsaw repurposed as a conference table and workstation.







He is also the Chairman of Sharon Historic Commission, Sharon, MA, and a Trustee of the Charles River Museum of Industry & Innovation, Waltham, Massachusetts.

Bruce Rosenbaum and his work have been featured in the Wall Street Journal, Boston Globe. The Chicago Tribune, The New York Times, CNN, Huffington Post, NPR and featured on MTV, A&E, Discovery and HGTV.

WHAT IS JANUSIAN THINKING?



Janusian Thinking, named after the Roman god Janus who had two faces looking in opposite directions, involves the ability to simultaneously hold two opposing ideas or perspectives in one's mind and find a solution that reconciles the contradictions. This type of thinking can be helpful in solving complex challenges like climate change by promoting creative and innovative approaches to problem-solving.

JANUSIAN THINKING & CLIMATE CHANGE



EMBRACE THE CONTRADICTIONS

Climate change is a complex issue that involves multiple factors and trade-offs. Janusian Thinking encourages individuals to accept the contradictions and tensions between different perspectives and find a solution that reconciles them.



EXPLORE DIVERSE VIEWPOINTS

Janusian Thinking involves looking at a problem from different angles and perspectives. By exploring a range of viewpoints, individuals can gain a deeper understanding of the problem and identify innovative solutions.



COMBINE OPPOSING SOLUTIONS

Janusian Thinking involves combining two opposing solutions to create a new, more effective solution. For example, some individuals may advocate for renewable energy sources like wind and solar power, while others may advocate for nuclear power. By combining these solutions, we may be able to create a more sustainable energy system.



FOSTER COLLABORATION

Janusian Thinking promotes collaboration and cooperation between individuals with different viewpoints. By working together, we can develop solutions that take into account the different needs and priorities of different stakeholders.



OVERALL

Janusian Thinking can be a useful tool in addressing the complex challenges posed by climate change. By embracing contradictions, exploring diverse viewpoints, combining opposing solutions, and fostering collaboration, we can develop innovative solutions that help to mitigate and adapt to the impacts of climate change.



MONDAY WORKSHOPS



CLIMATE CHANGE COMMUNICATIONS

Ruthie Gold, Yale Program on Climate Change Communications

The Yale Program on Climate Change Communication conducts scientific research on public climate change knowledge, attitudes, policy preferences, and behavior, and the underlying psychological, cultural, and political factors that influence them. In this workshop, students understand how to engage the public in discussion on climate change science and solutions.



CORNELL FRESHWATER & FOOD

Colleen McEwen, Cornell Cooperative Extension

Two-Part Workshop: First scholars will discuss water pollution and potential solutions for this, as well as wasting water and filtration systems. Scholars will make a water filter out of a water bottle. Then discuss alternative methods for urban farming (aeroponics, aquaponics), and the problems farmers face when distributing food. Learn about the solutions to revitalize soil and grow more food!



GREEN COLLAR CAREER MAPS

Samantha Brown & Matt Syke, Mohawk Valley Economic Development District

Two-Part Workshop: The first workshop, scholars will learn how to sow, grow and harvest microgreens. Participants will also learn how microgreens can help to mitigate some negative impacts of agriculture on the environment. Next, students will decorate utilize recyclable containers to plant your microgreens, plants or seedlings.



PANEL: EFFECTIVELY COMMUNICATING CLIMATE CHANGE

Ruthie Gold, Yale Program on Climate Change Communications
Galen Treuer, Climate Tech and Economic Innovation for Miami-Dade

A lively discussion on climate change knowledge, attitudes and behavior and the factors that influence public perception. The potential impact of not discussing the risk and economic impact of climate change will be discussed by the panel.



VIDEO EDITING

Rick Lewis, Capitol Arts Complex

Creating video shorts requires a strategy which includes:an understanding of your target audience, defined roles, equipment and video editing. This workshop will help you define your short strategy and review video editing techniques you will need to complete your project



A SYMPHONY IN C

Dr. Robert Hazen, Carnegie Institution for Science - Keynote Speaker

Scholars will learn how the accelerated return of carbon to the surface by digging up and burning massive amounts of hydrocarbons -- oil, gas, and coal - has disrupted the carbon cycle. The disruption of the carbon cycle is what we call the climate crisis. The workshop will discuss the incredibly powerful natural carbon sequestration methods that give us optimism for our future.



CLIMATE RISK & A FUTURE READY ECONOMY

Dr. Galen Treuer, Climate Tech and Economic Innovation for Miami-Dade County

Dr. Galen Treuer will discuss the potential impact of climate change on Miam-Dade County. He will consider the potential risks and likely economic impact of global warming. Strategies to communicate climate change to the citizens of Miami-Dade will be presented.

ESTEAMED SPEAKERS SERIES

SPONSORED BY JIM & ANITA DULAK



DR. ROBERT HAZEN

AUTHOR, SCIENTIST AT CARNEGIE INSITUTION'S GEOPHYSICAL LABORATORY AND GEORGE MASON UNIVERSITY

Special Workshop Presenter & Keynote Speaker Monday, July 24

Robert M. Hazen is Senior Staff Scientist at the Carnegie Institution's Earth and Planets Laboratory and Clarence Robinson Professor of Earth Sciences, Emeritus, at George Mason University. He received the BS and SM in geology at the MIT, the PhD at Harvard University in Earth science, and was NATO Postdoctoral Fellow at Cambridge University.

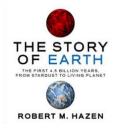
Hazen is author of more than 450 articles and 25 books on science, history, and music. Symphony in C: Carbon and the Emergence of (Almost) Everything, published by Norton in 2019, explores many facets of element #6. His 2012 book The Story of Earth (Viking-Penguin) was finalist in the Royal Society and Phi Beta Kappa science book competitions. Hazen is a Fellow of numerous scientific societies. He received the 2022 IMA Medal, the 2016 Roebling Medal, the Mineralogical Society of America Award and MSA's Distinguished Public Service Medal, the American Chemical Society Ipatieff Prize, the ASCAP-Deems Taylor Award, the Educational Press Association Award, and was the 2012 recipient of Virginia's Outstanding Faculty Award. He has presented numerous named lectures and was Distinguished Lecturer for Sigma Xi and MSA, for which he is a past President. The biomineral "hazenite" was named in his honor.

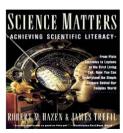
Hazen's recent research in part examines roles of minerals in life's origins, with a focus on mineral-catalyzed organic synthesis and interactions between biomolecules and mineral surfaces. Since 2008 Hazen and his colleagues have explored "mineral evolution," "mineral ecology," and "mineral informatics"—new approaches that exploit large and growing mineral data resources to explore the co-evolution of the geo- and biospheres. These studies have led to ongoing development of "An Evolutionary System of Mineralogy."

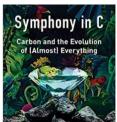
In 2008 Hazen was named Principal Investigator and in 2011 Executive Director of the Deep Carbon Observatory (DCO), a 10-year effort to achieve fundamental advances in understanding the chemical and biological roles of carbon in Earth (http://deepcarbon.net). With significant funding from the Alfred P. Sloan Foundation, the DCO is an international community of more than 1,200 collaborators from 55 countries with total anticipated funding from governmental, corporate, and private sources exceeding \$500 million.

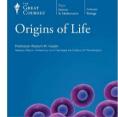
In October 2016 Hazen retired from a 40-year career as a professional trumpeter. He performed with numerous ensembles including the Metropolitan, Boston, and Washington Operas, the Royal, Bolshoi, and Kirov Ballets, the Boston Symphony, the National Symphony, and the Orchestre de Paris. Prior to his retirement he was a member and soloist with the Washington Chamber Symphony, the National Philharmonic, the Washington Bach Consort, and the National Gallery Orchestra.

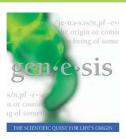
EVERY STEAM SCHOLAR WILL RECEIVE A FREE COPY OF SYMPHONY IN C!











THANKS TO THE GENEROUS CONTRIBUTION FROM JIM & ANITA DULAK!

TUESDAY WORKSHOPS



ENERGY I & ENERGY II

Dr. Danielle Kloster, State University of New York College of Environmental Sciences and Forestry

Two-Part Workshop: Scholars will interact with and discuss energy production and storage and their effect on climate change. Scholars will develop solutions for both rural and urban communities and develop strategies for each. The second workshop, scholars will interact and discuss energies role in global warming. Scholars will develop solutions to address climate change and consider potential geoengineering approaches as part of their mitigation strategy.



CREATING A SUSTAINABLE FOOD SUPPLY FOR A CHANGING PLANET

Dr. H John Sharifi, Department of Biological and Environmental Sciences, Le Moyne College

Our biosphere is changing; how do we adapt to our changing environment? The workshop will look at the problems caused by climate change and available tools which can be used to adapt our environment and our food supply to a changed biosphere.



ETHICALLY COMMUNICATING CLIMATE CHANGE

Kevin Morrisroe, Math & Ethics Teacher, Notre Dame High School

Communication ethics is how a person uses language, media, and journalism to create relationships that are guided by an individual's morals and values. These ethics involve being aware of the consequences of messaging and its effect on others. Kevin Morrisroe previously taught mathematics and theology for 43 years at Notre Dame Jr./Sr. High School in Utica, NY. He has been recognized as an Outstanding Educator by the Genesis Group, Utica Observer-Dispatch, Utica Rotary, and the Diocese of Syracuse. Kevin earned his Bachelor's degree in mathematics (with honors, magna cum laude) from Ithaca College and has done graduate work at SUNY Oswego, University of Rochester, Colgate-Rochester School of Divinity, and St, Bernard's School of Theology and Ministry.



PLANETARIUM - PLATE TECTONICS

Museum of Innovation & Science

miSci's bringing their planetarium to us! Scholars will see the changing Earth from inside of a globe. Learn and see how volcanoes, earthquakes and moving tectonic plates have shaped our physical world and continue to change the face of the Earth we live on.



THE IDEAL GAS LAW & CLIMATE CHANGE

Penny Mann, Physics & Chemistry Teacher, Oriskany Central School

Warming waters and changing weather patterns can be partially understood through ideal gas laws. The workshop will include hands on experiments which demonstrate the impact of thermal warming on water volume.



MESOZOIC MARKET

Paul Thornton, The Living Fossil

Channel your inner paleontologist! Scholars will have the chance to break open a geode or a genuine Ammonite fossil.



SOUND FOR THE BODY, MIND, AND SOUL

Debbie Lindon, Peaceful Vibes

Scholars will be given a brief overview of what sound and sound healing is then break into groups to design and build a sound instrument. Scholars will then experience a sound session using both the instructor's instruments and the instruments they designed.

WEDNESDAY WORKSHOPS



ENERGY I & ENERGY II REPEATED IN CASE YOU MISSED IT TUESDAY!

Danielle Kloster, State University of New York College of Environmental Sciences and Forestry

Two-Part Workshop: Scholars will interact with and discuss energy production and storage and their effect on climate change. Scholars will develop solutions for both rural and urban communities and develop strategies for each. The second workshop, scholars will interact and discuss energies role in global warming. Scholars will develop solutions to address climate change and consider potential geoengineering approaches as part of their mitigation strategy.



MAKING MIXED REALITY IN MARIO KART LIVE AND HOT WHEELS RIFT RALLY

Ed Tumbusch & Marin Szinger, Velan Studios

Join two folks from the Velan team to learn the history of Mario Kart Live and Rift Rally--their first primitive prototypes and how they found the way from a demo to pitch. Dig deeper into the car and its components learning how it's a mini robotics platform. Scholars will touch base on some of the tech that makes AR/MR possible and lastly jump into hands on play time with rift rally!



BEES, BEES, BEES!

Beekeeper Bill Kaufman

Scholars will learn the difference between a wasp and a honeybee and understand their impact on the environment. Understand the necessity of honeybee pollination services in the practice of industrial farming. Learn different methods of interacting with our own environment to help promote diversity in nature.



CERAMICS & STEAM

Julia Pilny, Artist & Retired Engineer

Scholars will learn how the creation of ceramics embodies all aspects of STEAM and why ceramics is a popular alternative to materials such as plastic. Participants will also be able to create and apply glaze to clay cups that they can take home!

WEDNESDAY OFF-SITE TOURS



UTICA ZOO

UTICA, NY

Join the experts at the Utica Zoo for a 45-minute guided tour focused on conservation! Utica Zoo creates unique experiences and promotes public appreciation of wildlife through education, conservation, and recreation. After the guided tour, scholars are free to explore the rest of the zoo--over 200 animals representing 99 species!



NEW YORK ENERGY ZONE

UTICA, NY

The NY Energy Zone will introduce you to the dynamic world of electricity, past, present, and future, and New York State's part in it. Interactive exhibits, activities, movies and videos meet you at every turn. Plus, you will learn about NYS's exciting electric history, its great electric companies and the important work at NYPA's Frederick R. Clark Energy Control Center in nearby Marcy.

ESTEAMED SPEAKERS SERIES

SPONSORED BY THE GRIFFIN FOUNDATION



GINGER ZEE

CHIEF METEOROLOGIST OF ABC NEWS, BEST SELLING AUTHOR, CLIMATE CHANGE ACTIVIST & MENTAL HEALTH ADVOCATE

Keynote Speaker Wednesday, July 26 @ginger_Zee



Ginger Zee is the chief meteorologist at ABC News, reporting on the nation's weather on "Good Morning America" and across ABC News broadcasts and digital platforms. Additionally, Zee hosts an ABC News original digital series "Food Forecast" that gives views an in-depth look at how weather and climate impact the food we love.

Since joining ABC News, Zee has covered almost every major weather event and dozens of historic storms. She broadcasted from the devastated Jersey Shore during Hurricane Sandy, the Colorado floods and wildfires, and covered the aftermath from tornados in Moore and El Reno, Oklahoma. In 2013, she covered extreme weather conditions ranging from the Boston blizzard to the record-breaking heat in Death Valley. In 2016, Zee covered Hurricane Matthew and its path along the east coast.

Zee's passion does not stop with storm chasing. Her love of adventure has taken her and ABC News viewers across the world. She has gone para-hawking in Nepal, flown a drone into the fissure of a volcano in Iceland, hiked the largest cave in the world in Vietnam, para-glided from the Himalayas to the Andes, dove with sharks in the Bahamas, rappelled 27 stories down the exterior façade of the Wit Hotel in Chicago. Plus, skydiving, ice boat racing and surfing live on GMA.

Zee, who has storm chased since college has a genuine passion for the atmosphere and a dedication to getting young people interested in science. Zee lends her voice to "Dr. Zephyr Skye" the storm chasing alien of Disney Junior's hit show "Miles from Tomorrowland." Additionally, Zee and her husband, Ben Aaron star in "Renovation Realities: Ben & Ginger" on DIY Network. You might also recognize her from season two of Dancing with the Stars.

The Emmy Award-winning meteorologist attended Valparaiso University and holds a Bachelor of Science Degree in meteorology. She also served as an adjunct professor at the University from 2008-2011. Zee also holds the CBM Seal for Meteorology.











THURSDAY WORKSHOPS



HOW DRONES CAN HELP THE ENVIRONMENT

Barb Welch, AndroMetaX

Scholars will gain an understanding of how drones can assist the environment in reducing emissions, assist in farming using safer and cost-effective methods and much more! Learn more about how drones can assist in many aspects--from delivering goods to saving lives.



WONDERS OF ORAGAMI

Mark Radlowski, Professor and Adminstrator Emeritus of Mohawk Valley Community College This presentation will cover a broad history of the art of origami, as well as the presenter's own experiences. It will examine recurring patterns in origami and relationships to other recursive ideas. In addition, the participants will fold several traditional origami models. Mark has been recognized for his work by receiving several awards including an MVCC Excellence in Service Award, a SUNY Chancellor's Award, and induction into the MVCC Hall of Fame. Mark earned his Bachelor's degree in mathematics (with honors, magna cum



THE SCIENCE OF THE PARANORMAL

Richard Nikodem, Paranormal Investigator, Agent Paranormal

Agent Paranormal is a local paranormal team that has investigated haunted locations across the nation. The workshop will educate you on the protocols and equipment used to investigate the paranormal. The team will touch upon technology, gear, and share some of their best evidence.



SUSTAINABLE SPIRALS: MACRAME PLANT HANGERS

laude) from Le Moyne College and a Master's degree from Syracuse University.

Tatianna Moragne, Artist

Scholars will dive into the world of macrame, a form of textile produced using knotting techniques. Participants will create their own eco-friendly macrame plant hanger, learning key knotting techniques along the way. The workshop will also explore the fascinating connection between the Fibonacci sequence and art, providing a unique perspective on the intersection of mathematics, nature, and creativity.



THE RHYTHMIC & HARMONIC FREQUENCY OF MOTHER EARTH

John Bertrand, Lead with Rhythm

Scholars will be exposed to drumming and vibration and their connection to the Earth's harmonics. Understand how the frequencies that encircle earth can be connected to humans and enrich our connection to earth.



ALL THE WORLD'S A STAGE: USING ACTING SKILLS ONSTAGE & OFF

Janet Foote, Rising Stars

Scholars will build the skills of speech, memory, and confidence while using body language in theatre and real life.



SOUND & AUDIO ENGINEERING

Safia Zaman, Frost School of Music, University of Miami '23

Led by a recent college graduate who studied music and healthcare, learn how science is the foundation for music and school/career opportunities in music! Come learn how to use music performance tactics to nail any presentation with professionalism and confidence!



THE POWER OF ART

Cameron Sanborn, C&D Advertising

Scholars will discover that Art (print, media, music...) is a powerful medium and that it has the power to move individuals to social action, manipulate and influence, entertain, and educate.

ESTEAMED SPEAKERS SERIES SPONSORED BY THE MELE FAMILY FUND



'SCIENCE BOB' PFLUGFELDER

EDUCATOR, AUTHOR & SCIENCE PRESENTER SCIENCE BOB RETURNS! 2019 PROJECT FIBONACCI SPECIAL PERFORMANCE PRESENTER Special Presentation Friday, July 28







"Science Bob' Pflugfelder is a science communicator, teacher, maker, author, and presenter that knows how to make the world of science come alive in a big way. He regularly appears on ABC's "Jimmy Kimmel Live", "Live with Kelly & Ryan", and "The Dr. Oz Show". He has also appeared on "Join Or Die With Craig Ferguson", "Good Morning America", "The Today Show", and others as well as guest starring as himself on several episodes of Nickelodeon's "Nicky, Ricky, Dicky, & Dawn". Pflugfelder has also appeared on television internationally in Japan, Rome, and Singapore.

Pflugfelder shares his excitement of science at many science and maker events including: The World Science Festival, The White House Science Fair, USA Science & Engineering Festival, The Singapore Science Festival, World MakerFaire, and MakerFaire Rome.

His popular "Nick & Tesla" children's book series has encouraged many elementary and middle school students to read and to build their own gadgets. To date, the series has been translated into 10 languages.

Articles on Pflugfelder's experiments have appeared in People Magazine, Nickelodeon Magazine, Emmy Magazine, Popular Science, Disney's Family Fun, and WIRED.

















"We shall require a substantially new manner of thinking if mankind is to survive."

-Albert Einstein

ESTEAMED SPEAKERS SERIES SPONSORED BY THE MELE FAMILY FUND

SPONSORED BY THE



WALKER SMITH

RECENT INDIANA UNIVERSITY GRADUATE, SCIENCE PEFORMER

'The Sounds of Molecules' Special Presentation before Science Bob! Friday, July 28

Walker Smith (b. 1999) is a 'musical chemist,' whose work combines research, composition, science communication, and performance. Originally from Knoxville, TN, Walker completed dual degrees in Chemistry and Music composition at Indiana University, Bloomington in December 2022. Throughout his undergraduate career, his organic chemistry research has received several prestigious national awards and fellowships, including a Goldwater Scholarship and an American Chemical Society Undergraduate Research Fellowship. When not in the chemistry labs, he was composing musical works for a variety of ensembles and genres-spanning string quartets, solo piano, chamber groups, orchestra, and musical theatre-and has written for major ensembles, including the Cincinnati Symphony Orchestra. While studying spectroscopy alongside electronic music, Walker asked the question, "What would molecules sound like?" He realized that he could combine his interests by converting spectroscopic data of molecules—which shows us the rotational, vibrational, and energetic behavior of molecules—into sounds.

From these sounds, he developed an immersive music/science show, "The Sound of Molecules," which has been presented nearly a dozen times at schools, museums, and conferences across the U.S. and in Europe. In his one-man show, he appears as the characters "Maestro Molecules" and "Roy G. Biv," taking the audience on an immersive audiovisual journey combining surround sound, lights, animations, costumes, and lasers in a "sonic tour of the molecular world." His performance has received national awards and has repeatedly made international headlines in press spanning North and South America, Europe, and South Korea. Walker plans to continue his interdisciplinary research and performances connecting chemistry and music. He has accepted a Fulbright Grant to the Netherlands (2023-24) and a Ph.D. in Computer Music at Stanford University (2024), through both of which he will continue his 'musical chemistry' work.



DAILY SOCIAL OPTIONS



ROCK PAINTING & POPCORN BAR



BOARD GAMES & OREO TASTING EXPRESS YOURSELF - THE POWER OF THE PEN

Nicole Hawley, Public Relations Specialist

Scholars will learn how expressing themselves through journal writing can be a tool in helping to build skills to maintain overall emotional and mental health. Common signs and symptoms of stress will be reviewed and students will experience how creative writing can relieve symptoms to include anxiety and feeling overwhelmed. Writing can be a way to deal with stress in a healthy way.



OUTDOOR MOVIE*, FRISBEE GOLF, OPEN SWIM



CERAMIC GLAZING & SMORES*



MOVIE RAIN DATE* & BOARD GAMES



STEWARTS ICE CREAM SOCIAL & OPEN SWIM



WAKE-UP WORKSHOPS

HOTEL GYM
WALK/RUN WITH LAMBO

*WEATHER PERMITTING



FUEL YOUR FUTURE FAIR!

FRIDAY, JULY 28 10:00-12:00

Visit our growing list of exhibitors to help inspire your future career paths and educational opportunities. Learn first-hand what experience you would need to pursue to achieve your dreams. Fill out the Fuel Your Future Fair passport for a chance to win a great prize!

ANDRO COMPUTATIONAL SOLUTIONS, LLC

ANDRO Computational Solutions, LLC, is dedicated to research, development, and application of advanced computing solutions and products for wireless communications, intelligent spectrum management, and C5ISR for defense and commercial customers. ANDRO enables future growth markets in edge computing and communications today, to give early adopters a first mover market advantage and gain market dominance as others follow.



UTICA UNIVERSITY

Utica University has 16 of the top 20 in demand majors nationwide, 11:1 student-to faculty ratio, 29 NCAA Division III athletic teams and one of the lowest tuition and fees for a private university in the Northeast!

ROCHESTER INSTITUTE OF TECHNOLOGY

Rochester Institute of Technology shapes the future and improves the world through creativity and innovation. As an engaged, intellectually curious, and socially conscious community, we leverage the power of technology, the arts, and design for the greater good.

CONNECTED COMMUNITY SCHOOLS

Connected Community Schools connects families and students to resources in their community to overcome barriers to education. We also work within the schools and local areas building healthy relationships to promote stronger communities.

JERVIS PUBLIC LIBRARY

In our fast-moving, technological society, information is essential to the well being of citizens. The library provides the materials and services needed by individuals and groups to conduct their lives. It is a center for educational, informational, cultural, historical, and recreational materials and gatherings. Public libraries have something for everyone no matter their stage in life!

ON POINT FOR COLLEGE

On Point is a college access and success program assisting students with enrollment and completion of higher education. Breaking down barriers so students can focus on graduating, and connecting students with services and resources to be better supported.

MOHAWK VALLEY COMMUNITY COLLEGE

MVCC students enjoy a strong support system of faculty, staff, advisors, and mentors and graduate cost-effectively with the skills and knowledge needed to succeed at transfer schools or in the workforce.

BLUEFORS CRYOCOOLER TECHNOLOGIES, INC.

Bluefors and Cryomech have recently joined innovative forces to become a world leader in cryogenic technology and manufacturing. Now, as the new Bluefors, a company of 600 professionals from 50+ different nationalities and growing, we are proud to continue serving quantum technology, scientific and other select industries throughout the world.





Rochester Institute of Technology











FUEL YOUR FUTURE FAIR!

NYSTEC

NYSTEC is a nonprofit technology consulting company based in Rome, New York, with offices in Albany and New York City. We serve as a trusted advisor to organizations seeking assistance with IT strategy and help clarify needs, purchase solutions, verify and validate installations, develop processes, and protect and secure the technology in place. NYSTEC employs over 350 highly skilled professionals that work with our clients across a variety of industries including health and human services, energy, education, infrastructure, environment, government operations, and finance.



ONEIDA-HERKIMER SOLID WASTE AUTHORITY

Managing the waste our region generates is everyone's responsibility. Preserving the environment through recovery and disposal is our mission. That's why years ago, Oneida and Herkimer Counties voted to create a comprehensive solid waste management system.



SUNY POLYTECHNIC INSTITUTE

SUNY Poly students enjoy a public-school tuition with the same benefits that many small private institutions boast, including small class sizes, individualized learning experiences, and a tight-knit community. With access to expert faculty and researchers, innovative career preparation, and world-class facilities, SUNY Poly offers unique opportunities for all of its students.



CORNELL COOPERATIVE EXTENSION

Cornell Cooperative Extension puts knowledge to work in pursuit of economic vitality, ecological sustainability and social well-being. We bring local experience and research-based solutions together, helping New York State families and communities thrive in our rapidly changing world.



MOHAWK VALLEY ECONOMIC DEVELOPMENT DISTRICT

Contracted through NYSERDA as workforce development specialist & contractor navigator for the Mohawk Valley. Engaged in encouraging more young people to pursue green careers and provide education on green energy and state incentives for energy efficiency and the reduction in reliance on fossil fuels.



ST. JOHN FISHER UNIVERSITY

St. John Fisher University offers four year undergraduate university with 35+ majors including sciences, math, computer science, nursing, pharmacy.



SUNY FULTON-MONTGOMERY COMMUNITY COLLEGE

Fulton-Montgomery Community College is located on 195 acres in the foothills of the beautiful Adirondack Mountains between Albany and Utica, NY. FM is dedicated to providing students with a quality education in an environment that nurtures success. With over 35 degree and certificate programs, we offer small classes, individualized attention, and many diverse programs.



WOLFSPEED

At Wolfspeed, we are driving the industry transition from silicon to Silicon Carbide. To meet the increasing demand for our groundbreaking Wolfspeed technology that supports the growing electric vehicle (EV), 4G/5G mobile and industrial markets, we are establishing a Silicon Carbide corridor on the East Coast of the United States.





ANDRO Computational Solutions, LLC, established in 1994, is dedicated to research, development, and application of advanced computing solutions and products for wireless communications, intelligent spectrum management, and C5ISR for defense and commercial customers.

ANDRO enables future growth markets in edge computing and communications today, to give early adopters a first mover market advantage and gain market dominance as others follow.

CORE TECHNOLOGIES

- · Waveform Development
- Policy-Governed Dynamic Spectrum Access
- Intelligent Spectrum Management
- Next G & Multi-Access Edge Computing
- Cognitive Radios & Software Defined Networking using Artificial Intelligence / Machine Learning



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- Blockchain-supported HyperLedger Fabric for Decentralized Mesh Networks
- C5ISR (Including Data Fusion & Tracking)
- · Sensor Resource Management
- Cosite/EME Toolkits & Independent Studies
- Cyber-Secure Wireless Communications
- . Quantum Communications

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FUTURE STEAM EVENTS

TAP INTO STEAM

Adults 21+ Fundraising Event

Join the Project Fibonacci[®] Foundation and other local nonprofit organizations for a night of fun and fundraising at Copper City Brewing Company! Details coming soon.

MOHAWK VALLEY GIVES

Project Fibonacci[®] is proud to join the 2nd Annual Mohawk Valley Gives fundraiser. Giving Day is scheduled for Wednesday, 9/20, help us spread the word!

WOMEN & STEAM CONGRESS

The highly anticipated return of the Women & STEAM Congress will take place Spring 2024. Join female leaders from the area to discuss their roles in STEAM industries, the obstacles they have overcome and their advice for you to achieve your dreams!

2024 STEAM LEADERSHIP CONFERENCE

Summer 2024- Details coming soon! Tentative Theme: Artificial Intelligence, the Smart Machine and the Human Factor

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