



Hosted by:
Hawaii Council of Teachers of Mathematics
and
Waipahu High School
94-1211 Farrington Hwy
Waipahu, Hawaii

February 18, 2017



The Hawaii Council of Teachers of Mathematics is a local affiliate of the National Council of Teachers of Mathematics

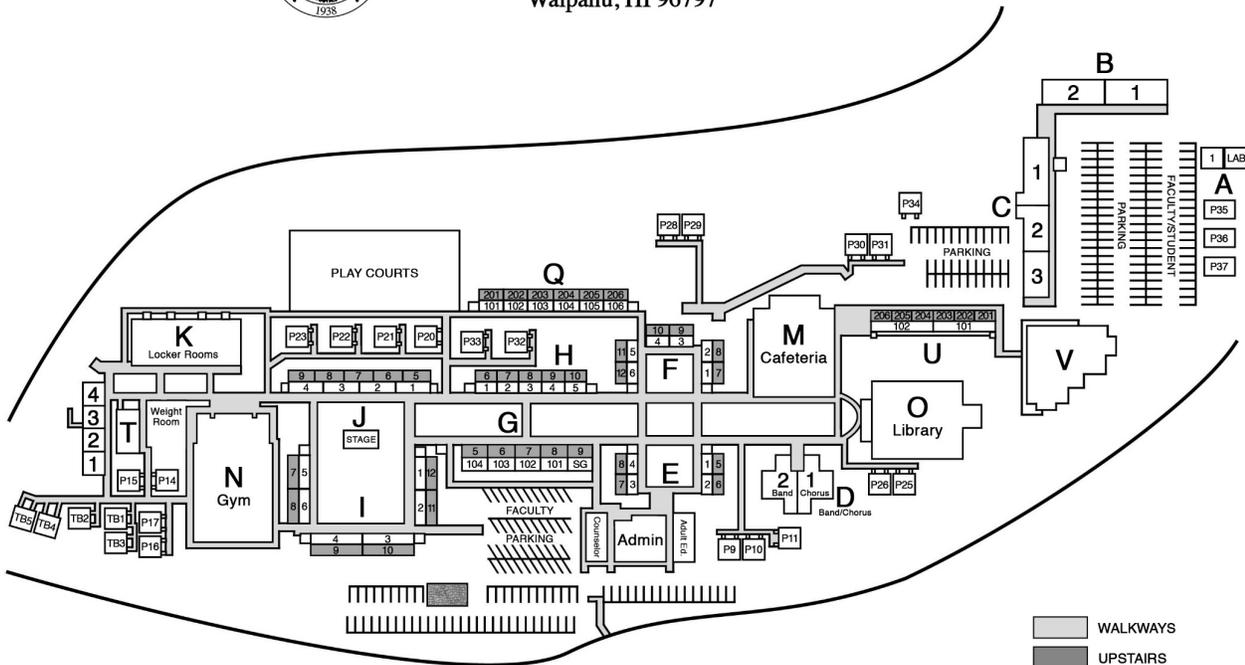
Conference Schedule

- 7:30 - 8:20 Registration/Continental Breakfast
- 8:30 - 9:20 Keynote - **Dr. Linda Furuto**
- 9:30 - 10:30 Session 1
- 10:40 - 11:40 Panel of Community Leaders
- 11:40 - 1:00 Lunch/Exhibitors
- 12:15 - 1:00 Poster Sessions
- 1:10 - 2:10 Session 2
- 2:20 Raffle Drawing and Closing



Waipahu High School

94-1211 Farrington Highway,
Waipahu, HI 96797



A Message from your HCTM Board



Welcome to this wonderful opportunity for professional development and networking. We hope you leave today with lessons and ideas that you can use in your classroom and in conversations with your colleagues to help Hawaii's children meet today's challenges.

We have worked diligently to provide you with standards-based, research-supported activities which include rich tasks to engage and improve students' understanding and processing of difficult mathematical concepts and the "big picture." You will find sessions including both tech and non-tech topics, ethnomathematics projects, and general interest topics across all grade levels. We are bringing back poster sessions, short presentations at which the presenter explains a special project or experiment.

We would like to take this opportunity to thank Waipahu High School for the use of their campus. And of course, we send a huge thank you to the exceptional presenters who have spent so much time and energy to bring you the highest quality professional development.

Please take time to visit our fantastic exhibitors who offer a variety of products to help you in your work with your students. At the same time they would also like to hear about your needs, and we know they will make every effort to follow up on your questions and suggestions.

Last, but not least, thank you all for making time to join us today. May we ask a couple of favors: please feel free to "bump into" an HCTM Board member and/or complete the evaluation form to let us know how we can best serve you, and consider joining us as several positions on the Board will be up for election in April.

Please enjoy what the conference committee has put together for you.

Scott Powell
President

Linda Kodama
Vice President

HCTM Board of Directors

President	Scott Powell	Four-Year College Director	Linda Furuto
Vice President	Linda Kodama	TwoYear College Director	Jean Okamura
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Membership Director	Deborah Kula	Newsletter Editor	Elizabeth Gabriel
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HCTM is currently looking for a middle school director, high school director and a historian. Contact Scott Powell at David.Powell@notes.k12.hi.us for more information.

Special Thanks to...

Keith Hayashi, Principal of Waipahu High School for hosting us here today and for supporting this conference.

Waipahu High School teacher **Edmar Ramos** for coordinating today's logistics.

The faculty and staff of Waipahu High School for going above and beyond the call of duty to support this endeavor on their campus.

The Waipahu High School students who are volunteering their services today.

'Iolani School for generously supporting the publication of this program book.

The presenters for their time and effort in preparing their sessions. We are also extremely grateful for their willingness to share their knowledge of teaching strategies, new standards and practices, and the latest technologies with HCTM's members.

The exhibitors for sharing a wide variety of educational resource material and teaching and learning tools with Hawaii's educators. We would like to send a special thank you to the exhibitors who also generously donated to our collection of conference door prizes.

The conference organizers and other volunteers for fitting publicity, planning, and conference logistics tasks into their lives to help make this conference a success, and to their families, friends, and colleagues for understanding and offering support throughout this planning process.

Domenico's Motorcycles and **Zippy's** for their generous donations of raffle prizes.

Pearson for their donation of conference folders and continued support of our activities.



Exhibitor Information

(Exhibits will be open in the Cafeteria)

Cengage Learning

National Geographic Learning/Cengage Learning is a leading textbook and digital educational publisher. We publish textbooks for Math, Science, Social Studies, English, World Languages, Humanities, ESL/ELL and Career and Technical Education. We believe that an engaged learner will be successful.



NCSM

The National Council of Supervisors of Mathematics is an organization for leaders in mathematics education, pre-K through adult, in the United States and Canada. Its purpose is to support mathematics education leadership at the school, district, college/university, state or province, and national levels through a cadre of well-trained, broadly informed, and perceptive leaders of mathematics education at all levels.



NCTM

The National Council of Teachers of Mathematics is the public voice of mathematics education, supporting teachers to ensure equitable mathematics learning of the highest quality for each and every student through vision, leadership, professional development, and research.



ORIGO Education

ORIGO publishes and covers all facets of primary mathematics education: from traditional printed products to digital interactive resources and professional learning. Our products range from the core curriculum to visual aids and manipulatives. *ORIGO Stepping Stones* (Aligned to CCSS) delivers a world-class mathematics program that seamlessly blends digital and print materials. ORIGO demonstrates a commitment to excellence by creating products that inspire and empower teachers and students.



Pearson

Learning isn't a destination, starting and stopping at the classroom door. It's a never-ending road of discovery and wonder that has the power to transform lives. Each learning moment builds character, shapes dreams, guides futures, and strengthens communities.



Reasoning Mind

Reasoning Mind is a 501(c)(3) nonprofit organization that develops effective and engaging blended learning programs for pre-K through 7th grade math. With Reasoning Mind, students are engaged, teachers are empowered, and technology is leveraged to provide a first-rate math education.



The Stock Market Game

An online simulation of the global capital markets that engages students grades 4-12 in the world of economics, investing and personal finance and that has prepared 16 million students for financially independent futures. Visit us at www.stockmarketgame.org

Tutor Doctor



Tutor Doctor provides tailored, one-on-one, in home tutoring and test prep for students at all grade levels.

Keynote
8:30 am – 9:20 am
Cafeteria

**P–20 Ethnomathematics Student Success Pathways:
Navigating Our Educational Visions**

Dr. Linda Furuto, University of Hawaii at Manoa

Hōkūle‘a, our Star of Gladness, began as a vision of reviving the legacy of exploration, courage, and vision that brought the first Polynesians to the Hawaiian archipelago. The mission of the current 2013–2017 Mālama Honua Worldwide Voyage is to care for island earth, by bridging ancient and modern wisdom for a more sustainable world. Hōkūle‘a is a vehicle to explore research, theory, and praxis, including equitable, high quality mathematics education that serves to re-empower diverse populations through experiential, real-world applications. Ethnomathematics is a tool to foster an ongoing process of navigating and wayfinding by strengthening student pathways through multiple approaches to learning mathematics, and providing a framework for sustainable campus-community networks.

Dr. Linda Furuto was born and raised in Hau‘ula, O‘ahu. She is an Associate Professor of Mathematics Education at the University of Hawai‘i at Mānoa, and was previously an Associate Professor of Mathematics at UH West O‘ahu and middle/high school teacher in Los Angeles, Boston, and Fiji. Research interests include: quantitative methodology, mathematics achievement, ethnomathematics, and access and equity. Dr. Furuto received the 2010 Pacific Business News’ Top Forty Under 40 Award, 2011 UH Board of Regents Frances Davis Award for Excellence in Teaching, and 2012 UH Board of Regents Medal for Excellence in Teaching. She is humbled to be engaged in the Mālama Honua Worldwide Voyage of Hōkūle‘a from 2013–2017.



Session 1
9:30 am – 10:30 am

GenCyber – Bringing Technology and Cybersecurity into the Classroom (general) Room F1
Kara Nance and Julie Feeny, SecurityWorks

This hands-on experience will provide you with a preview of the Free GenCyber Teachers Camps in Hawaii. These camps target teachers who are passionate about providing students with the tools they need to be safe and responsible online. A team of teachers and cybersecurity experts will guide you through hands-on activities using current technologies, introduce the concept of digital citizenship, and give you online safety information to share in your classrooms. Join us to learn more about this exciting opportunity for summer 2017.

Great Games Lead to Great Gains (elementary 3-5) Room H5
Julie Lum, ORIGO Education

Learn how literature can support students to develop a deeper understanding of math concepts. Experience how to engage students using language stages to develop meaning for abstract symbols in math.

Your Textbook is More Than an Archive: A Session for Early Career Teachers Room F2
(elementary, middle school, preservice)
Linda Venenciano, Fay Zenigami, and Seanyelle Yagi, University of Hawaii Curriculum Research and Development

Your teacher's edition is likely your primary source for planning lessons, presenting topics, and assigning homework. It is also packed with tons of other information! In this session, we will look at a few examples and highlight opportunities for teachers to use curriculum as a tool for thinking about mathematics and pedagogy.

Quick Routines to Build Number Sense (elementary) Room H4
Gerrainne Kutaka and Kelly Pila, August Ahrens Elementary School

The term "Number Sense" is often used when we describe students' abilities to do math. This session will help you gain a better understanding of what number sense means and will provide teachers with quick activities to be used in the classroom that help to build number sense. Designed for K-2 Teachers.

Mindset Mathematics for Struggling Learners (elementary) Room H3
Jana Fukada and Stacie Kaichi-Imamura, Hawaii Department of Education

After attending a 2-day intensive Teaching Mindset Mathematics workshop with Dr. After attending a 2-day intensive Teaching Mindset Mathematics workshop with Dr. Jo Boaler (Stanford University), presenters would like to share how to teach "mindset mathematics." We will work on some math tasks, share resources, and consider the ways to create a mindset mathematics community with a focus on struggling learners.

Fostering Optimum Learning Behaviors in Diverse Classrooms
(middle school, high school, preservice, general)
Liz Anderson, Center for Teacher Effectiveness

Room F6

Teachers on average are losing 5-9 hours a week on lower-level discipline challenges. "Time to Teach" is an evidence based classroom management model focusing on highly effective and practical classroom management strategies and techniques that helps eliminate pesky, low-level behaviors which steals precious instructional time.

"Desmos-ify" Your Algebra 1 Lessons to Increase Student Engagement
(high school)

Room H2

Dewey Gottlieb (Hawaii Department of Education) and Yannabah Weiss (Kealakehe High School)

The way mathematical ideas appear in student materials often hinders effective learning. This session will share high school mathematics teachers' experiences learning from Desmos faculty to develop instructional habits and make-over lessons to remedy what Dan Meyer calls the "paper disease." Learn how to use Desmos tools to increase student engagement and understanding. (Note: participants will need to bring a laptop or tablet for this session.)

Ethnomathematics and STEM Institute (middle school)

Room H1

Janel Marr (Hawaii Department of Education) and Elizabeth Obod Frilles (Olomana School)

Ever considered that math exists in every culture? Imagine using the inspiration of your own students cultures to drive your math curriculum, cover all of your standards, and still create a safe, thriving learning environment. Ethnomathematics encompasses all of these. Now in its 9th year, the Ethnomathematics and STEM Institute is an effort to address issues of equitable and quality education through culturally responsive pedagogy grounded in the ethnic, cultural, historical, epistemological and linguistic diversities of the populations we are endeavoring to serve. We bring together research institutions and community-based organizations to support a yearlong professional development program for K–12 educators to discover pathways that foster student engagement through multiple approaches to learning STEM. This session highlights middle school level lesson plans created by scholars in the Ethnomathematics and STEM Institute in alignment with Mathematics Common Core State Standards, Next Generation Science Standards, and Nā Hopena A'o. Presenters will share their lesson plans, discuss their experience with Ethnomathematics and STEM Institute and how they have continued its philosophy in their classes.

Teaching Coding for the Non-Coding Teacher (general)
Douglas Kiang and Mary Kiang, Punahou School

Room F5

How can teachers with no coding experience teach coding? We'll show you some hands-on examples and strategies for teaching coding at all levels, even if you have never programmed before. Learn three fundamental concepts of computer science and how to introduce them using games and activities at the younger ages, reinforce them with the Micro:bit, a tiny computer designed to teach coding and programming to middle schoolers, and extend their learning with Harvard's free CS50 high school curriculum, a great introductory course in programming for beginners.

**My Grandma Can Show You at Least Three Different Ways
to Represent a Linear Relationship (general)**

Room F3

Charmaine Mangram, University of Hawaii at Manoa

How do we help parents understand the classroom changes inherent in the “Common Core” mathematics standards? How do mathematics educators engage parents in authentic mathematics learning experiences much different from parents’ own classroom math experiences? In this session, I will share some of my experiences engaging a culturally, linguistically and generationally diverse group of parents in mathematics activities aligned to the Common Core State Standards for the Mathematical Practices. In addition, I will share some of the findings from a research project that sought to address the aforementioned questions. Finally, session participants will engage developing an initial plan for engaging the parents in the mathematical practices at their own schools. This discussion will be of direct relevance to teachers, coaches and administrators from all disciplines, as this work hopes to inform our emergent understanding of the specific pedagogies that might be useful for engaging families from historically marginalized communities.

**Panel of Community Leaders
10:40 am – 11:40 am
Cafeteria**

Today's Workforce: What Students Need

A panel of business and technology leaders shares what they value in prospective employees.

Todd Nacapuy – Chief Information Officer, State of Hawaii

Christine Lanning – President, Integrated Security Technologies, Inc.

Ray Ono – Vice Chairman and Chief Banking Officer (retired), First Hawaiian Bank

Mark Yamakawa – President and Chief Executive Officer, Hawaii Dental Service

Poster Sessions
12:15 pm – 1:00 pm
Library

GenCyber – Summer 2017 Free Technology/Cybersecurity Camps for Teachers (general)
Kara Nance and Julie Feeny, SecurityWorks

The (free) GenCyber Teachers Camps in Hawaii target teachers who are passionate about providing students with the tools they need to be safe and responsible online. A team of teachers and cybersecurity experts will guide you through hands-on activities using current technologies, introduce the concept of digital citizenship, and give you online safety information to share in your classrooms.

Math Art: Visual Representations of Mathematical Concepts (middle school, high school)
Kristin Jones, Sacred Hearts Academy

Visual representations of mathematical concepts from various levels in mathematics.

Desmos Calculator Activities (middle school, high school)
Jay Chow, Leilehua High School

Desmos Calculator Activities pairs the Desmos Graphing Calculator with a powerful interactive presentation platform transforming the way mathematics is taught. Instructors guide students through prebuilt lessons, collect information on student progress, compile and display class wide data and trends in real time. Desmos Classroom Activities is FREE to use on ANY web browser! Come check out one of my lessons.

The Ethnomathematics and STEM Institute aims to address issues of equitable and quality education through culturally responsive pedagogy grounded in the ethnic, cultural, historical, epistemological and linguistic diversities of the populations we are endeavoring to serve. Ethnomathematics and STEM Institute scholars will share posters on the following topics:

Developing Mathematical Problem Solving and Collaboration Skills with Freshmen to Increase STEM Performance (high school)
Tessie Lumabao, Waipahu High School

Integrating STEM into Place-based Learning Curriculum (middle school, high school)
Elizabeth Obod Frilles, Olomana School

BEE-lieve it or not – Math is BUZZ'n with Fun Engaging Students with Honeycomb Geometry (elementary)
Stacy George, Mauka Lani Elementary School

Modular Origami with Sonobe Cub-ic3 (elementary)
Trisha Kodama, Ali'iolani Elementary School

Math is Fun and Games (elementary)
Margaret Miura, Ali'iolani Elementary School

Session 2
1:10 pm – 2:10 pm

Ethnomathematics and STEM Institute (elementary)

Room F1

Antonia Monkoski-Takamure and LilyMarleen Uta'i, Iroquois Point Elementary School

Ever considered that math exists in every culture? Imagine using the inspiration of your own students cultures to drive your math curriculum, cover all of your standards, and still create a safe, thriving learning environment. Ethnomathematics encompasses all of these. Now in its 9th year, the Ethnomathematics and STEM Institute is an effort to address issues of equitable and quality education through culturally responsive pedagogy grounded in the ethnic, cultural, historical, epistemological and linguistic diversities of the populations we are endeavoring to serve. We bring together research institutions and community-based organizations to support a yearlong professional development program for K–12 educators to discover pathways that foster student engagement through multiple approaches to learning STEM. This session will give a general overview of experiences of scholars in the Ethnomathematics and STEM Institute, as well as share a few elementary-level lesson plans created by Ethnomathematics and STEM Institute alumni in alignment with Mathematics Common Core State Standards, Next Generation Science Standards, and Nā Hopena A'o. An Ethnomathematics and STEM Institute scholar will share her lesson plan and discuss how the Ethnomathematics and STEM Institute has influenced her teaching practices.

Creating a Playful Atmosphere by Utilizing the SMP's Effectively (elementary)
Jessica Bobo, ORIGO Education

Room H5

A child's innate sense to learn is through the act of play. Why not use the SMPs to orchestrate intentional play to achieve gains in the early childhood mathematics classroom? Come join in on the fun!

Developing an Understanding of the Number Line Through Measurement Concepts (elementary)

Room F2

Seanyelle Yagi and Fay Zenigami, University of Hawaii at Manoa

The number line is a ubiquitous counting tool often used to compare and compute with numbers. In this session, we will consider often overlooked measurement concepts, such as generalized units of volume, mass and length, and how they provide a foundation for the number line critical to its use as a mathematical tool.

Math Transitions from the Hawaii Department of Education to the University of Hawaii System (high school)

Room F6

Dan Doerger (Hawaii P-20) and Daphne Okunaga (Pearl City High School)

The presenters, including the designers of the Introduction to College Mathematics course and one of the original HIDOE teachers who implemented the course, will give a brief history of the course including completion data from the pilot group. Components of the course will be shared including group assignments, common assessments, and ways to encourage the Growth Mindset.

Ethnomathematics and STEM Institute (high school, college)

Room H4

Kaipo Tam (University Lab School), Ryan Girard (Kauai Community College), Tessie Lumabao (Waipahu High School), Jackie Meggs (Polynesian Voyaging Society), Michelle Phillips (Hawaii Community College), and Emily Uribe (Leeward Community College)

Ever considered that math exists in every culture? Imagine using the inspiration of your own students cultures to drive your math curriculum, cover all of your standards, and still create a safe, thriving learning environment. Ethnomathematics encompasses all of these. Now in its 9th year, the Ethnomathematics and STEM Institute is an effort to address issues of equitable and quality education through culturally responsive pedagogy grounded in the ethnic, cultural, historical, epistemological and linguistic diversities of the populations we are endeavoring to serve. We bring together research institutions and community-based organizations to support a yearlong professional development program for K–12 educators to discover pathways that foster student engagement through multiple approaches to learning STEM. This breakout session will be geared toward high school teachers and post-secondary instructors, but will be open to any interested parties. Alumni of the Ethnomathematics and STEM Institute will share their experiences after learning the pedagogy and praxis of the Institute in alignment with Mathematics Common Core State Standards, Next Generation Science Standards, and Nā Hopena A'o. They will also share their lesson plans and the changes they have seen in their students' performance at the high school and community college levels. Audience members will also be led through a sample ethnomathematics lesson to give a very brief experience of the ideology.

Using DESMOS to Promote Active Learning (middle school, high school, preservice, general)

Room H2

Catherine Walker, Leeward Community College

Can your calculator engage students, make colorful graphs (including implicit, polar, and parametric equations), and strengthen student understanding of math concepts? DESMOS can. DESMOS is a free online graphing calculator that is much more than a graphing calculator. In this session you will learn some of the ordinary and extraordinary things you can do with DESMOS. I will also share examples of how I have implemented the graphing capabilities, classroom activities, and games that are built into DESMOS.

Using Optimization Problems Across the Curriculum (elementary, middle school) Room H1

Michelle Manes, University of Hawaii at Manoa

When people think about "optimization" in mathematics, they often think of max / min problems in calculus. However, we can ask optimization in almost any area of mathematics. Asking students to solve these problems encourages both computational practice and deeper thinking about how they can be sure that their answer is the biggest or smallest or best possible. In this session, we'll look at several examples of optimization problems across various elementary and middle school topics, including arithmetic, fractions, and algebra.

Technology in the Math Classroom (general)

Room F4

Corey Colosky, Hanalani Schools

I will present how I use different software for screen capture, how I use my own google site to help students, and how I create my own digital content using drawing software.

**Using Collaborative Conversations and Discourse (elementary)
to Foster the Growth Mindset**

Room F5

Eliza Akana Yoshida, Puu Kukui Elementary School

The power of the Growth Mindset is evident when students believe that they can learn. Collaborative conversations can be used as a Growth Mindset strategy where students can engage in meaningful discourse that fosters perseverance and learning from their mistakes.

Math Fluency the Easy Breezy Way (elementary)

Room F3

Dr. Randy Palisoc, Ironbox Education

Even in the Common Core era, building math fluency remains important because it provides students with greater access to the curriculum. For example, the CCSS Mathematics Standards say that students should know from memory all their addition facts by the end of 2nd grade (p. 19) and all their multiplication facts by the end of 3rd grade (p. 23). However, math fluency has often been elusive for many students. This is an important issue to address because when students lack math fluency, it interferes with learning. During this session, Dr. Randy Palisoc will share practical and innovative strategies that not only build math fluency, but also build student confidence as well. Dr. Palisoc is known for creating innovative ways of making math easy. He is a curriculum designer and professional development specialist, and he was formerly a founder of the national award-winning Synergy Academies. In 2013, Synergy's elementary school was named the #1 Urban Elementary School in America by the National Center for Urban School Transformation. Dr. Palisoc was also a former classroom teacher with the Los Angeles Unified School District. Dr. Palisoc is also an alumnus of Waipahu High School, which is the host site for the 2017 HCTM Conference.