

THE PROJECT FIBONACCI® FOUNDATION, INC.



5TH ANNUAL PROJECT FIBONACCI® STEAM LEADERSHIP CONFERENCE 2023 SUMMARY

USING THE ARTS TO GROW
THE STEM WORKFORCE



PROJECTFIBONACCI.ORG

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ABOUT:

The Project Fibonacci® Foundation, Inc.'s year-round STEAM programs have a positive impact on communities across New York State and beyond. These programs foster innovation, creativity, and leadership in young people, preparing them for successful careers in science, technology, engineering, arts, and mathematics.

The annual STEAM Leadership conference not only provides valuable educational opportunities for attendees, but also supports local businesses and vendors, boosting the economy. Innovation camps held in various school districts across the state have even started drone clubs, which provide students with hands-on experience in emerging technologies.

We also showcase local STEM experts and professionals as workshop presenters and lecturers. By doing so, participants are motivated to excel in STEM fields and encouraged to stay and thrive in their communities.

Our goal is workforce preparedness to support local companies and encourage the next generation of scientists, artists, and leaders to stay in the area and make a positive impact. Additionally, the annual 'Fuel Your Future' College and Career Fair highlights professional and academic opportunities, paving the way for students to achieve their goals and reach their full potential.

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



2023 CONFERENCE THEME

The 2023 STEAM Leadership Conference focused 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 gathered to confront the relevant issues while networking, developing new acquaintances, and exploring the academic and professional opportunities our area has to offer. Scholars gained perspectives from inspiring leaders, advocates, scientists, innovators, and artistic thought leaders who are at the forefront of combatting the climate crisis.

“I feel I learned a lot about collaborating during this week because working as a large team with students from a wide array of backgrounds calls for strong communicating and collaborating skills with that are clearly visible in the final product in our assignment.”

-2023 STEAM Scholar



DEMOGRAPHICS

100%

2023 STEAM Scholars had their tuition fully paid for by their schools & through sponsorship organizations

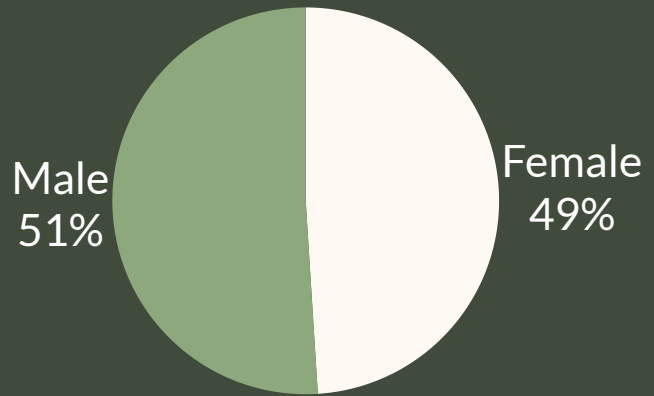
20+

Schools sent their students to attend the conference

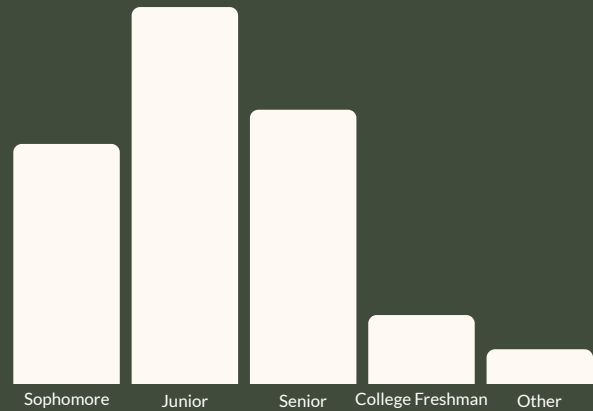
14+

Businesses, schools, & local organizations contributed toward tuition funding

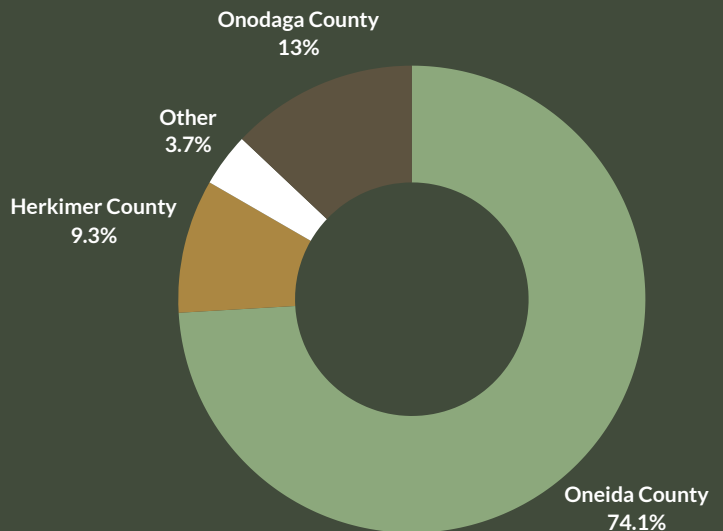
GENDER



GRADE LEVELS



COUNTIES



Winning Teams of the Judges Choice Award & The Peoples Choice Award

SCHOLAR FEEDBACK



project
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85%

Would like to return for
the 2024 STEAM
Leadership Conference

What did you like the most?

“Meeting new people and spending a week with people that share the same interests.”

“I loved the workshops, staff, and the theme of the conference. It was very interesting :)”

“The teamwork and new friends you gain in this program.”

“Having cool conversations about science, ethics, and deeper topics with kids of similar interests.”



“Thank you for the great week. Met so many people and made many great friends. I hope next year is as good as this year, if not even better. Thanks again for the great experience.”

“I am truly grateful for the opportunity to come to this conference and learn about these pressing topics that are and will influence all of our daily lives.”

“I do feel like I have gained leadership and better soft skills. I feel comfortable talking with new people about new topics.”

“I feel I learned a lot about collaborating during this week because working as a large team with students from a wide array of backgrounds calls for strong communication and collaborating skills that are clearly visible in the final product of our assignment.”

ESTEEMED SPEAKERS SERIES

DR. ROBERT HAZEN

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

Dr. Robert Hazen is an esteemed keynote speaker who recently inspired our STEAM Scholars with his special workshop and keynote speech on climate change. As a world-renowned geologist, astrobiologist, and author, Dr. Hazen's presentation was both informative and thought-provoking. He highlighted the impact of climate change on our environment and the urgent need for action to mitigate its effects. Dr. Hazen's words resonated with the audience, inspiring them to take positive steps towards a sustainable future. His expertise, combined with his engaging and charismatic speaking style, made for an unforgettable experience. Our STEAM Scholars were truly privileged to learn from such an accomplished scientist and inspiring speaker.



“The presenter was clearly knowledgeable in his subject and articulate in his viewpoints. He was passionate in his field and that helped raise all levels of interest.”

“The keynote speaker, Robert Hazen, was fantastic with fabulous articulation a presence, attitude, and energy that engages an audience.”

Every STEAM Scholar received a free copy of Symphony in C thanks to the generous contribution of Jim & Anita Dulak!

ESTEAMED SPEAKERS SERIES

GINGER ZEE

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

Ginger Zee, the famous meteorologist and climate change advocate, graced our STEAM scholars with her presence as a keynote speaker. Her motivational speech left the students feeling energized and inspired to pursue their dreams. Not only did Ginger share her extensive knowledge on climate change and its impact on our planet, but she also discussed her personal experiences as a meteorologist. The students were particularly touched by her passion for environmental advocacy and her efforts to raise awareness about climate change. Prior to her keynote address, Ginger joined the students for dinner, where she shared her insights and wisdom with them. Her presence left a lasting impression on the students, and they were grateful for the opportunity to learn from such an accomplished and inspiring individual.



Watch the Bridge Street special interview featuring NewsChannel 9's, Kate Thornton



ESTEAMED SPEAKERS SERIES

SCIENCE BOB PFLUGFELDER

EDUCATOR, AUTHOR & SCIENCE PRESENTER

Science Bob is a renowned science entertainer, known for his engaging and informative presentations that inspire young minds to explore the wonders of science. Recently, Science Bob was invited to perform for the 2023 STEAM Scholar cohort, where he shared his lifelong experiences as a science maker. With his trusty volunteers from the STEAM Scholars, Science Bob demonstrated some of the craziest experiments that left the audience awe-struck. His contagious energy and humor had the audience engaged throughout the entire presentation, leaving them with a newfound appreciation for science. Science Bob's remarkable performance was a testament to his passion for science and his dedication to inspiring the next generation of innovators and scientists.



WALKER SMITH

'THE SOUNDS OF MOLECULES' SPECIAL PRESENTATION

Walker Smith is a 'musical chemist' who has combined his two loves to create a truly captivating and unique experience. His "Sounds of Molecules" presentation is a one-of-a-kind performance that left the audience in amazement. The show featured his characters "Maestro Molecules" and "Roy G. Biv", and took the audience on an immersive audiovisual journey through the world of chemistry and music. With surround sound, lights, animations, costumes, and lasers, the performance was a feast for the senses. Walker's ability to merge science and music is truly remarkable and left our STEAM Scholars feeling amazed and inspired.



SOME OF THE WORKSHOPS HELD



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 learned how to engage the public when discussing climate change science and solutions.



CORNELL FRESHWATER & FOOD

Colleen McEwen, Cornell Cooperative Extension

Two-Part Workshop: First scholars discussed water pollution and potential solutions for this, as well as wasting water and filtration systems, and made a water filter out of a water bottle. They then discussed alternative methods for urban farming (aerponics, aquaponics), and the problems farmers face when distributing food.



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.



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. This workshop included hands on experiments which demonstrated the impact of thermal warming on water volume.



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? This workshop looked at the problems caused by climate change and available tools that can be used to adapt our environment and our food supply to a changed biosphere.



ENERGY I & ENERGY II

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

Two-Part Workshop: Scholars interacted with and discussed energy production and storage and their effect on climate change. Participants developed solutions for both rural and urban communities and developed strategies for each. In the second workshop, scholars interacted and discussed energy's role in global warming. Scholars developed solutions to address climate change and considered potential geoengineering approaches as part of their mitigation strategy.



SOME OF THE WORKSHOPS HELD



SOUND FOR THE BODY, MIND, AND SOUL

Debbie Lindon, Peaceful Vibes

Scholars were given an overview of what sound and sound healing is and then broke into groups to design and build a sound instrument. Scholars will then experienced a sound session using both the instructor's instruments and the instruments they designed.



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

Ed Tumbusch & Marin Szinger, Velan Studios

Scholars joined 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. They dug deeper into the car and its components learning how it's a mini robotics platform. Scholars touched base on some of the tech that makes AR/MR possible and finally, they jumped in hands-on play time with rift rally!



HOW DRONES CAN HELP THE ENVIRONMENT

Barb Welch, AndroMetaX

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



WONDERS OF ORAGAMI

Mark Radlowski, Professor and Administrator Emeritus of Mohawk Valley Community College

This presentation covered a broad history of the art of origami, as well as the presenter's own experiences. It examined recurring patterns in origami and relationships to other recursive ideas. In addition, the participants were able to 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 laude) from Le Moyne College and a Master's degree from Syracuse University.



THE RHYTHMIC & HARMONIC FREQUENCY OF MOTHER EARTH

John Bertrand, Lead with Rhythm

Scholars were exposed to drumming, vibration, and their connection to the Earth's harmonics. Participants learned how the frequencies that encircle Earth can be connected to humans and enrich our connection to the planet.

OFF-SITE TOURS







STEAMPUNKINETICS SPECIAL WORKSHOP



In a recent collaboration, STEAM Scholars had the unique opportunity to work alongside the renowned Steampunk artist and ModVic creator, Bruce Rosenbaum. During the workshop, students explored the fascinating world of Steampunk art and design - a captivating fusion of history, art, and technology.

Using the innovative concept of Janusian thinking, students were able to effectively tackle a range of challenges, from smaller-scale projects to larger, global issues such as climate change. By approaching problems from opposite perspectives, the students were able to unlock creative solutions and develop a deeper understanding of the issues at hand.

Throughout the workshop, attendees were tasked with designing and constructing their very own organic and mechanical vertical gardens. The gardens were outfitted with an ingenious mechanical solar-powered "Sunflower" that was able to effectively pump water to the plants and foliage. This not only provided a sustainable solution to watering the garden but also allowed for an added element of aesthetic beauty. Overall, the workshop was an inspiring and thought-provoking experience that left the students feeling empowered and inspired to create change in the world around them.

“STEAMPunkinetics allowed me to be able to produce a physical and visual concept representation of an idea.”

“I enjoyed the STEAMPunkinetics particularly because it incorporates many of the aspects of STEAM while being an entirely hands-on project beyond being just a simple model.”



STEAM FAIR - FINAL PROJECTS

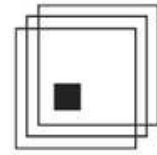
The cohort was divided into four color teams, then divided into smaller groups based on their interests, such as Communications, Energy/Geoengineering, and Food/Water Sustainability within their team. Our STEAM Scholars were tasked with creating short videos that focused on these topics using the information they learned throughout the week. By working together in diverse teams, the students were able to collaborate effectively and spread their message to a wider audience.

One of the key focuses of the conference was on teaching soft-skills, such as communication and teamwork. Through these skills, the students were able to present their final projects, which consisted of poster displays and videos targeting specific groups. These projects were presented to the public and evaluated, allowing the students to receive feedback and improve their work.

The STEAM Project Fair was a great success, with each team creating innovative and informative videos aimed at raising awareness of the importance of Climate Change and Sustainability. The STEAM Scholars presented to their families, educators, and community members.



THANK YOU TO OUR SPONSORS & SUPPORTERS

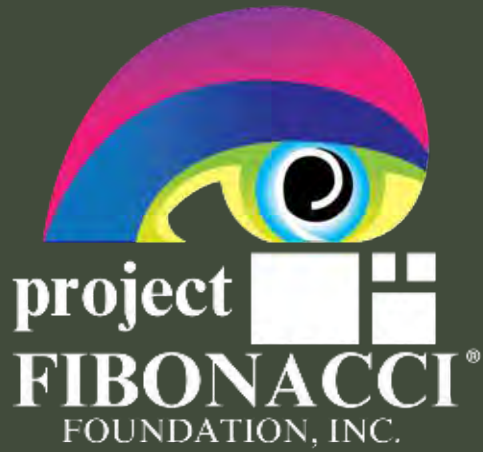


JIM & ANITA
DULAK



Dr. Mitchell Wilbert
The Washburn Fund
The Bernhard Family Scholarship
Anne M. & Carl A. Panasci Fund
Catering by Michael's (Waterville, NY)





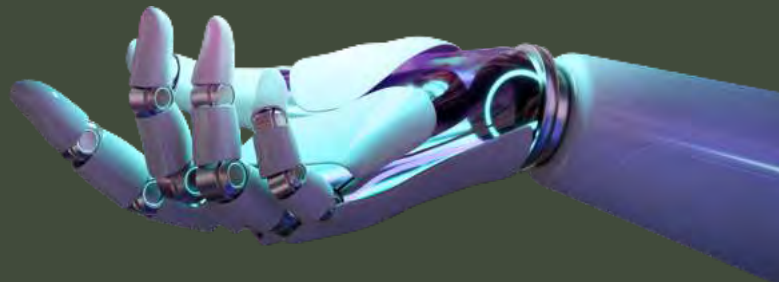
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**Artificial
Intelligence,
the Smart Machine
and the Human Factor**



AUGUST 4 - 10, 2024