

HAWAII
STEM
CONFERENCE

2017
PROGRAM

MONDAY, MAY 1 & TUESDAY, MAY 2, 2017
HAWAII CONVENTION CENTER, HONOLULU, HAWAII
WWW.HAWAIISTEMCONFERENCE.COM

PRESENTED BY:



WELCOME &

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Save the Date
Spring 2018

Hawaii
STEM Conference
Download Knowledge. Upload Service.

ALOHA

Welcome to the 8th Annual Hawaii STEM Conference – the premier statewide event dedicated to engaging a new generation of STEM innovators for Hawaii.

Our theme, “Download Knowledge. Upload Service”, invites students to demonstrate and showcase the skills and abilities they have gained to help create a thriving future, not only for Hawaii, but the world.

This year, more than 1000 students, educators, industry partners, and community leaders from across the state and nation will come together during this two-day conference to inspire each other and pass along lifelong knowledge and skills.

The conference will highlight:

- Onsite STEM competitions encouraging problem-solving, critical thinking, and creativity
- Networking with industry partners, career awareness and opportunities
- Engaging student sessions featuring 21st century technologies
- Celebration of STEM service learning projects from across the state
- Professional Development for Hawaii educators
- STEMworks™ Playground: Where Ideas Come to Play

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

As we step towards the future, we embrace and honor our Hawaii host culture while encouraging the next generation to use STEM to improve the future. We hope you have a wonderful STEM Conference experience!

Mahalo,
The Hawaii STEM Conference Team

SPONSORS



KEYNOTE SPEAKERS



LYNN ALLEN
Technology Evangelist
 **AUTODESK**

Lynn Allen, Technology Evangelist, has been in the computer technology industry for over 30 years. As a professional speaker – she speaks to more than 20,000 people worldwide each year and has written a popular technology column for Cadalyst magazine for over 25 years. The author of 3 technical books, Lynn taught at the corporate and collegiate level for 13 years before joining the software company Autodesk. She is known throughout the design industry as a leading expert on the design software product AutoCAD and as a technology futurist.

Known for her unique comedic style, Lynn has brought complex technology to the masses and broken it down into easily digestible pieces. A math major from BYU, she entered the work force during the early days of the personal computer, where she often found herself the only technical woman in the room. She was the first woman to run an Autodesk Training Center (ATC), the first woman to serve on the ATC Executive Committee and the first woman to serve as ATC Chair. There were many “female firsts” that have followed throughout her career.

Active in social media with over 20,000 Twitter followers, she has a passion for helping young women believe in themselves and have no fear of STEM.



RENEZEL LAGRAN
STEMworks™ Rockstar


Renezel Lagran is a graduating senior at Maui High School and a testament to the power behind personal perseverance, service and hard work. Born in the Philippines, she moved to Maui at 10 years old and spent twice as much time as her peers to learn English alongside her studies. She credits her teacher’s support as a positive influence to not only persevere but to continue to pursue new challenges. Pursuing these experiences opened Renezel’s world to a new array of skills and interests.

Renezel has been a welding captain and tournament manager for Vex and FIRST Robotics. Her team became finalists and earned several team awards for FIRST Robotics. She further developed and honed her computer science skills through CyberPatriots.

Video Club allowed Renezel to share her creative voice. Renezel has earned many awards that range from STN, PBS, and other videography competitions. She has worked professionally as a graphic designer, videographer and photographer for Da Kitchen, Maui Rippers and Maui Food Innovation Center.

She was able to transform through STEM programs in and out of school. “We might be building the future, but they are building us.” Renezel truly is a STEMworks™ Rockstar!

ABOUT STEMWORKS™

STEMworks™, at the center of WIT's statewide program offerings, was created to help develop critical thinkers who use technology to create solutions to help better our communities and our world. The STEMworks™ program offers teachers Professional Development, year-round software and technology training for students and teachers; equipment and software for STEM labs to support students' innovation; industry access and networking designed to inform students of the many STEM career pathways available in their local community; the annual Hawaii STEM Conference and summer internships for high school students. www.stemworkshawaii.org



USING TECH TOOLS

- 5**
- Animation
 - Engineering Design
 - Visualization
 - Database Design
 - Computer-Aided Design (CAD)
 - Geographic Information Systems (GIS)
 - Programming
 - Global Positioning Systems (GPS)
 - Webpage Design
 - Small Unmanned Aerial Systems (sUAS) Drone
 - App Development
 - Virtual Reality
 - 3-D Printing
 - Game Development
 - Music Production
 - DIY/Entrepreneur
 - Digital Media

STEMWORKS™ K-12 SCHOOLS

HAWAI'I ISLAND

Honoka'a High & Intermediate School
Kea'au High School
Kealakehe High School

KAUA'I

Kaua'i High School

MOLOKA'I

Moloka'i Middle - `O Hina I Ka Malama
Moloka'i Middle School
Moloka'i High - `O Hina I Ka Malama
Moloka'i High School

LANA'I

Lana'i High & Elementary School

MAUI

Baldwin High School
Kamali'i Elementary School
Kihei Charter School
King Kekaulike High School
Lahainaluna High School
Lahaina Intermediate School
Lokelani Intermediate School
Maui High School
Maui Waena Intermediate School
Pukalani Elementary School
St. Anthony School

OAHU

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



"We're already in the 21st century. At the rate that things change, including jobs, we currently have and cannot even anticipate for the future. Programs like this are critical, it helps students develop higher critical thinking skills for jobs that don't even exist yet. It's new and emerging and ever-evolving."

- Kauai High School, Leah Aiwohi

STEMWORKS™ FACILITATORS

Anne Bailey
Anne Marie Studer
Anthony Griffith
Axel Beers
Beth Conroy-Humphrey
Carolyn Bush
Chase Matayoshi
Cheryl Moore
Christine Oshita
Cindel Jacintho
David Negaard
Debbie Hisashima
Diane Tom-Ogata
Elizabeth Yee
Elliot Buccat
Emilio Macalalad
Emily Haines-Swatek
George Purdy
Gretchen Romerdahl
Howard Kam

'Iolani Kuoha
Jack Fuller
Jared Nagura
Jasmine Domingo
Jennifer Suzuki
Joe Celebrado
Jon Asato
Julia Davidson
Justin Brown
Kaeo Kawaa
Kahoiwai Kawa'a
Karen Roberts
Keith Imada
Kepa Meno
Leah Aiwohi
Liam Grist
Liz Buchter
Lori Koyama
Mahinahou Ross
Manuel Jadulang

Marc LaChance
Mark Watanabe
May Richard
Michael Marchand
Michele Weinhouse
Nick Fournier
Nicole Aubuchon
Nicole McCombs
Peter Hansen
Peter Lin
Seth Carper
Sue Ann Masuyama
Summer Torres
TC Luckey
Tessie Lumabao
Tom Norton
Trisha Roy
Tyson Kikugawa
Wendy Wells
Zayna Stoycoff

STEM COMPETITIONS

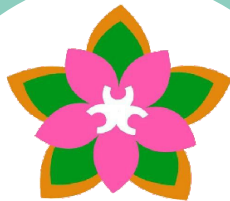
ArcGIS Online U.S. School Competition
CAD Software
Digital Storytelling
Game Design
GIS Story Mapping
Music - Instrumental
Music - Lyrical
Photography
STEM Career Interview
T-Shirt Design
Onsite Video Recap
Onsite Royer Studios
Onsite Drone Design

Hawaii Program Impact Assessment
High School Category
Middle School Category



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STUDENT INSPIRED
COMPETITIONS



CREATE
COMMUNICATE
COMPETE

The seventh 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 5 X 5 SESSION

ENGAGE LEARN EVOLVE

"5x5" is a high-energy networking session where STEMworks™ students get to interact directly with industry professionals for intense but informative, timed intervals. Every 5 minutes, small groups of students will have the opportunity to ask 5 different STEM professionals about college and career pathways, personal experiences, advice and more.

Some common questions:

What inspired you to choose your career?

What kind of education did you need to do what you do?

What is the coolest project you worked on?

What is the biggest takeaway you learned and can share with us?

Think about what YOU really want to know and make the most of your time. But be focused and vocal. It'll go fast!



60+
INDUSTRY
PROFESSIONALS

INDUSTRY COMPANIES

Apple Inc.
Auwahi Wind
Blue Planet Foundation
Canada-France-Hawaii Telescope
CCHNL
Chaminade University of Honolulu
Cultural Surveys Hawaii/Society for Hawaiian Archaeology
Department of Defense
DevLeague
Drone Services Hawaii
East-West Center
ecoQoob

Energy Excelerator
ESRI-Environmental Systems Research Institute
Federal Bureau of Investigation
Hawaii Center for Advanced Transportation Technologies
Hawaii Energy
Hawaii Green Growth
Hawaiian Electric Company
Honeywell
HTDC
Manoa Botanicals

Microsoft
Monsanto
NASA AMES Research Center
National Oceanic and Atmospheric Administration (NOAA)
National Security Agency
NIOC HI
Oceanit
Pacific Point Inc
Pacific Rim Defense/US Navy
PBR Hawaii
Royer Studios

Siemens Wind Power
Startup Capital Ventures
State Historic Preservation Division
Title Guaranty
UH System Office of STEM Education
United State Pacific Command
University of Hawaii - Manoa
University of Hawaii - Hawaii Center for Advanced Communications
zSpace
...and more!

May

PROGRAM



MONDAY

7:30 AM – 4:00 PM

Teacher Professional Development Sessions

316 ABC

8:00 AM

Onsite Competitions Kick Off:
Onsite Drone Design
Onsite Video Recap
Royer Studios Competition
3C's (Create, Communicate, Compete)

302B
312
308A
306B

8:00 AM – 10:00 AM

STEMworks™  **Playground**
Experience STEM: Where Ideas Come to Play

313 ABC

WELCOME & ALOHA
10:00 AM

**Inspire the next generation
of STEM leaders**
ENGAGE-LEARN-EVOLVE

**INDUSTRY
5 X 5
SESSION**
11:30 - 12:30

LUNCH
12:30 PM - 1:30 PM
KALAKAUA BALLROOM

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Apple Inc.

BREAKOUT SESSIONS

1:45 PM – 2:45 PM

AFRL Planetarium
Art of Networking
Body Lingo Bingo
Digital Storytelling with Sway
Creating Forms & Apps in ArcGIS/ArcGIS Online
Maunakea Scholars: Cultivating Student Scientists
STEMworks™ College Toolkit
UAS in Hawaii's Future

311
301A
306A
301B
305B
303B
312
304B

1:45 PM – 2:45 PM

STEMworks™  **Playground**
Experience STEM: Where Ideas Come to Play

313 ABC

SCHEDULE

1:45 PM – 3:45 PM

After Effects - Basics
Bloxxels: Game Design
Introduction to Machine Learning
STEM in Action: Bottle Cap Projectile Launcher
Step Up Your Game

307B
303A
305A
304A
307A

3:00 PM – 4:00 PM

AFRL Planetarium
Art of Networking
Change the Way You See Everything: Asset
Based Thinking
Coding & Making with the micro:bit
Creating Forms & Apps in ArcGIS/ArcGIS Online
Maunakea Scholars: Cultivating Student Scientists
STEMworks™ College Toolkit
UAS in Hawaii's Future

311
301A

306A
301B
305B
303B
312
304B

DINNER
5:30 PM - 8:00 PM
KALAKAUA BALLROOM

SPONSORED BY



KEYNOTE SPEAKER
LYNN ALLEN



Honoring & recognizing STEMworks™ students across the state

8:00 PM – 10:30 PM

3C's (Create, Communicate, Compete) Presentations

305A, 305B, 307A, 307B

ALA MOANA
BY MANTRA
8:30 PM - 10:30 PM



Come join us for a STEM-tacular celebration of desserts, dancing, and fun! A \$10 ticket gains entrance to this exclusive evening!

May

PROGRAM

TUESDAY

7:30 AM – 4:30 PM

Teacher Professional Development Sessions

316 ABC

8:00 AM – 11:30 AM

**Onsite Competition Presentations:
Onsite Drone Design
Onsite Video Recap**

**302B
312**

**7:30 AM - 11:30AM
ROOM 313 ABC**

SPONSORED BY



ADMINISTERED BY LEIDOS



STEMworks™ school's showcase projects, self-directed learning, critical thinking, problem solving, teamwork, community involvement, collaboration, resource integration, and service learning in their local communities.

BREAKOUT SESSIONS

8:30 AM – 9:30 AM

**Grant Writing Workshop
TEACHERS only**

301A

8:30 AM – 9:30 AM

**Speed Mentoring: A Networking Game for
Curious and Driven Students
Body Lingo Bingo
Clean Energy Champion
What's your STEM Career?**

**306B
306A
303B
305A**

8:30 AM – 10:30 AM

**Anyone Can Code
Code Challenge: Dash & Dot
InDesign - Basics
Sphero STEM Challenge
How to be a Clean Energy Champion**

**307A
303A
307B
304A
303B**

9:40 AM – 10:40 AM

**Genes, Bugs & Soil
Sticks and Stones May Break My Bones-
But My Words Have Super Powers!
Speed Mentoring: A Networking Game for
Curious and Driven Students
Making a Career Out of Computer Hacking!
Satellite Communications - The Billion
Dollar Technology
UAS in Hawaii's Future**

**311
306A
306B
305B
301B
304B**

9:40 AM – 11:40 AM

**Creating Functional Art Using Fusion 360
Intro to Machine Learning**

**308A
305A**

SCHEDULE

| | | |
|----------------------------|--|----------------|
| 10:00 AM – 12:00 PM | STEMworks™  Playground | 313 ABC |
| 10:45 AM – 11:45 AM | Genes, Bugs & Soil | 311 |
| | Making a Career Out of Computer Hacking! | 305B |
| | Satellite Communications - The Billion | |
| | Dollar Technology | 301B |
| | Is That Really What You Said? | 306A |
| | UAS in Hawaii's Future | 304B |
| 10:45 AM – 11:45 AM | Maunakea Scholars Program | |
| | TEACHERS only | 301A |

ONSITE AWARDS LUNCHEON

12:00 PM - 1:30 PM
KALAKAUA BALLROOM

SPONSORED BY



KEYNOTE SPEAKER
RENEZEL LAGRAN



BREAKOUT SESSIONS

| | | |
|--------------------------|---|-------------|
| 1:45 PM – 2:45 PM | Genes, Bugs & Soil | 311 |
| | How STEM Skills Impact Our National Security | 301B |
| | Ask & Receive: Learning How to Negotiate | 306B |
| | STEM Playground | 301A |
| | UAS in Hawaii's Future | 304B |
| | UH Manoa College of Engineering Program | 303A |
| | UH STEMfest: STEM in Action! | 312 |
| | Coding & Making with the micro:bit | 302B |
| 1:45 PM – 3:45 PM | Creating Functional Art Using Fusion 360 | 308A |
| | How to be a Clean Energy Champion | 303B |
| | Intro to Machine Learning | 305A |
| | Photoshop - Beginners | 307A |
| | Sphero STEM Challenge | 304A |
| | Story Boarding Your Life: Setting Realistic | |
| | Goals and Achieving Them! | 306A |
| | The Buzz on Cyber Security | 305B |
| 3:00 PM – 4:00 PM | Communication Can Get You Everywhere | 306B |
| | Genes, Bugs & Soil | 311 |
| | How STEM Skills Impact our National Security | 301B |
| | STEM Playground | 301A |
| | UAS in Hawaii's Future | 304B |
| | UH Manoa College of Engineering Program | 303A |
| | UH STEMfest: STEM in Action! | 312 |
| | Digital Storytelling with Sway | 302B |
| 4:00 PM | Mahalo for attending! Hope to see you next year! | |

STUDENT STEM SESSIONS



AFRL Planetarium

Presented by: Ryan Swindle & Kim Luu, Air Force Research Laboratory

Explore the heavens from the Air Force Research Laboratory's portable planetarium. Discover popular night-sky objects you can see from your backyard, either with the naked eye or through the aid of a small telescope or binoculars. This digital planetarium show will help you understand astronomical coordinate systems, use important points to find stars, planets, constellations, and even satellites!

CLEAN ENERGY

How to be a Clean Energy Champion

Presented by: John Cheever, Blue Planet Foundation

Apply "design-thinking" principles to find solutions: We are about one-quarter of the way to our goal of 100% clean energy by 2045 and you can help the state succeed by exploring ways to reduce our individual and collective energy consumption. The technologies and processes to get there have not been invented yet so there's an enormous opportunity for innovation.

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STUDENT SESSIONS
TO INSPIRE INNOVATION



AGRICULTURE

Genes, Bugs & Soil

Presented by: Yarrow Flower, Sarah Sterling & Krishna Bayyareddy, Monsanto

Technology is playing a big role in developing today's agriculture industry. Come learn about the technologies Monsanto uses including biotechnology, soil conservation practices and integrated pest management programs.

ASTRONOMY

Maunakea Scholars: Cultivating Student Scientists

Presented by: Mary Beth Laychak & Karen Umeda, Canada-France-Hawaii Telescope

Learn about a groundbreaking program that enables high school juniors and seniors to conduct research and submit proposals to compete for telescope observing time just like actual astronomers. It provides phenomena-driven STEM education opportunities to students that are aligned to the Next Generation Science Standards. This is the first program of its kind internationally, leveraging the most powerful telescopes in the world for the direct educational advancement of Hawaii high school students.

CODING

Anyone Can Code

Presented by: Natalie Ramirez & Christie Reindle, DevLeague LLC

Don't be intimidated — anyone can code! This session is the perfect starting point for beginners who have no coding or design experience. Get an easy-to-digest introduction to HTML, CSS, and JavaScript, then learn how build a simple eye-catching web application. Later, we'll provide resources online to take your skills to the next level.



Bloxels: Game Design

Presented by: Shane Asselstine, Momilani Elementary School

Game designing offers you an engaging opportunity to be creative, think critically, and problem solve. In this session, you'll plan and design a game of your very own. Create amazing levels, develop unique characters, maybe even the villain of your dreams. Tell a story and learn something new!

Code Challenge: Dash & Dot

Presented by: Shane Asselstine, Momilani Elementary School

In a world where computer science and computational thinking are a fundamental part of learning, we are constantly evolving the tools we use, including programmable robots. Coming in a variety of forms, robots allow students to interact with the technology to produce real life results. In this session, you will work collaboratively, utilizing the Dash & Dot to solve challenges and bring coding to life. Step up to the challenge and see if you can complete them!

Coding and Making with the micro:bit

Presented by: Microsoft Team

The micro:bit is a pocket-sized computer you can code, customize, and control to bring your digital ideas, games and apps to life. In this session, you will flex your coding, hacking, and "making" muscles to create to a virtual pet, an electron football game, a step counter and more!

Step Up Your Game

Presented by: Natalie Ramirez & Raymond Luong, DevLeague LLC

Introducing Unity 3D — the most dominating game development software in the industry. More games are made with Unity than any other game technology. This session focuses on the most important concepts for beginners. You'll start by exploring the Unity interface, creating and manipulating objects in the editor. You'll also get familiar with the basics of C# programming for game design and development. By the end, you will have built a simple 3D game!

CYBER SECURITY

Making a Career Out of Computer Hacking!

Presented by: Debasis Bhattacharya, University of Hawaii Maui College

Explore hands-on techniques in defensive computer hacking that could lead to vital careers in the future. Defensive hacking is used to test and strengthen system defenses. Honeypots can be created to lure attackers into traps. This workshop will discuss how

hackers can be employed by major organizations such as banks, utilities, hospitals, government, and transportation agencies. You'll learn essential hacking skills and how to transform this passion into a career!

The Buzz on Cyber Security

Presented by: Melvin Quemado, Darryl Higa, University of Hawaii

Join a mock security company with a team of supporting characters in order to analyze and learn about the methods and tactics used in a ransomware attack. No computer or security knowledge is required as you learn to use security tools and techniques to save the day. In the second half of the session, you will use your new skills in a non-competitive, Capture-the-Flag (CTF) event that has been customized to maximize your training. You'll be paired together to promote collaboration and information-sharing in a relaxed and safe environment.



How STEM Skills Impact Our National Security

Presented by: Karen Cheek, NSA Hawaii & Tuan Nguyen, FBI Honolulu

Mathematicians, engineers, and computer scientists are in demand to protect our nation's citizens and networks. The National Security Agency (NSA) is the government's principal cryptologic agency where STEM skills are critical to gain a decision advantage for the U.S. and our allies. The Federal Bureau of Investigation (FBI) also relies heavily on STEM skills as the nation's chief law enforcement agency. Come learn how STEM skills can impact national security in an ever-challenging technical environment. Karen and Tuan will help you explore STEM application in a federal government career.

STUDENT STEM SESSIONS

ENGINEERING

STEM in Action: Bottle Cap Projectile Launcher
Presented by: Charles Souza & Ryan Saito, Elemental Minds

The Challenge: Defend yourself against the Zombie Apocalypse by designing a hand-held launcher with everyday materials to make it out of town safely! This workshop introduces you to the math and science concepts associated with the Engineering Design Process as you design, create, and test objects in real world situations.

Sphero STEM Challenge
Presented by: Terry Holck, Nānākuli – Wai`anae Complex

The two-wheeled horse-drawn chariot was one of the most important inventions in history, giving humanity its first concept of personal transport. For 2,000 years, it was also the key technology of war, as well as the world's first mass spectator sport phenomenon. In this workshop, you will join a team using the Engineering Design Process to design and create a chariot that will be propelled by a Sphero. Your team will then use your collective programming skills to navigate your chariot through a racecourse.

UH Manoa College of Engineering Programs
Presented by: College of Engineering Ambassadors
Thinking about becoming an engineer? In this session, you'll get the inside scoop from University of Hawaii at Mānoa College of Engineering students who know all about the process. Engage in a hands-on engineering experience and learn how the activity applies to engineering studies and career pathways. Hear about their personal experiences in undergraduate research opportunities, leadership and student development opportunities, as well as their reasons for making UH Mānoa College of Engineering their school of choice.



DIGITAL MEDIA

After Effects – Basics
Presented by: Maui High School ACOM

Here's a great opportunity to get a comprehensive introduction to the industry standard for motion graphics – Adobe After Effects. In this workshop, you'll focus on motion graphics and create animations within After Effects. No footage will be required as we will be diving into the visual effects aspect of After Effects and the basics of VFX.

InDesign – Basics
Presented by: Maui High School ACOM

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

Photoshop – Beginners
Presented by: Maui High School ACOM

This is a great fundamentals workshop for students who always wanted to learn how to use Adobe Photoshop but never had the time or opportunity. Besides the basics, learn about special effects, image and photo manipulation.

LEADERSHIP & NETWORKING

Art of Networking
Presented by: Myhraliza Aala, UH College of Engineering

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.

Ask & Receive: Learning How to Negotiate
Presented by: Patsy T. Mink Leadership Alliance

How would you ask your teacher for extra time to complete a school assignment? When you and a friend want to watch a movie, who gets to choose the movie? How would you convince your parents to let you go on a trip that will cost them money? Having solid negotiation skills is the first step to answering these questions and coming to an agreement that suits you and teacher, friends, or parents. This session

will teach you the basics of negotiating for what you want and give you a chance to try out those skills in mock negotiation.

Body Lingo Bingo: What Your Body Language is Telling Others

Presented by: Alexis Dascoulias, Camp CenterStage/ Maui OnStage

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 fun, 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?

Change the Way You See Everything: Asset Based Thinking

Presented by: Alexis Dascoulias, Camp CenterStage/ Maui OnStage

This refreshing new way to shift your mindset creates monumental results. Making small shifts in your day to day thinking is 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!

Communication Can Get You Everywhere

Presented by: Patsy T. Mink Leadership Alliance

Will Smith said it best in his 2005 movie Hitch: "60% of all human communication is nonverbal body language. 30% is your tone. So that means 90% of what you're saying ain't coming out of your mouth." So, do you want better grades, stronger relationships, and leverage over the competition? Learn how to maximize your verbal and non-verbal communication skills and the world can be yours! In this session, you'll discover your unique communication style, how to apply specific tools and tactics to your advantage, and how to rock it in presentations, interviews, and relationships.



Is That Really What You Said?

Presented by: Alexis Dascoulias, Camp Centerstage/ Maui OnStage

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.



Speed Mentoring: A Networking Game for Curious and Driven Students

Presented by: Patsy T Mink Leadership Alliance

This is a fast, fun and focused. Partake in a series of 10-15 minute quick-fire mentoring sessions with young, charismatic female leaders who share your interest in education, career and leadership development. Our two-way mentoring game is based on equality and the belief that we all have something unique to give and receive. You will have the opportunity to meet female leaders in various fields as you take turns discussing and sharing wisdom, gaining diverse input on your current challenges while making new business relationships. Intentionally intimate—each group is limited to 12 to 20 individuals.

Sticks and Stones May Break My Bones – But My Words Have SUPER POWERS!

Presented by: Alexis Dascoulias, Camp CenterStage/ Maui OnStage

The words we use, often say a lot. And it's not just the words, but also the context and feelings behind them. Choosing our words wisely helps us build the kind of relationships we need with peers – whether they are

STUDENT STEM SESSIONS

fellow students, business partners or your employer. Carry the observations and interactive conversation from this session back to the “real world” and know that your words are powerful!



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

Presented by: Alexis Dascoulias, Camp CenterStage/ Maui OnStage

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 story board for accomplishing that goal. Pre-visualize your life and goals with images, words, illustrations and even interactive media. Leave this session with a milestone plan and fantastic tools!

STEM TOOLS

Digital Storytelling with Sway

Presented by: Microsoft Team

Sway is a free, web-based program that makes it quick and easy to create and share polished, interactive reports, presentations, personal stories, and more. In this session, you will learn how to bring your digital stories to life with interactive content, including videos, charts, tweets, and other media. Family, friends, classmates, and teachers can see your creation on the web without signing up or downloading additional software. You will leave this session with an interactive Sway story that captured your experience at the Conference – maybe, even a prize!

Creating Forms & Applications in ArcGIS & ArcGIS Online

Presented by: Craig Clouet, Esri

Create simple web-based and mobile survey applications in this hands-on workshop. Using Survey123, you will learn the basics and develop a simple application. Examples of more advanced mobile applications will also be discussed and presented. During the second half of the workshop, you will explore the Web App Builder, and go beyond the Esri templates to create Mapping and GIS applications, all while not having to write a single line of code.

Creating Functional Art Using Fusion 360

Presented by: Nick Fournier, Fournier Designs LLC

Computer Aided Design (CAD) helps artists and engineers design and create products that solve everyday problems. This class will focus on creating engineered art using Fusion 360. You will learn how to use the program to engineer a device, sculpt the geometry using organic modeling techniques, then determine and simulate the manufacturing process.

Introduction to Machine Learning

Presented by: Nicolas Turner & Sylvana Cares, University of Hawaii

Get exposed to the technology behind self-driving cars, autonomous robots, search engines, and intelligent gadgets like Amazon Alexa. Machine learning gives computers the ability to learn without being explicitly programmed and is one of the most sought after skills in the tech industry. In this hands-on session, you will explore machine learning with Python using TensorFlow and scikit-learn open source libraries to build an image classifier.



What's your STEM Career?

Presented by: Ellen Pomerantz, STEM Jobs

Take the STEM Type Quiz and connect your interests to skills required in high-demand, high-paying STEM careers in the real world. Once you receive your STEM Type, STEM Jobs will guide you through career exploration activities and outline the different training and education paths available to students interested in STEM careers. STEM Jobs will bust some common myths and stereotypes about STEM careers and show you that there really is a place for you in a challenging and rewarding STEM career.

Satellite Communications – The Billion Dollar Technology

Presented by: Iwalani Gutierrez, Jeffrey Barlett & Isaac Costa, Regional Satellite Communications Support Center Pacific

Satellite communication is a multi-billion dollar, space-based industry widely relied upon by the military. In fact, the race to space brought us loads of technology commonly in use today – from a call home while on a cruise ship to traffic updates while in our cars. How does a message get from a soldier in Afghanistan to his commander in Hawaii using a satellite that is 22,300 miles up in space? Let's examine the radio frequencies, modulations and 1's and 0's that are part of the mix. Let's talk space.



STEM Playground

Presented by: Chris Coffelt, Nani Daniels & Jennifer Kirsch, Apple Inc.

Experience the excitement of the Apple STEM playground for yourself. You'll have the opportunity to experience chemistry through augmented reality and utilize coding to direct a robot through a course. Come experience contemporary STEM applications that are sure to provide engaging, collaborative and memorable learning for students of all ages.

STEMworks™ College Toolkit

Presented by: Isla Young, MEDB, Women in Technology Project, STEMworks™

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



UAS in Hawaii's Future

Presented by: George Purdy IV & Mike Elliot, Drone Service Hawaii LLC

An Unmanned Aircraft System (UAS), sometimes called a drone, is controlled by an operator on the ground. Today unmanned systems are widely used in the military, civil and commercial sectors. Find out the role UAS may play in the development of Hawaii's future in business, education, as well as the opportunities for careers.

UH STEMfest: STEM in Action!

Presented by: University of Hawaii

The University of Hawaii offers over 250 majors in STEM. If you're feeling overwhelmed by the choices, be sure to attend this interactive session featuring students and representatives from University of Hawaii. Explore and move freely between different STEM booths in this open exhibition.

Ask questions. After attending the session, you'll feel a lot more informed about the STEM fields and know how to best prepare for different STEM degrees at UH. Get your UH passport stamped and play a trivia game for free stuff!



TEACHER PROFESSIONAL DEVELOPMENT

Agenda: May 1 & 2

8:00 - 8:30 AM
8:30 - 12:30 PM
12:00 - 12:30 PM
12:30-4:00 PM
4:00 PM

Aloha & Welcome
Breakout Sessions
Lunch
Breakout Sessions
See you in 2018!

23

TEACHER SESSIONS
FEATURING STEM EDUCATION



Basic Shots

Presented by: Luane Higuchi, Miki Kamimura, Donn Yamamoto & Austin Zavala, STEM Pre-Academy & John Allen, WCRC

Visual storytelling is a way of communicating simple ideas through the composition of images, both still and moving. In this workshop, you will learn how to enhance your story or presentation through the careful application of your own photos. By understanding how people look at and gather information from images, you can direct the eye and present a strong, precise message without words. This session includes teacher sharing and examples.

Bloxels: Game Design

Presented by: Shane Asselstine, Momilani Elementary School

Game design offers you an engaging opportunity to be creative, think critically, and problem solve. In this session, teachers will be given an opportunity to plan and design a game of their very own! Create amazing levels, your own characters, and even the villain of your dreams. Tell a story or learn something new!

Bringing Awareness to Climate Change Through the C-MORE Science Kits.

Presented by: Davin Sasaki, Lindsey Benjamin, John Constantinou, & Edwin Colon Rivera, STEM Pre-Academy

This hands-on workshop use classroom experiment kits to explore some of the causes (fossil fuel burning and disposable lifestyle) and consequences (altering ecosystems) of climate change. Topics of local importance such as marine debris, coral bleaching, and ocean acidification will be discussed.

Code Challenge: Dash & Dot

Presented by: Shane Asselstine, Momilani Elementary School

In a world where computer science and computational thinking are a fundamental part of learning, we are constantly evolving the tools we use, including programmable robots. Coming in a variety of forms, robots allow students to interact with the technology to produce real life results. In this session, you will work collaboratively, utilizing the Dash & Dot to solve challenges and bring coding to life. Step up to the challenge and see if you can complete them!

Digital Coast Introduction

Presented by: Jim Foley, NOAA B-WET

The Digital Coast is a web-based, ever-expanding collection of data, tools, trainings, and case studies focused on coastal and ocean issues. This session is an interactive introduction to Digital Coast with a focus on on-line GIS tools to explore hurricane tracks, tsunami evacuation zones, potential impacts of sea level rise and changes in land cover in Hawaii.

Dive into SeaGlide and Discover How You Can Help Your Students Learn to Fly

Presented by: Janelle Curtis RoboNation/SeaGlide Jason Lindler, Navatek

Introducing SeaGlide: a mini-underwater glider and new hands-on STEM program designed to introduce students to autonomous systems. Students learn how to program an Arduino controller to regulate the buoyancy engine of the glider, but the real fun begins after a build. Students become inventors — scientists that solve challenges faced by oceanographers, astronauts and explorers. With SeaGlide as an investigative platform, the benefits are limitless!



WORKSHOPS

DSLR — Basics

Presented by: John Allen, Luane Higuchi, Miki Kamimura, Donn Yamamoto & Austin Zavala, WCRC, STEM Pre-Academy

With so many buttons and features, the DSLR camera can be a daunting task to learn. In this workshop, you will be introduced to the different features of this multi-faceted marvel. You will learn how to set-up the camera and achieve the “exposure triangle.”



Energy UNPLUGGED

Presented by: Tony Kawal, Hawaii Energy & John Cheever, Blue Planet Foundation

Help Hawai'i lead the nation in energy efficiency! This hands-on workshop will give you the tools to teach your students how to reduce energy use. You'll also learn how to make money by becoming an “Energy Entrepreneur” and reap the benefits of making smart energy choices in the home.

Everyone Can Code

Presented by: Chris Coffelt, Nani Daniels & Jennifer Kirsch, Apple Inc.

Discover a new approach to coding that gives everyone the power to learn, write, and teach code. You'll hear about the new Swift Playgrounds app that includes lessons for beginning coders. And you'll explore curriculum materials for middle and high school that make it easy to bring coding into the classroom.

Get Students Creating Virtual Reality Content with Google and ThingLink VR!

Presented by: Michael Fricano II, The Janus Group/Iolani School

Attendee Requirements: bring a Smartphone (iOS/Android) and a laptop or iPad.

Virtual Reality field trips can literally take your students

anywhere in the world -- even out to space or into the human body! But what if you could help your students create their own VR field trips for other classes around the world? The new ThingLink VR Editor for classrooms is one of the easiest and most effective tools that empowers students to take control of their own learning, while creating quality VR content that can be shared with the world. We'll take a look at some exemplary student samples and teach you how to use Google apps and the ThingLink VR Editor in your classroom on Day One! (ThingLink is a paid tool, but the best on the market! Receive a discount code for attending.)

Hardware Science

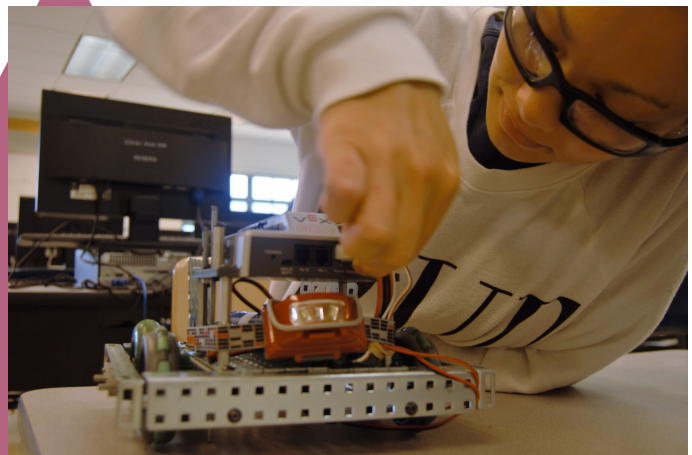
Presented by: Lisa Loo, HouseMart/Ace Hardware Stores

Science is everywhere and can be found in commonplace items all around us. Hardware Science is a program that supports STEM education by incorporating regular hardware store items in science projects. By using easy to find supplies from your local hardware or craft stores, Hardware Science makes science learning relatable to all ages. We will also introduce our “Wizard’s Book of Science Secrets” and ready-to-go kits.

Hawaiian Electric Smart Power for Schools - PowerScope Project

Presented by: Sam Nichols, Tad Glauthier, Johnathan Howery, Hawaiian Electric & Lynn Fujioka, Sheri Fitzgerald, Erin Horner, HI FusionED

Hawaiian Electric’s Smart Power for Schools announces the PowerScope Project to help your school learn about energy management and conservation. Already available in 250 Hawaii schools statewide, PowerScope can help students (Grades 4-12) learn about energy – contextualized through this interactive educational tool. To maximize learning experience, please bring your laptops or mobile devices.



TEACHER PROFESSIONAL DEVELOPMENT

Introduction to SketchUp and 3D printing

Presented by: Chris Brashar, SketchUp

Learn how to incorporate one of the most robust 3D modeling software suites into your classroom. This session is a hands-on introduction into SketchUp's best practices to ensure you are successful when integrating 3D design and 3D printing into your curriculum. Be prepared to be inspired!

Ka Hei Resources for Solar & STEM in the Classroom

Presented by: Tori Suarez, Dawn Johnson & Briana Lewis, OpTerra Energy Services

Engage in a hands-on lab with information on non-renewable vs. renewable energy, solar boxes, and Defined STEM. Leave with a lesson plan on solar energy for your classroom. Learn about Ka Hei resources available to educators throughout the state and the program that is bringing renewable energy to the HIDOE. Bring a device (tablet, computer) to explore online resources.

Learning with LEGO: Exploring Education Through Play

Presented by: Wrenn Okada & Salia Wilson, Play-Well TEKnologies

Play-Well TEKnologies presents a hands-on LEGO-inspired workshop that explores the possibilities of learning through play and interaction. You will collaborate and create with thousands of LEGO pieces and compete in design challenges and performance tests that demonstrate the potential of LEGO as an educational and creative tool. Students love expressing their thoughts and ideas visually -- especially in a virtual space that can be shared with the world. These LEGO-based activities can increase engagement and interest while allowing students the opportunity to showcase their skills and knowledge.



NASA: Hidden Figures to Modern Figures - How Technology Shaped History

Presented by: Karen C. Roark, NASA AMES Research Center

In the 1960s, the U.S. was on an ambitious journey to the moon, and Katherine Johnson and her fellow "human" computers helped NASA get there. Bring the excitement of their story to your classroom with the NASA Modern Figures Toolkit, a unique collection of technology resources and educational activities for students, grades K-12. Each educational activity and resource includes a brief description, as well as information about how the activities and lessons align with education standards. Resources include videos, historical references and STEM materials.

NASA: Rock the Class: Lunar and Meteorite Sample Certification

Presented by: Karen C. Roark, NASA AMES Research Center

Did you know that Certification for Handling Real Moon Rocks is good for a lifetime? To be certified to borrow Lunar and Meteorite Sample Disks, all educators need to do is attend this NASA Certification Workshop provided by a NASA Authorized Sample Disk Certifier. NASA makes actual samples from the historic Apollo missions available to lend to teachers. By going through the certification process, teachers can bring the excitement of real lunar rocks and regolith samples to their students. This workshop is recommended for teachers for all grade levels. Hands-on activities and free classroom materials for math, science, and technology are included.

STEM Inquiry and 21st Century Skills for the Classroom

Presented by: Charles Souza & Ryan Saito, Elemental Minds

Learn how to 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. Your challenge for the day will be to defend yourself against the Zombie Apocalypse by designing a hand-held launcher using everyday materials and make it out of town safely.

Step-by-Step GIS activities for the Classroom

Presented by: Emily Haines-Swatek, King Kekaulike High School STEMworks

Expose your students to the power of GIS! Learn to utilize StoryMaps and GeoInquiries in the elementary, intermediate and high school classrooms. Lessons are developed for either a one-on-one situation or for a classroom with a single computer and projector.

WORKSHOPS

Virtual Reality in the Chromebook (or any laptop!) Classroom

Presented by: Michael Fricano II, The Janus Group/Iolani School

Do you know you can use the Chromebooks in your classroom to take advantage of all the great virtual reality content out there? There's a lot of amazing VR content available that students and teachers can access right on the web! In this session, we'll explore 360° immersive, engaging, and interactive virtual reality images and videos from a variety of website resources and VR tools, all of which are accessible from Chromebooks (and any laptop or desktop computer)!



MICROSOFT YOUTH SPARK IN SCHOOLS

Presented by: Microsoft Team

Join Conference sponsors Microsoft for a two-part session on technology in education. The session will begin with a short keynote from Liz Sager, representing the Parent Teacher Association of Hawaii.

Part 1: STEM + Families: Closing STEM Gaps Through Parent Engagement.

This session convenes a mini-panel of parent engagement experts to discuss strategies for better connecting families to STEM learning. Panelists will include Liz Sager, representing the Parent Teacher Association of Hawaii, and Byron Garrett, Microsoft's Director of Education Leadership & Policy. National PTA's STEM Plus Families initiative increases access to STEM education and careers, especially among under-represented youth, by developing, evaluating and sharing effective ways to engage families in STEM experiences, while working with partners to improve access to STEM school and community learning environments. PTA's vision is that all students have

the family and community support needed to access and pursue STEM opportunities and careers. Join a dynamic conversation placing this effort in a local context.

Panelists:

- Pono Chong, Vice President, Business Advocacy & Development, Chamber of Commerce Hawaii
- Leslie Wilkins, Vice President, Maui Economic Development Board, Director, Women in Technology Project
- Liz Sager, Vice President of Leadership, Hawaii Parent Teacher Association

Part 2: Computational Thinking in the Classroom: Hacking STEM

Presenter, Todd Beard, Microsoft Innovative Educator Fellow

In this hands-on STEM session, you will learn how to build affordable scientific instruments to visualize data across science, technology, engineering, and math (STEM) curricula. In this lesson, Using computational thinking to understand earthquakes, you will build a seismograph to visualize earthquakes. Then, you will explore modern engineering techniques being used to mitigate earthquake damage. Finally, you will engage in a big data exercise to understand the relationship between earthquakes and the tectonic plate boundaries. Discover free teacher written, middle school standards-based lesson plans to bring computational thinking and exciting hands-on STEM learning to your classroom.





STEMworks™



Playground

Experience STEM: Where Ideas Come to Play

Featuring



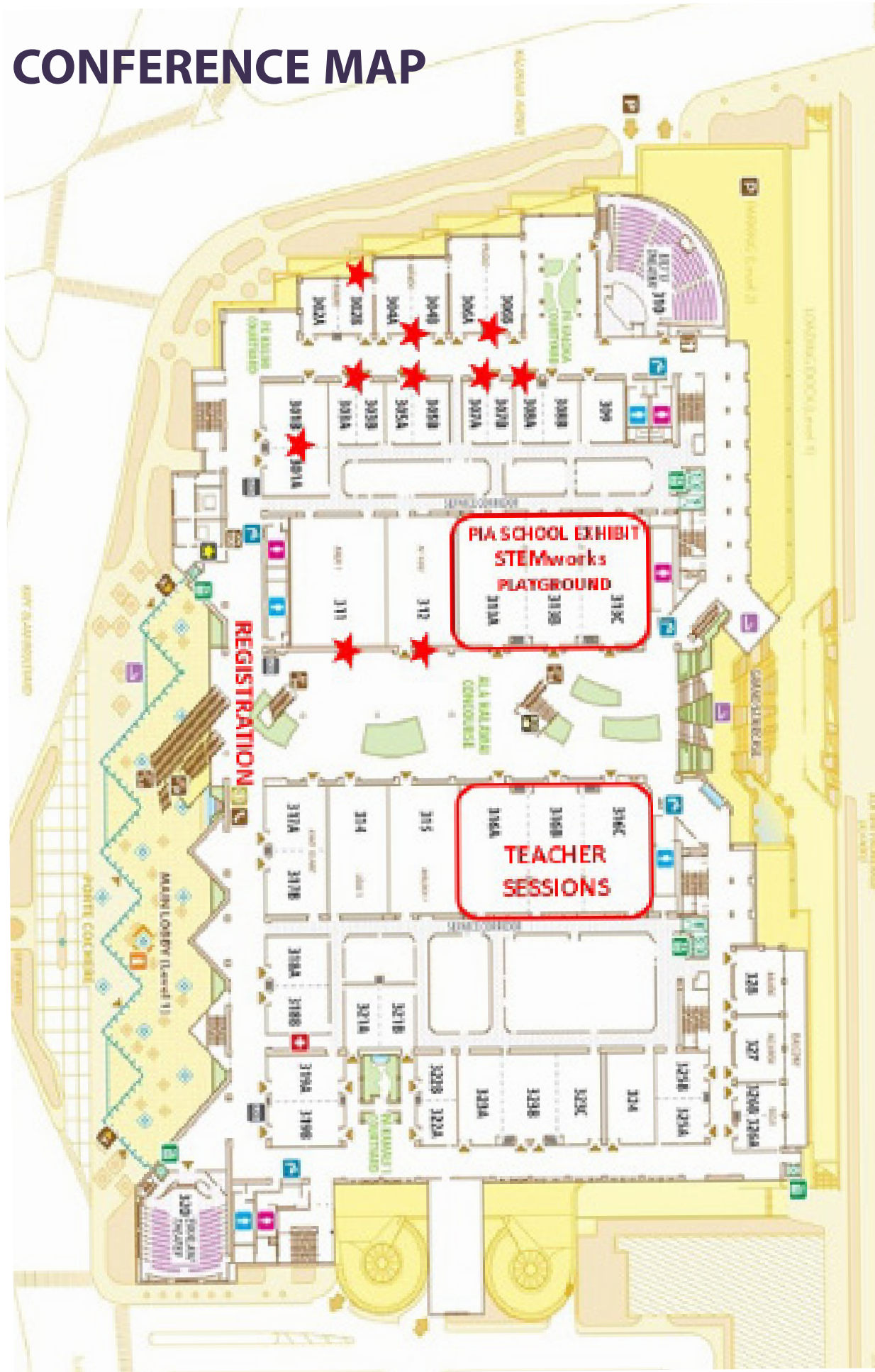
Apple Inc.



THE JANUS GROUP



CONFERENCE MAP



Level 3

- ### LEGEND
- Information desk
 - Business center
 - 808 Coffees Café
 - First aid
 - Escalator (2nd FL Parking)
 - Escalator (3rd & 4th FL)
 - Elevator
 - Restroom (Men)
 - Restroom (Women)
 - Pay phone
 - TDD / Pay phone
 - ATM
 - Vending area
 - Water fountain
 - Smoking area
 - LCD board
 - Parking
 - Entrance
 - Automatic entry door
 - Plants / grass area
 - Service corridor

FREE

 IN COMMON AREAS

MAHALO

We would like to thank the following organizations and individuals for their commitment and support of the 2017 Hawaii STEM Conference

| | | | | |
|----------------------|----------------------|---------------------|--------------------------|---------------------------------------|
| Alexis Dascoulias | Collette Rauch | Jayboy Badua | Lynn Fujioka | Ruthsenne |
| Anela Kalavi | Collin Kobayashi | Jayna Hunsucker | Maile Martinez | Perron |
| Angus Raff-Tierney | Craig Clouet | Jean Isip Schneider | Maria Alejandra Larriera | Ryan Saito |
| Anna Romano | Daniel Burris | Jeffrey Barlett | Marie VanZandt | Sam Nichols |
| Anna Viggiano | Daris Hao | Jennifer Kirsch | Mark Kennedy | Sarah Sterling |
| Anthony Witecki | Darryl Higa | Jim Foley | Mary Beth Laychak | Shane Asselstine |
| Ashley Frazer | Davin Sasaki | Jodi Ito | Measy Malaqui | Shanell Pugal |
| Austin Zavala | Dawn Johnson | John Allen III | Melvin Quemado | Sheri Fitzgerald |
| Axl Daguio | Debasis Bhattacharya | John Cheever | Michael Fricano II | Song Choi |
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| Charles Souza | Farrah-Marrie Gomes | Kristin Alm | Nick Turner | Terry Holck |
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| Chelsea Harder | Isaac Costa | Kyle Alquisalas | Rachel James | Todd Beard |
| Cheryl Sato Ishii | Iwalani Gutierrez | Laura Brewington | Ramsey Brown | Tony Kawal |
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| Christine Tanuvasa | Jamar Black | Lindsey Benjamin | Regina Hilo | Tuan Nguyen |
| Christopher Brasher | Janelle Curtis | Lisa Kakiuchi-Gima | Renezel Lagran | UH College of Engineering Ambassadors |
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| Clint Gima | Jason Lindler | | Rondy Arquero | Wrenn Okada |
| | Jason Sewell | | Roxanne Agtang | Yarrow Flower |
| | | | | Yvette Maskrey |

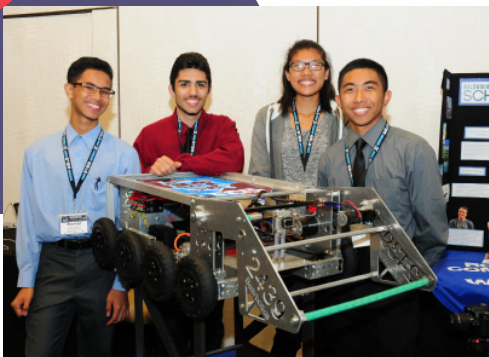


"A huge highlight of the conference, for me, was networking with awesome industry professionals."

"Seeing my friends and teachers all learning simultaneously at STEM no matter who you are, no matter the ages, you gain something valuable. Either from breakout sessions competitions or each other! I love it! Go STEM!"



"I learned that more ideas can help people see different points of views. My teammates have different perspectives from me sometimes and help me see other angles that I didn't think of."



"Being once again exposed to careers in cyber security resparked my interest in coding and ambition to take up a job in computer sciences and coding."

"I'm doing a project in coding software where you have to invent something that benefits the world or many people."



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