

MAUI ECONOMIC DEVELOPMENT BOARD
WOMEN IN TECHNOLOGY PROJECT PRESENTS

FRIDAY
MAY 6

2016

SATURDAY
MAY 7



**HAWAII
STEM
CONFERENCE**

PROGRAM

WALEA MARRIOTT RESORT & SPA
MAUI, HAWAII

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aloha &



Download Knowledge. Upload Service

E KOMO MAI



Welcome to the 7th Annual Hawai'i STEM Conference!

Science, Technology, Engineering, and Math (STEM) education is critical in promoting the skills required in STEM careers and is key to creating innovative solutions. Our conference theme, "Download Knowledge. Upload Service", invites students to not only innovate, but to showcase how technology can be used to create a prosperous future for Hawai'i and the world.

This year, more than 883 students, educators, industry partners, and community leaders from across the state and nation will have the opportunity to inspire each other and to pass along lifelong knowledge and skills as they participate in the following Hawai'i STEM Conference events:

- On-site competitions encouraging problem-solving, critical thinking, and innovation;
- High-energy networking sessions with industry professionals from across the state and nation;
- Engaging student STEM breakout sessions featuring innovative technology, communication skills
- Showcase of STEMworks™ service-learning projects: Check out the amazing impact students across the state have through teamwork, industry collaboration, and ethical use of technology!
- Green Kidz Mini-Conference "Saving the Planet" supporting over 200 elementary students with hands-on renewable energy and sustainability activities;
- 21st century STEM professional development opportunities for Hawai'i educators;
- Memorable Star Party: Explore the galaxy courtesy of the UH Institute for Astronomy and the Amateur Astronomers;

welcome

It is with heartfelt gratitude that we thank our sponsors for their generous donations, as well as our local and national industry partners who have dedicated their time to inspire the next generation of STEM learners, builders, leaders, and innovators.

MAHALO

THE HAWAII STEM CONFERENCE TEAM

As our students engage in STEM service learning as a vehicle to effect positive change in the world, we step forward to a future of innovation, while honoring our host culture.

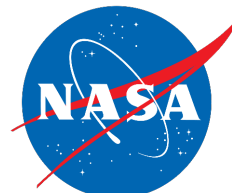
CONFERENCE SPONSORS



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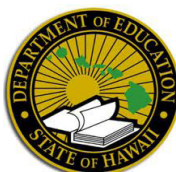
MEDB Ke Alahele Education Fund



Maui Electric



Ben Franklin Crafts



UNIVERSITY of HAWAII MAUI COLLEGE



UNIVERSITY of HAWAII HILO



UNIVERSITY of HAWAII MANOA



KEYNOTE

SPEAKERS

TERESA NEVEDOG

WEB DEVELOPER

Since her father was in the Army, Teresa grew up all over the United States. Fortunately for her and her sister, her dad never believed in gender stereotypes and instead, exposed his girls to science and technology at an early age. That exposure became Teresa's passion and later she proudly earned her degree in computer science from Hawaii Pacific University. After receiving industry training at DevLeague, she became a Full Stack Software Engineer. Since then, she worked as a subcontractor redesigning the satellite communications interface for the U.S. Air Force Space Command. She even did a stint with a health and well-being startup in New York before taking on a position with an enterprise digital marketing agency based out of Beverly Hills. As a single mother of a young daughter herself, Teresa wants to help close the gender gap in the STEM fields. She hopes to encourage her daughter and other young women to value the power of mind over "looks" and pursue the STEM skill sets that will lead to higher paying jobs.



SCOT REFSLAND

FOUNDER, CEO, EXECUTIVE PRODUCER

Scot is famous for taking crazy, big ideas that usually wind up as some incredibly cool technology. His latest passion involves building, flying and racing drones because there's no better challenge that combines his skills in virtual reality, interactive design and the love of adventure travel. And while Scot is an Eagle Scout and Ironman Triathlete with a BA from the University of Southern California and a Ph.D. in Computer Systems and Software Engineering, don't let all these big titles fool you. At heart, he's simply a die-hard geek kid, putting every skill he's learned to good use via higher level reasoning and critical thinking. If you want to hang with him, though, make sure you bring your own toolbox of imagination, creativity and logic skills, because you could end up knighted as a Co-Primary Investigator to help dream up his next crazy tech thing.

ABOUT

STEMworks™



Download Knowledge. Upload Service.



AN
ORIGINAL
PROGRAM OF THE
MAUI ECONOMIC
DEVELOPMENT
BOARD

BECOMING CRITICAL
THINKERS

LEARNING TO USE
COOL TOOLS

Unlike any other class in Hawaii's middle and high school curriculum, STEMworks™ is a multi-faceted hands-on program where students get to use the most current, high-end technologies in actual service learning projects

Students join a STEMworks™ Lab not only to learn the latest science, technology, engineering and math (STEM) technologies, they also get to work with local industry partners to apply their skills to specific issues, gaining the satisfaction of knowing their efforts are contributing toward improving life on their respective islands.

Once a STEMworks™ team identifies an existing problem/opportunity, the team is tasked with creating a project design to customize and test their solution. During the process, they learn how to develop an industry partner relationship, provide an actual deliverable and maintain an ongoing solution for the future.

In tackling a range of challenges, STEMworks™ students have the chance to develop relevant 21st century skill in:

- Animation
- Engineering Design
- Visualization
- Database Design
- Computer-Aided Design (CAD)
- Geographic Information Systems (GIS)
- Programming
- Office Automation
- Global Positioning Systems (GPS)
- Webpage Design
- Small Unmanned Aerial Systems (sUAS) Drone
- App Development

www.stemworkshawaii.org

SCHOOLS

HAWAII ISLAND

Keaau High School
Kealakehe High School

LANAI

Lanai High & Elementary School

KAUAI

Kapaa High School
Kauai High School

MOLOKAI

Molokai Middle School (Immersion)
Molokai Middle School (Non-Immersion)
Molokai High School (Immersion)

OAHU

Castle High School
Farrington High School
McKinley High School
Mililani High School
Roosevelt High School
Waipahu High School

MAUI

Baldwin High School
Iao Intermediate School
Kihei Charter School
King Kekaulike High School
Lahaina Intermediate School
Lahainaluna High School
Lokelani Intermediate School
Maui High School
Maui Waena Intermediate School
St. Anthony Junior-Senior School

STEMworks™

FACILITATORS

Beth Conroy-Humphrey
Cheryl Moore
Christi Barrow
Cindel Jacintho
David Negaard
Diane Tom-Ogata
Dez Austin
Don Jones
Elliott Buccat
Emily Haines-Swatek
George Purdy
Howard Kam
Iolani Kuoha
Jack Fuller
Jennifer Suzuki

Joe Celebrado
Jon Asato
Justin Brown
Kaeo K Kawaa
Kaaupuni Aiwohi
Kahoi Kawaa
Karen Roberts
Keith Imada
Kepa Meno
Leah Aiwohi
Lester Kunimitsu
Liz Buchter
Marc LaChance
Mark Watanabe
Mahina Hou Ross

May Richard
Melissa Montoya
Michael Marchand
Peter Hansen
Phill Proctor
Priscilla Lopez
Sue-Ann Lavarias
Stuart Owens
TC Luckey
Tessie Lumabao
Tom Norton
Trisha Roy
Tyson Kitagawa

STEM

COMPETITIONS

CAD
DESIGN

GAME
DESIGN

GIS
STORY MAP

HAWAII PROGRAM
IMPACT
APPLICATION

MUSIC

PUBLIC SERVICE
ANNOUNCEMENT
APPLICATION

PHOTOGRAPHY

STEMWORKS
VIDEO TECH TIPS

T-SHIRT
DESIGN

WHAT IS
STEMworks™?
VIDEO

ON-SITE
ROYER STUDIOS

ON-SITE
CYBER SPYWARE

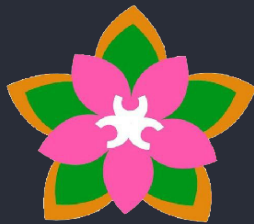
ON-SITE
DESIGN PITCH

ON-SITE
VIDEO RECAP



6th Annual 3C's

ADVERTISING COMPETITION



CREATE
COMMUNICATE
COMPETE

May 5 and 6

The sixth annual Create, Communicate, Compete (3C's) Digital Media Advertising Competition is honored to partner with the Hawaii STEM Conference to showcase the talented youth of Hawaii. Hawaii Digital Media program participants will be creating a promotional package, 1-2 minute commercial video, brochure, logo, and presentation. Students will have just one day to create and submit their work. The competition will be an amazing, fast-paced, and innovative time!

INDUSTRY 5X5 SESSIONS



INSPIRE the next generation of STEM leaders & teachers
MOTIVATE & share personal stories of your High Tech career
ENCOURAGE students to discover STEM opportunities
CONNECT the dots between the classroom & the real-world

Hawaii STEM Conference is pleased to announce the return of last year's popular "5x5" event, a high energy networking session featuring over 45 local STEM professionals and 450 STEMworks™ students.

During these fast-paced, face-to-face sessions, students will have the opportunity to engage with 5 different industry professionals every 5 minutes to learn about college and career pathways, personal experiences and more.

Some questions commonly asked: "What inspired you to choose your career?"; "What type of education do you have?"; "What is the coolest project you have worked on?" We encourage you to think about the things YOU really want to know from industry professionals, then make the most of this great opportunity. Get focused. Have fun!

PARTICIPATING COMPANIES

- | | |
|--|---|
| 2c4 Technologies | Maui Time |
| AFRL/RDSMR | Morikawa & Associates, LLC |
| Auwahi Wind | Natural Resource Data Solutions |
| Condominium Rentals Hawaii | NeXT-Monsanto |
| Da Beach House Maui | NSA |
| DevLeague | OpTerra Energy Services |
| Drone services Hawaii | Oracle |
| Goma Games | Pacific Disaster Center |
| Hawaii Energy Efficiency Program | PCATT |
| Hawaii Solar Project | Polyphonic Industries
Dogtowne Design |
| INCATech, LLC | ReasonAbility |
| Integrity Applications Inc. | Royer Studios |
| Maui Electric Company | Siemens Energy, Inc |
| Maui Institute of Art and Technology | University of Hawaii |
| Maui Invasive Species Committee | University of Hawaii Maui College |
| Maui Soil and Water Conservation Districts | West Maui Mountains Watershed Partnership |
| Maui Solar Project | |

PROGRAM SCHEDULE OF EVENTS

Thursday, May 5

8:00 AM - 10:00 PM	3C's Competition	Puakenikeni
8:30 AM - 1:00 PM	Green Kidz Mini Conference	South Pacific Ballroom

Friday, May 6

7:30 AM - 4:30 PM	Teacher Professional Development Sessions	Lokelani
8:00 AM - 10:00 PM	3C's Competition	Puakenikeni
8:00 AM - 9:45 AM	STEM Conference Registration	Aulani Ballroom Foyer

INDUSTRY

11:30 AM - 12:30 PM
AULANI BALLROOM



12:30 PM - 1:30 PM
LUNCH

SESSIONS

Onsite STEM Competitions

9:30 AM - 10:00 AM	Video Recap Kick Off	Pikake II
9:30 AM - 10:00 AM	Cyber Spyware Kick Off	Plumeria I
9:30 AM - 10:00 AM	Royer Studios Kick Off	Awapuhi
9:30 AM - 10:00 AM	Design Pitch Kick Off	Plumeria I
10:00 AM - 10:30 AM	Aloha & Welcome	Aulani Ballroom

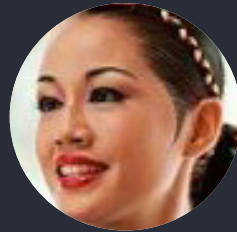
BREAKOUT SESSIONS

1:45 PM - 2:45 PM	sUAS - Small Unmanned Aerial Systems	Puakenikeni II
1:45 PM - 2:45 PM	Basic Programming	Plumeria II
1:45 PM - 2:45 PM	Technology in Agriculture	Puakenikeni I

1:45 PM - 2:45 PM	Breakout EDU	Ilima
1:45 PM - 3:45 PM	Multiplayer Game Development	Plumeria I
1:45 PM - 3:45 PM	(HipHop x STEM): A Technology of the Breaks	Pikake II
1:45 PM - 3:45 PM	Story Boarding Your Life	Maunaloa
1:45 PM - 4:45 PM	Making Minecraft Mods	Pikake I
1:45 PM - 4:45 PM	Motors & More	Room 4617
2:50 PM - 3:50 PM	Start Up Ideation Bootcamp	Ilima
2:50 PM - 3:50 PM	Technology in Agriculture	Puakenikeni I
2:50 PM - 3:50 PM	sUAS - Small Unmanned Aerial Systems	Puakenikeni II
2:50 PM - 3:50 PM	3D Printing	Plumeria II

TERESA NEDEDOG

6:00 PM - 7:45 PM
DINNER
AULANI BALLROOM



WEB DEVELOPER
INHANCE DIGITAL

KEYNOTE SPEAKER

8 PM - 10 PM
KAHOOLAWE
LAWN



JOIN THE UH INSTITUTE FOR ASTRONOMY
AND THE AMATEUR ASTRONOMERS UNDER THE
STARRY SKY & GLIMPSE OF THE COSMOS

3:55 PM - 4:55 PM	Art of Networking	Ilima
3:55 PM - 4:55 PM	Body Lingo Bingo	Maunaloa
3:55 PM - 4:55 PM	Island Energy Inquiry™	Vanda
3:55 PM - 4:55 PM	Technology in Agriculture	Puakenikeni I
3:55 PM - 4:55 PM	STEMworks™ College Toolkit	Plumeria II

Saturday, May 7

Onsite STEM Competitions

9:00 AM - 12:00 PM	Cyber Spyware Presentations	Room 4615
9:00 AM - 12:00 PM	Program Impact Assessment (PIA)	Aulani Ballroom
12:00 PM	Design Pitch Submission	Registration Desk
1:00 PM - 2:00 PM	Design Pitch Presentation	Room 4615
2:00 PM	Video Submissions Deadline	Registration Desk

BREAKOUT SESSIONS

7:30 AM - 4:30 PM	Teacher Professional Development Sessions	Lokelani
8:30 AM - 9:30 AM	Native Stream Animals	Vanda
8:30 AM - 9:30 AM	Cryptography	Ilima
8:30 AM - 9:30 AM	What does it take to become a Filmmaker	Puakenikeni I
8:30 AM - 9:30 AM	Common Items, Uncommon Results!	Awapuhi
8:30 AM - 9:30 AM	Change the Way You See Everything	Maunaloa
8:30 AM - 9:30 AM	Hour of Code	Plumeria II
8:30 AM - 9:30 AM	Pirate Vector Maps	Breakroom 4617
8:30 AM - 10:30 AM	Multiplayer Game Development	Plumeria I
8:30 AM - 10:30 AM	Tinkering with the Web	Pikake I
8:30 AM - 10:30 AM	STEM in Action: Bottle Cap Projectile	Puakenikeni II
8:30 AM - 10:30 AM	After Effects - Basics	Pikake II
8:30 AM - 9:30 AM	Drawing for Designers	S. Pacific Foyer in front Awapuhi
9:45 AM - 10:45 AM	Native Stream Animals	Vanda
9:45 AM - 10:45 AM	What does it take to become a Filmmaker	Puakenikeni I
9:45 AM - 10:45 AM	Cryptography	Ilima
9:45 AM - 10:45 AM	Drawing for Designers	S. Pacific Foyer in front Awapuhi
9:45 AM - 11:45 AM	Active Noise Control	Ilima
9:45 AM - 11:45 AM	True Colors: What Makes You Successful	Maunaloa
9:45 AM - 11:45 AM	Illustrator Beginner	Plumeria II
9:45 AM - 11:45 AM	Mapping Made Easy	Breakroom 4617
10:50 AM - 11:50 AM	Show me the \$\$	Puakenikeni I
10:50 AM - 11:50 AM	Island Energy Inquiry	Puakenikeni II
10:50 AM - 11:50 AM	Common Items, Uncommon Results!	Awapuhi
10:50 AM - 11:50 AM	Drawing for Designers	S. Pacific Foyer in front Awapuhi
12:45 PM - 1:45 PM	Show me the \$\$	Puakenikeni I
12:45 PM - 1:45 PM	From Here to There	Puakenikeni II
12:45 PM - 1:45 PM	Common items, Uncommon results!	Awapuhi
12:45 PM - 1:45 PM	Is That What you Really Said?	Maunaloa
12:45 PM - 1:45 PM	Hour of Code	Plumeria II
12:45 PM - 1:45 PM	Pirate Vector Maps	Breakroom 4617
12:45 PM - 4:45 PM	Making Minecraft Mods	Pikake I
12:45 PM - 2:45 PM	Creative Programming	Plumeria I
12:45 PM - 2:45 PM	InDesign	Pikake II
12:45 PM - 2:45 PM	Active Noise Control	Ilima

12:45 PM - 2:15 PM	From Here to There	Puakenikeni II
12:45 PM - 1:45 PM	AFRL Planetarium	Vanda
1:50 PM - 2:50 PM	Show me the \$\$	Puakenikeni I
1:50 PM - 2:50 PM	Risk Taking	Maunaloa
1:50 PM - 2:50 PM	Hour of Code	Plumeria II
1:50 PM - 2:50 PM	AFRL Planetarium	Vanda
1:50 PM - 3:50 PM	Photoshop	Breakroom 4617
2:50 PM - 4:50 PM	Blender Basics	Plumeria II
2:50 PM - 4:50 PM	After Effects - Basics	Pikake II
3:00 PM - 4:00 PM	sUAS - Small Unmanned Aerial Systems	Puakenikeni II
3:00 PM - 4:00 PM	Common Items, Uncommon Results!	Awapuhi
3:00 PM - 4:00 PM	Art of Networking	Puakenikeni I
3:00 PM - 4:00 PM	Hacking the Profession	Ilima
3:00 PM - 4:00 PM	AFRL Planetarium	Vanda

SCOT REFSLAND

FOUNDER & CEO
MOTORSPORTS
CO PRESENTER
ETHAN GULNAC



EXECUTIVE PRODUCER
WORLD DRONES
2016 COMPETITION

KEYNOTE SPEAKER



Hawaii
STEM
Conference

**AWARDS
BANQUET**

SATURDAY, MAY 7
5:45 PM - 8:30 PM

AULANI
BALLROOM

AN EVENING TO
RECOGNIZE EXCELLENCE IN
PROMOTING STEM IN HAWAII

BREAKOUT SESSIONS

AGRICULTURE

Introduction to Native Stream Animals on Maui

Why is Waiho Valley Stream so important? Find out the answer to that question by exploring the stream's unique history and the return of water since October 2014. Learn about stream animals and their life cycle known as "amphidromy". Follow the journey of hatching larvae that sometimes get swept down to the ocean and their upstream return. Learn about native stream species (Waiho opu, opae, Tahitian prawn and opae oeha and hihwai) and how flowing streams play an important role in keeping their populations healthy and abundant. Presented by: Skippy Hau, Division of Aquatic Resources, Department of Land & Natural Resources

Technology in Agriculture – Genes, Bugs & Satellites

Technology has played a big role in developing the agricultural industry. Explore and experience the different technologies used in agriculture, including the Global Positioning System (GPS), Geographic Information System (GIS), imaging systems used to gauge soil and plant conditions (SIS), Biotechnology, and finally the use of Variable Rate Technology (VRT). Presented by: Paola Espinoza, Kai Pelayo, Don Henne, Monsanto

CODING



Breakout EDU

Breakout EDU is an open source platform for immersive learning games. As a player, you will have a set amount of time to move around the room, work together and solve a series of engaging critical thinking puzzles in order to unlock a mystery box. Games are designed for learners of all ages and abilities and used to reinforce and teach academic skills and content. Presented by: Terry Holck, Nanakuli-Waianae Complex Area

Creative Programming & Taking Things Not So Seriously

We do programming for a living but the business side is not always what we love. The creativity and problem-solving nature of coding is what keeps us coming back for more. In this workshop, join us in exploring creative programming and the free tools available from video/image processing to artistic exploration and music composition. The session will include brief presentations of different tools and their purpose, as well as a series of interactive demos. Presented by: Jason Sewell, DevLeague LLC

Cryptography - Toy Ciphers, Secret Codes & More!

What is Cryptography and how does it impact our lives everyday? Using skills in math and computer science, uncover the basics of cryptography by deciphering a secret message. In the process, you learn the importance of encryption and experiment with toy ciphers like Caesar cipher and Rail Fence. At the end of the session, you'll be using skytale and cryptowheels to reveal the secret message.

Presented by: Elizabeth Kleiman, Jitka Stehnova, Mount Mercy University, Explore U

Drawing for Designers

Experiment with three modes of drawing to help visualize and communicate your ideas for robotics, biology, industrial design, etc.

Presented by: Nancy Young, retired Lahainaluna Digital Media teacher

Hour of Code

After completing the Hour of Code, you will be able to demonstrate the basics of software programming to others by getting them to use your beautiful fun game. As a participant, you will build a game that uses "if", "for" as well as interactive touch. Upon completion, your friends will be able to interact with your game on their phones! Presented by: Sam Stokes, Microsoft



Introduction to Basic Programming

Learn basic programming concepts, languages and ideas through hands-on learning.

Presented by: Michael Reeves, Jeremie Amano, King Kekaulike High School STEMworks™ Lab

Making Minecraft Mods

Here's your chance to use JavaScript to create new and interesting mods for the popular game Minecraft. Working with professional software tools, you will be learning real coding skills required by the industry today. This workshop is open to all skill levels, whether you've never typed code in your life to those who feel like they are code masters. We are looking for students interested in asking questions, making things and discovering new skills.

Presented by: Charles Nguyen, DevLeague LLC

Multiplayer Game Development

Hey gamers! Learn to set up the environment for a simple multiplayer game, then program simple game levels that can be played by other students.

Presented by: Jon & Kelli Borgonia, Goma Games LLC

Tinkering with the Web & the Internet of Things

For the past several years, the focus has been on building mobile phone and tablet apps as primary input device but now, the ability to create our own devices with cheap and accessible hardware opens a world of possibilities.

In this session, you'll find out about the "internet of things", how the physical hardware and web software worlds work together, what kind of hardware is available (Arduino, Raspberry Pi, microprocessors, sensors, etc.). We'll then explore some live interactive demos with robots, brain wave sensors and more.

Presented by: Jason Sewell, DevLeague LLC

DIGITAL MEDIA



After Effects - Basic

An exciting introduction to the industry standard for motion graphics – Adobe After Effects. We will be focusing on motion graphics and creating animations within After Effects. No footage will be required as we are diving into the visual effects aspect of After Effects, but if there is time, we can start the basics of VFX.

Presented by: Christian Cadiz, Austin Alimbuyuguen, Darryl Suyat, Maui High School ACOM

Blender - Basic

Learn the basics of animation in Blender. Blender is an open source (free) 3D animation program.

Presented by: Tate Romero, King Kekaulike High School STEMworks Lab

What does it take to become a Filmmaker

So you want to be a Filmmaker? We'll take a hard look at what kind of activities and studies can improve your chance of making media professionally down the road, as well as what realistic professions are viable and available to Filmmakers in Hawaii.

Presented by: Jess Cole, Jess Cole Films

(HipHop x STEM): A Technology of the Breaks

Have fun looking at the ways that science, technology, engineering & mathematics

inform the HipHop culture and how HipHop culture informs STEM -- from digital sampling to turntables-as-instruments to building one's own outdoor sound system. HipHop has always been involved with STEM, just not in the "textbooks and worksheets" way most people think of it. At the end, students will have hands-on experience using Adobe Illustrator to Hack the Alphabet into Technical Graffiti. Presented by: David Goldberg

Illustrator - Beginner

If you've always wanted to learn Illustrator, now's your chance. This session teaches the foundation of Adobe Illustrator, including functions of different tools, tutorials and artistic tips. You will also learn how to integrate these skills into other interests such as Photoshop, computer graphic programming (processing), advertisements, web design, game development, animations, story telling and more.

Presented by: Thanthawat Moengchaisong, King Kekaulike High School STEMworks™ Lab



InDesign - Basic

Adobe InDesign is the industry standard desktop publishing software for print publications, digital magazines, ebooks, and interactive PDF documents. Through hands-on activities, you'll learn about the basic tools, workspace, and workflow needed to create a basic two-page spread for print.

Presented by: Kulea Sado, Maui High School ACOM

Photoshop - Beginners

Learn the basic foundation for using Adobe Photoshop, as well as special affects, image and photo manipulation.

Presented by: Chris Nishioka, UH Hilo Continuing Education

ENGINEERING



3D Printing

In this workshop, you'll be introduced to CAD and learn how to obtain a high quality print after the 3D CAD file is finished. You'll explore how to setup and slice files, create rough drafts to high quality projects and the different bed and nozzle temperatures that affect printing.

Session will showcase two different printers. You'll learn how to adjust the settings, modifying 3D files to allow for easier printing, as well as the benefits and disadvantages of each printer. Each student will have a file to print. No CAD experience necessary.

Presented by: Christian Fillazar, Brendan Geffe, Maui High School STEMworks™ Lab

Active Noise Control

This two-hour class begins with a short introduction to acoustics followed by hardware experiments that will demonstrate the implementation of active feedback and feed forward noise control.

The hardware includes microphones, speakers, ducts and graphical programming of a digital signal processor to implement control laws. Some background in acoustics is preferred, but not necessary. Students will be introduced to concepts that enable active headphones and active noise cancellation in cars and airplanes.

Presented by: Steve Griffin, David Bloyer, Scott Ibara, Boeing Co.

From Here to There

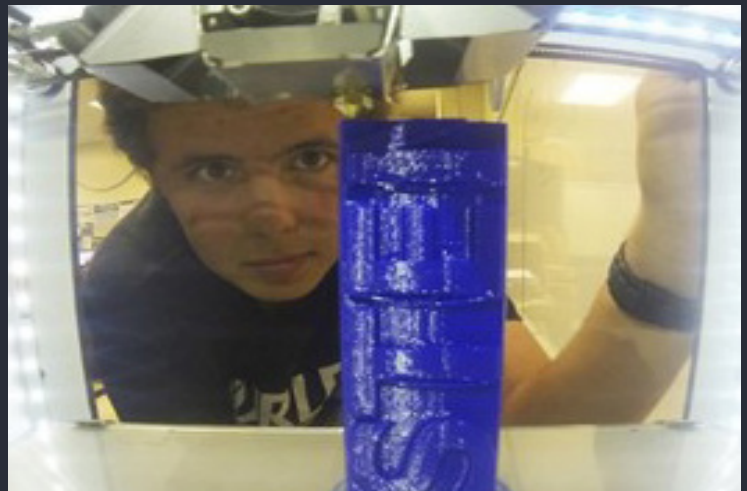
Here's an opportunity to work with air trolleys to define terms, gather and graph data, analyze outcomes. In this workshop you will analyze graphic representations of races between several different competitors in both print and multimedia formats. Also, you will modify your air trolley based on certain constraints.

Presented by: Maggie Ostler, Delta Education/FOSS

Motors and more

Join Maui Electric's electrical engineers for a hands-on activity. You will learn about various power sources and build your own motor.

Presented by: Curtis Omuro, Leonardo Lunario, Maui Electric Company

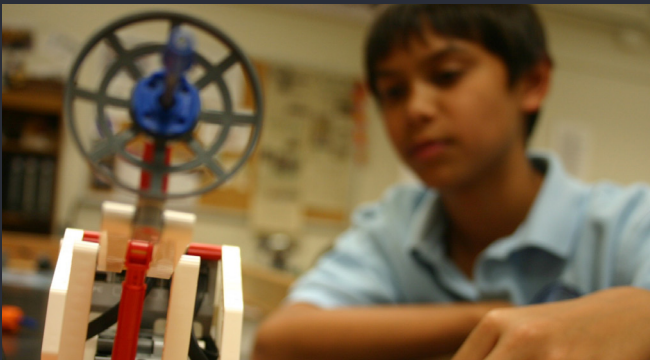


STEM in Action: Bottle Cap Projectile Launchers

Get introduced to math and science concepts associated with the Engineering Design Process as you design, create, and test objects in real world situations. The challenge will be to defend yourself against the Zombie Apocalypse by designing a hand-held launcher with everyday materials to make it out of town safely.

Presented by: Charles Souza, Ryan Saito, Elemental Minds.

MAPPING



Mapping Made Easy GIS/GPS

Build your own customized map. Our database contains a comprehensive collection of items (layers) that can be customized, printed, saved, even emailed and shared with your colleagues. Using publicly available data, we'll walk you through mapping out your own backyard or creating a special school project using ArcGIS Explorer online. Presented by: Chris Nishioka, UH Hilo Continuing Education

Pirate Vector Maps

Create a pirate treasure map and include your own directions from a starting point to the treasure! But...what happens when all of the directions get mixed up? Will you ever be able to find the treasure? This activity incorporates math and physical

science standards, while allowing artistic freedom when creating pirate maps. Recommended for 6th to 9th grade. Presented by: Cindy Tanaka, Hilo High School

sUAS - Small Unmanned Aerial Systems

Learn about sUAS commonly known as Drones and what the AMA and FAA rules and regulations are. Discover up and coming exciting careers using sUAS. Be a part of a racing drone team and see what a simulator can do.

Presented by: George Purdy, Scot Refsland

SCIENCE

AFRL Planetarium

Explore the heavens from the Air Force Research Laboratory's portable planetarium. Learn about popular night-sky objects you can see from your backyard, either with the naked eye or with the aid of a small telescope or binoculars. This digital planetarium show will teach you how to understand astronomical coordinate systems, use important points to find stars, planets, constellations, and even satellites! Presented by: Ryan Swindle, Stacie Williams, Air Force Research Laboratory

Common items, Uncommon results!

Join us for Hardware Science and learn how ordinary items from a hardware store come together in extraordinary ways. You will build the world's simplest electric motor, make your own air cannon, explore chemical reactions and leave with a few tricks up your sleeve. Wow your friends, impress your teachers and do science like a BOSS!

Presented by: Carrera Catugal, Tammy Gomes, HouseMart/Ben Franklin Crafts

Island Energy Inquiry™: Moving Light Around Us

Get your bodies, minds, and eyes busy to discover for yourself what humans require in order to see. You'll be working with sets of mirrors and prisms, plus assorted lights, to target your friends—in the dark? Learn how we humans have mastered the art of changing light's pathways.

Presented by: Graham DeVey, MEDB

LIFE & PROFESSIONAL SKILLS

Art of Networking

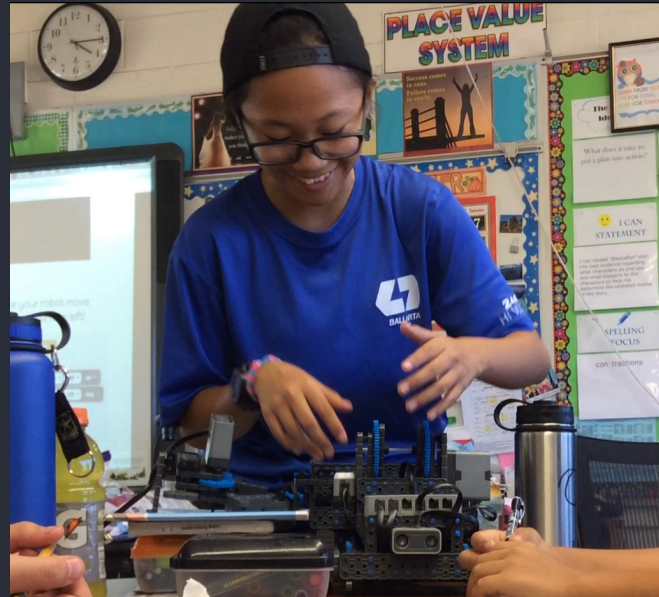
Whether you're wanting to make new friends, create study groups or make a career connection, networking can help facilitate those needs. In this session, you learn strategies for effective networking and have fun "role playing" those strategies from sample scenarios provided. The session also touches on professional communication styles in this ever-growing world of social media. Whether you are the most shy of the group or well-versed in people skills, you're bound to learn something new!

Presented by: Myhraliza Aala, UH Manoa, College of Engineering

Body Lingo Bingo: What your body language is telling others

One of the most pervasive forms of communication is not the spoken word, but our body language. Body Lingo Bingo will explore non-verbal communication including body posture, gestures, eye contact and facial expressions. Learn how to walk into a room with confidence and read other people's body language. This extremely interactive workshop will give you more confidence and teach you how to read other people's body language. Ever wonder what it means when someone scratches their nose?

Presented by: Alexis Dascoulias, Camp Center Stage /Maui OnStage



Change the Way You See Everything: Asset Based Thinking

This refreshing new way to shift your mindset can create monumental results. Making small shifts in your day-to-day thinking has been proven to promote greater resilience, optimism and confidence. Many outcomes in our lives are the result of our perception and thinking – so keep them positive and powerful. This workshop is specifically designed for high school juniors and seniors.

Presented by: Alexis Dascoulias, Camp CenterStage/Maui OnStage

Is That Really What You Said?

Be effective at communication, listening and speaking. Have you ever arrived at the end of your day to discover that something you said before your first class has been completely turned around? This workshop will guide you through steps to help you become a more effective communicator by developing your speaking AND listening skills. Practice the important act of mirroring and reflecting when listening and how to check in with someone if you are doing all the talking.

Presented by: Alexis Dascoulias, Camp CenterStage/Maui OnStage

Risk Taking: When is it the right choice to go out on a limb?

Risk taking can create great, positive and wonderfully unforeseen outcomes. It can also lead to disaster. Unlike negative risks, which are usually impulsive and driven by emotions, positive risks are calculated and can bring us incredibly positive results. This workshop will help you identify positive risks and how to strategically plan to anticipate all that could happen before you jump!

Presented by: Alexis Dascoulias, Camp CenterStage/Maui OnStage

Show Me The \$\$

Learn to compare local community college to university costs. Understand the educational and financial decisions of becoming a college student and the impact of your family needs. Participants will gain valuable financial tips to benefit their career and life goals.

Presented by: Juli Patao, Hoku Hobbs, Crystal Ceballos, UH Maui College-Career Link

Startup Ideation Bootcamp

If you have an idea for a startup that could use some refinement, then join us for the Startup Ideation Bootcamp. In just one hour, this intensive workshop will help you improve your idea, come up with new ideas and even recruit potential co-founders. What are the components of a great idea? How do you know if you are working in an attractive market? How do you validate that your idea is great?

Presented by: Russel Cheng, DevLeague LLC

STEMworks™ College Toolkit

It is never too early to start planning for college! This session will provide you with a booklet outlining the steps you need to take to jumpstart your process. We will also cover resources for scholarships, mentorship programs and important deadlines.

Presented by: Isla Young, Women in Technology - STEMworks™

Story Boarding Your Life: Setting Realistic Goals & Achieving Them!

Take a goal, any goal (getting into your top choice college, landing that great summer internship) and work as a film director to create a storyboard for accomplishing that goal. Pre-visualize your life and goals with images, words, illustrations -- even interactive media. Leave this session with a storyboard and fantastic tools!

Presented by: Alexis Dascoulias, Camp CenterStage/Maui OnStage

True Colors: What Makes You Successful

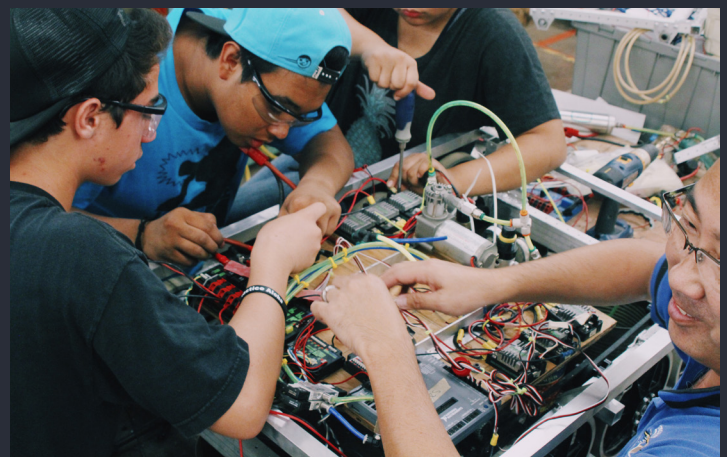
Identify your true colors and personality traits by recognizing your values, motivations, strengths and stressors. Then use this knowledge as a tool to build better understanding and rapport with diverse groups. Understand better ways to communicate your ideas and relate to others. This is a true team-building workshop.

Presented by: Alexis Dascoulias, Camp CenterStage/Maui OnStage

Hacking the Profession: Building Skills & Career Paths for Women in Cybersecurity

What skills do you need to have to be successful in cybersecurity? What resources exist to help young women enhance existing skills and address gender gaps? How do you become a successful woman "hacker"? Come and hear about this exciting and upcoming career from Jodi Ito, Information Security Officer for the University of Hawaii.

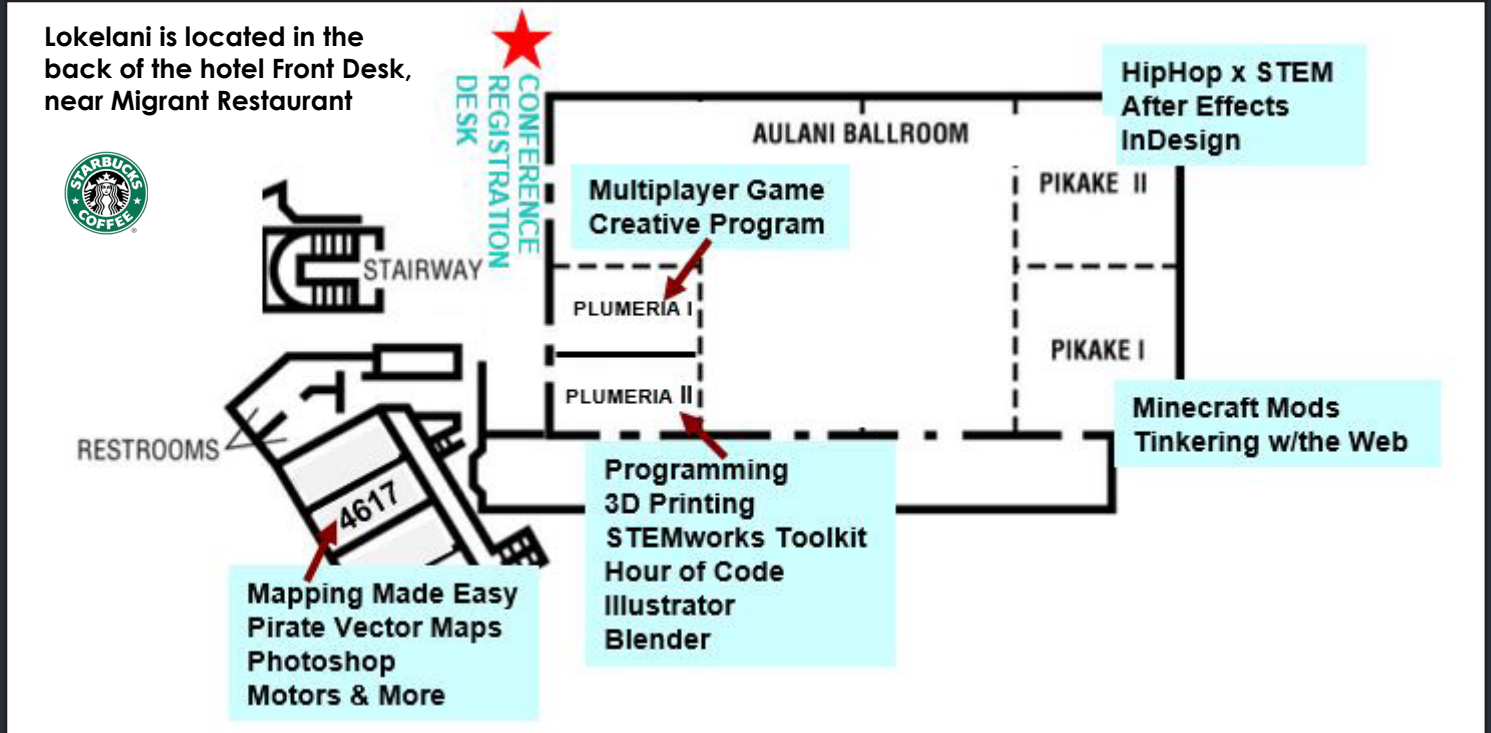
Presented by: Jodi Ito, University of Hawaii



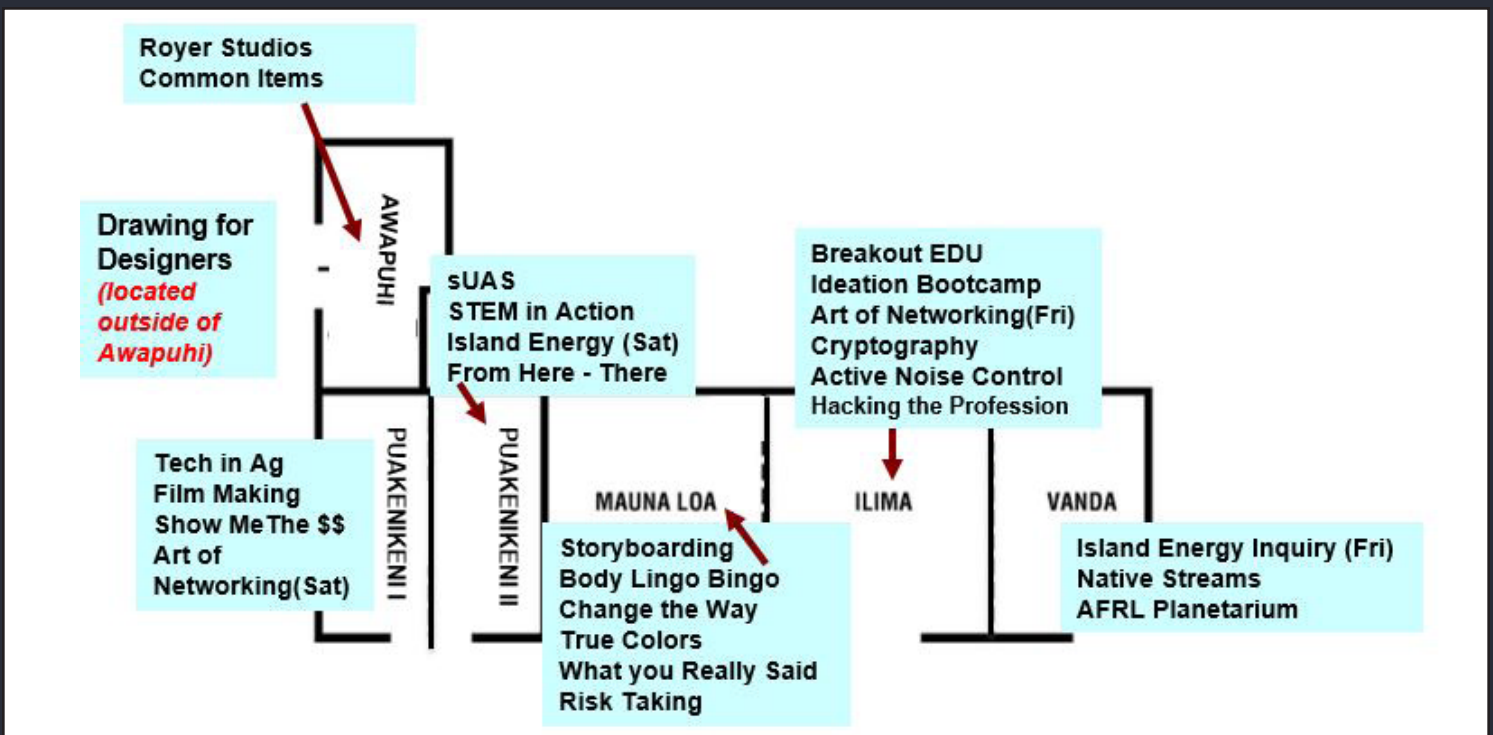
Map Area of

BREAKOUT SESSIONS

Lobby Level



Ground Level



TEACHER PROFESSIONAL DEVELOPMENT SESSIONS

Agenda: May 6 & May 7

7:15 AM - 7:50 AM	Registration
8:00 AM - 8:10 AM	Aloha & Welcome
8:15 AM - 4:15 PM	Breakout Sessions
12:00 PM - 12:30 PM	Lunch
4:30 PM	Closing



Engineering a Robot to Do the Job

This “Engineering a Robot to do the Job” session aligns with the International Space Station’s (ISS) campaign “Off the Earth, For the Earth”. It will be focusing specifically on Robonaut and robotics on the Space Station. The engineering aspect of this session relates to the way engineers at NASA work and how they are vital to the development of new research and technological advances.

Presented by: Maria Chambers, NASA Ames Research Center

Creating Interacting with the World: Scratch & MakeyMakey

Ever wanted to play a banana piano? This session will introduce you to the MaKeyMaKey (a computer interface device) and Scratch (simple computer coding). Participants will be given a brief introduction on these two tools and then create their own design.

Presented by: Matthew Dillon, Iolani School

Computer Science: The Myths and the Message

It is undeniable that computer science is foundational in our lives. Job opportunities are growing at a rate of 4x the graduates to fill them. How can we prepare students for tomorrow? The first step in the right direction is to bring computer science and coding into our K-12 classrooms.

Join us in an interactive lecture session where we will discuss how teachers can promote this new literacy by trying some of the activities created by Code.org. Skills in computational thinking, creativity, collaboration, communication, persistence and problem solving will be emphasized. Use this session as a springboard to get your students engaged in computer science!

Presented by: Shane Asselstine, Momilani Elementary

From Here to There

Educators will work with air trolleys to define terms, gather and graph data, and analyze outcomes. Graphic representations of races between several different competitors in both print and multimedia formats will be analyzed. Also, participants will modify their air trolley based on certain constraints.

Presented by: Maggie Ostler, Delta Education/FOSS

Google Forms for Everything

Learn about simplifying life through a google form. Google forms makes data collection easy. Use a form in the classroom or in managing school, district wide events. Presented by: Emily Haines-Swatek, King Kekaulike High School

Hack the Classroom! (Hands on with Google Add-ons)

HACK YOUR CLASSROOM! Allow the technology to help you be more efficient and effective in your teaching. Let me show you how with Google Add Ons for Docs, Sheets, and Forms.

We'll get Hands On with Add Ons like Doctopus, Flubaroo, Goobric, Super Quiz, Kaizena, GradingHelp, and more. You can manage assignment workflow and organization, mass produce Google Sites for student portfolios, create automatically graded assessments, and quickly provide feedback on student work. We'll walk through examples and simulations that put these Add Ons to work. They'll become your classroom life savers for their ease of use and ability to save you time. Presented by: Michael Fricano II, Iolani School

Join the study of climate change ... ocean acidification

In this hands-on workshop you'll use classroom experiment kits to explore the impacts of climate change through an understanding of ocean acidification. As our oceans become increasingly acidic, the resulting environmental issues can have devastating, worldwide impact within the next century. Lessons developed for Next Generation Science Standards (NGSS) and teacher classroom application will be included in the workshop. Presented by: UH STEM Pre-Academy/CMORE

Making Connections: Creating Simple Circuits

Participants will learn to make a simple circuit with a battery, LED, copper and tape. Discussion will follow to brainstorm ways how to use this in your classrooms. Presented by: Matthew Dillon, Iolani School

Making Formative Assessment Fun

Tired of surveys? Join us as we explore different ways to make formative assessment fun using a variety of technology. Presented by: UH STEM Pre-Academy/Hawaii Creative Media

Ready, Set, Animate!

Before Minecraft, there was LEGO! Before movies there were pictures! Engage students in an activity that can span any content area or standard by allowing them to express learning through creative stop motion animations. During this hands-on workshop, participants will use the LEGO

Movie Maker iOS app to create short stop-motion animations. You bring the device with the app installed, I'll bring the LEGO. Together. We'll make learning entertaining. Presented by: Shane Asselstine, Momilani Elementary

Smart Skies, LineUp with Math

This session integrates math and science in an interactive simulator. The focus is on the Air Traffic Control (ATC) Simulator that represents an air traffic controller's screen. In LineUp with Math, students apply proportional reasoning to make decisions and resolve conflicts during realistic air traffic control situations involving two or more planes. The science concepts involve the four forces of flight: lift, thrust, drag and weight. The math concepts use distance, rate, and time and analyzing data to solve the problems. Videos and the interactive simulator will help engage students on the wonders of flight. The use of critical thinking and decision-making skills will allow them to

reach new heights in learning.
Presented by: Maria Chambers, NASA Ames Research Center

Sphero Design Challenge

The two-wheeled, horse-drawn chariot was one of the most important inventions in history. It gave humanity its first concept of personal transport, and for 2,000 years it was the key technology of war. For most of humanity's recorded history, the number of chariots signified the strength of an army. It also became the world's first mass spectator sport phenomenon.

In this hands-on session, teams will use the Engineering Design Process to design and create a chariot that will be propelled by a Sphero. You will then use your programming skills to navigate your Sphero-controlled chariot through the race course.

Presented by: Terry Holck, Waianae-Nanakuli Complex

STEM Inquiry and 21st Century Skills for the Classroom

Engage students with a hands-on STEM activity that incorporates the Engineering Design Process and focuses on the development of 21st century skills such as leadership, communication and collaboration. Explore the transformation of matter and energy as you engineer your gravity powered robot to do battle.

Presented by: Charles Souza & Ryan Saito, Elemental Minds



STEMworks CAD Unmanned Aerial Vehicle (UAV) Drone Design & Build Curriculum

This session will introduce you to the world of Drones. The curriculum is part of MEDB's highly successful STEMworks program. You will learn about the Engineering Design Process, the different parts of the drone and how your students can apply this to real world applications. Collin will walk you through building your own drone.

Presented by: Collin Kobayashi, 3D Innovations Academy

Visual Storytelling Literacy

Become familiar with the basic concepts of visual storytelling. These tools will help you communicate clear messages through the art of photography.

Presented by: UH STEM Pre-Academy/Hawaii Creative Media

YouthSpark in Schools

By concentrating on the principles and computational thinking skills of computer science, we can provide the tools for young people to address and leverage successive waves of innovation, and to be thoughtful users of information and communication technology.

PROGRAM ELEMENTS:

- Deep dives into some of the 30+ free programs under the YouthSpark initiative, such as:

Tools for teaching computer science and coding: Free tools like TouchDevelop and Project Spark make it possible to bring computer science education into any classroom.

- Hands-on training on integrating computer science strategies, principles, and skills into the classroom - at any subject area and grade level

YouthSpark in Schools attendees leave the workshop with a concrete set of new skills and resources they can use that day in the classroom to empower students through technology.

Presented by: Microsoft



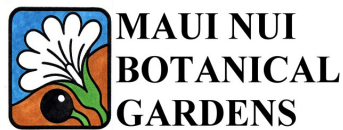
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Download Knowledge. Upload Service.

2016 IMPACT BY THE NUMBERS

883



**CONFERENCE
ATTENDEES**

600



**STUDENT
PARTICIPANTS**

43



**STUDENT
BREAKOUT
SESSIONS**

117



**LAPTOPS USED
IN INTERACTIVE
SESSIONS**

113



**TEACHERS IN
PROFESSIONAL
DEVELOPMENT**

112



**SCHOOLS AND
ORGANIZATIONS
STATEWIDE**

16



**TEACHER BREAKOUT
SESSIONS**

154



**INDUSTRY
PROFESSIONALS**

15



**STEM
COMPETITIONS**

MAHALO

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Maui High School ACOM
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Ned Davis
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