



Hosted by:
Hawaii Council of Teachers of Mathematics
and
'Iolani School
563 Kamoku St.
Honolulu, Hawaii

September 15, 2018

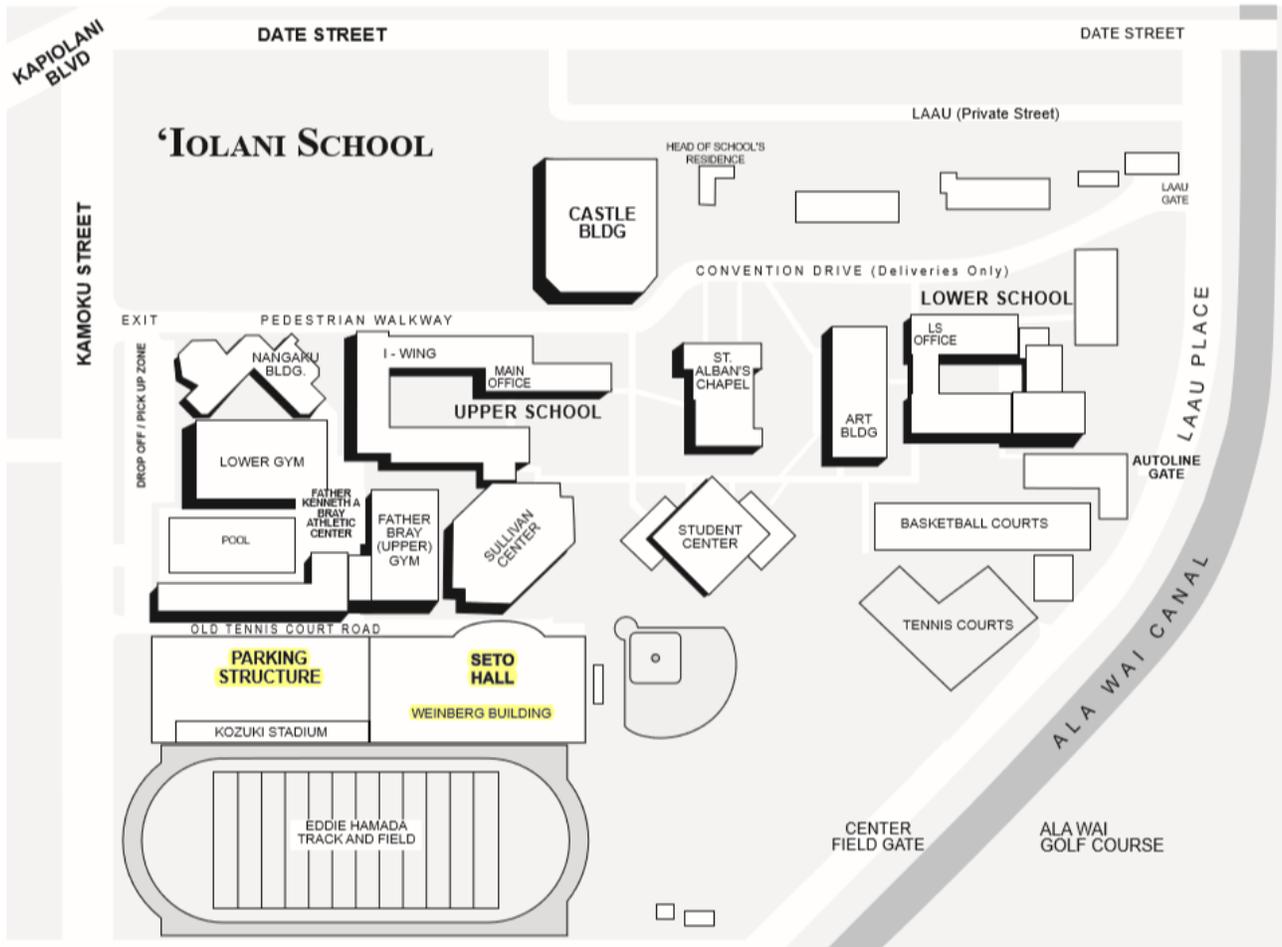


The Hawaii Council of Teachers of Mathematics is a local affiliate
of the National Council of Teachers of Mathematics

Conference Schedule

- 7:15 – 8:00 Registration/Continental Breakfast
- 8:00 – 8:10 Welcome
- 8:15 – 8:50 Keynote - Dewey Gottlieb
- 9:00 – 10:00 Session 1
- 10:00 – 10:50 Poster Sessions and Exhibitors - Seto
- 11:00 – 12:00 Session 2
- 12:15 Raffle Drawing and Closing

Wifi: HCTM Password: mathminds





Dear HCTM members,

Welcome to a new school year! I hope that your school year is off to a fabulous start. We have only been in school for a little over a month and it seems as though the time is going by so quickly.

If you feel as though Hawaii Council Teachers of Mathematics (HCTM) just had an annual conference this year, you are correct. We had our annual conference in January 2018. Based off of feedback from teachers, we moved our annual conference to the fall so that it is early enough in the school year to try out some of the new things that you learn at the conference. In the year 2020, the National Council Teachers of Mathematics (NCTM) will also be moving their annual conference to the fall too.

Thank you for taking time from your busy weekend to attend this conference. The conference committee carefully themed the conference “Engaging Math Minds.” As educators of children, my hope is that we are engaging the minds of our youth in thoughtful and meaningful ways. This conference will offer us the opportunity to learn from the Dewey Gottlieb’s keynote entitled, “Curiosity. Exploration. Persistence. Play. Joy.” We will also learn from the breakout session presenters, poster sessions, as well as from one another. Please also make time to visit our exhibitors around Seto Hall.

HCTM is the local affiliate of the NCTM. Due to this relationship between HCTM and NCTM, NCTM has offered our conference attendees a 20% discount for all books that are being sold on their website at nctm.org. Another perk is that the shipping is FREE (yes, even to Hawaii). HCTM will also get 10% from all online purchases using the code in your folder. Remember, it will only be good for one week from this conference. Happy shopping!

Lastly, one thing that I love about conferences is the ability to meet and network with others. Please make it a point to meet a new person or two at the conference – exchange email addresses and stay in touch. It is always great to connect with others and see what you have in common with the grade levels, schools or courses that you teach.

Have a great conference!

Mahalo,
Stacie Kaichi-Imamura

HCTM President

HCTM Board of Directors

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HCTM is currently looking for volunteers. Contact Stacie Kaichi-Imamura at Stacie_kaichi@notes.k12.hi.us for more information.

Special Thanks to...

Dr. Timothy Cottrell, Head of School at `Iolani School for hosting us today and for supporting this conference.

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

The students from the `Iolani Leo Club who are volunteering their services today.

Ashley Pang (`Iolani '18) for the conference logo design.

`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.

Exhibitor Information

(Exhibits will be open in Seto Hall until 11am)

National Geographic Learning/Cengage/Big Ideas Math

Website: <http://ngl.cengage.com>

National Geographic Learning/Cengage and now partnered with Big Ideas Math 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 the power of engagement will lead to a successful learner



Curriculum Associates

Website: www.CurriculumAssociates.com

Curriculum Associates was founded in 1969 with a singular mission: **To make classrooms better places for teachers and students.** In the years since, the company has held tight to this founding value, introducing innovative and exciting new products that give every student the chance to succeed. Currently, there are over 140 Hawaii schools implementing Curriculum Associates resources like i-Ready Diagnostic & Instruction and Ready Math.



Houghton Mifflin Harcourt (HMH)

<https://www.hmhco.com/>

HMH is a leading provider of pre-K–12 education content, services and cutting-edge technology solutions across a variety of media, HMH is uniquely positioned to create engaging and effective educational content and experiences from early childhood to beyond the classroom. HMH also believes that **high-quality teaching is the single most important factor for raising student achievement.** With that in mind, HMH provides professional development for teachers via The International Center for Leadership in Education and Math Solutions



Imagine Learning

<https://www.imaginelearning.com/>

At Imagine Learning, we believe every student can succeed in math. This essential truth motivated us to create our Imagine Learning math suite, **the only math solution on the market today that covers Pre-K through algebra and geometry**. Imagine Learning's math programs help students learn to love math through engaging, effective game-like educational programs that teach math fact fluency while building a solid pre-algebra foundation.



NCSM

www.mathedleadership.org

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

www.nctm.org

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

www.origoeducation.com/

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.



Keynote

8:15 am – 8:50 am
Seto Hall

Curiosity. Exploration. Persistence. Play. Joy

Dewey Gottlieb (dewey_gottlieb@notes.k12.hi.us), Hawaii Department of Education

I once asked a room full of kindergarteners how many of them love math. Can you envision a bunch of smiling faces and enthusiastic hands raised in the air? I also asked a room full of 12th graders how many of them love math. Can you envision a bunch of smiling faces and enthusiastic hands raised in the air? This year's conference theme, "Engaging Math Minds," should inspire us to be innovative and creative in designing learning opportunities for our students so that we'll be able to see as many 12th graders with smiling faces and enthusiastic hands in the air as there are kindergarteners. In this discussion we'll dive into the notion that, at its core, mathematics is about curiosity, exploration, persistence, play and joy. If these are critical elements of the mathematical experience, what implications arise for how we engage the mathematical mind?

Dewey Gottlieb is the President of the Association of State Supervisors of Mathematics (ASSM), an organization dedicated to the advancement of quality mathematics education in the United States and Canada. Currently he serves in the Hawaii DOE as the National Assessment of Educational Progress (NAEP) State Coordinator. Previously, he served for 10 years as the Educational Specialist for Mathematics in the Hawaii DOE, providing leadership for mathematics curriculum, instruction and assessment. Prior to that he was a high school mathematics teacher for 14 years (3 in Ohio and 11 in Hawaii) and served as a district-level mathematics resource teacher for 4 years. Dewey is a National Board Certified Teacher and a recipient of the Presidential Award for Excellence in Mathematics and Science Teaching and the Milken Educator Award. Dewey is owned by 2 exceptionally cute Tibetan Spaniels.



Session 1

9:00 am – 10:00 am

(Note: ES-elementary, MS-middle school, HS-high school, PS-preservice, G-general)

Hands-On Activities in a High School Geometry Class (HS)

W-213

Diana Ching-Teruya (diching@ksbe.edu), Kamehameha Schools
Regina Byrom (rebyrom@ksbe.edu), Kamehameha Schools

We will demonstrate various kinesthetic activities used in a Geometry class. Possible lessons could include using patty paper, compass, protractor, and straightedge.

Math in the Garden (ES)

W-202

Stacy George (stacya@hawaii.edu), University of Hawaii, Manoa

This session will use gardens as a unique way to integrate Math and Science concepts and engage elementary students. Session will include various lessons and ideas that encourage science and math integration by incorporating the natural environment into the curriculum.

Using Double Number Lines to Solve Ratio/Proportion Problems (MS)

W-214

Kathleen Goto (kgoto@iolani.org), Iolani School

We will look at some examples to show how “double number lines” can be used to establish and support conceptual understanding for students working with rates, unit rates, and percents.

Engagement Through Productive Mathematical Problem-Solving (ES grades 2-6)

W-215

Laurie James (ljames7@hawaii.edu), University of Hawaii, West Oahu

Interactive activities are a powerful way to inspire mathematical thinking and discourse in an elementary classroom. Age-appropriate brainteasers promote the development of critical thinking skills that allow students to investigate mathematics by looking for patterns. Making math fun and challenging will create a classroom culture that requires engagement and productive participation. The purpose of this session is to model how and when to implement mathematical problem-solving activities from the NCTM illumination site. Participants will engage in four of my favorite hands-on activities that ignite students' learning through various productive mathematical challenges.

Student-Led Heterogeneous Learning Communities (SHLCs) (MS, HS, G) W-216
Joseph Manfre (joseph_manfre@notes.k12.hi.us), Central Middle School

The workforce today is prioritizing hiring workers based on their ability to communicate, collaborate, and problem solve. We as educators need to prioritize shifting the purpose of education from automation into innovation in order to better prepare our students for the real world.

Student-Led Heterogeneous Learning Communities, and the systems that supports it, helps transform a teacher-led classroom into one that empowers student leaders. Students serve as facilitators of learning as teachers effectively formatively assess student learning as well as provide interventions when needed. Come see what has made Student-Led Heterogeneous Learning Communities awarded a Hawaii Innovation Grant from the HIDOE in order to enhance its purpose and autonomize the process.

Why are fractions so difficult? And what to do about it? (ES, MS, PS, G) W-207
Bryan Moseley (moseley.shopping@gmail.com), Chaminade University

Fractions represent a key stumbling block for elementary students but frequently persist long after. In this talk we present some of the underlying reasons reasons for these difficulties. We also provide some sample problems that teachers can do in their classrooms to make them more manageable and focus on conceptual understanding. Our suggestions revolve around using more novel problems that can't be solved with rote strategies and seeing fractions as part of a larger category of rational number relationships.

Creating Opportunities for Students to Develop Flexible Thinking (MS, HS) W-212
Linda Venenciano (lhirashi@hawaii.edu), University of Hawaii, Manoa
Eric Kobayashi (eskobayashi@gmail.com), Kamehameha Schools

When teaching mathematics we sometimes take a narrow path to develop a particular set of skills and processes. However, problem solving often requires creativity and the integration of several different skills and processes. Flexible thinking enables a student to find and use more than one method to solve a problem or to adapt previous knowledge to a new situation. Teachers can help foster this way of thinking through problem solving. In this session we will describe flexible thinking, share sample problems designed to help students develop it, and share strategies for how teachers might try this with their own students.

Developing Discourse through Problem Solving in the Elementary Classroom (ES)

W-203

Seanyelle Yagi (slyagi@hawaii.edu), University of Hawaii, Curriculum Research & Development Group

Fay Zenigami (zenigami@hawaii.edu), University of Hawaii, Curriculum Research & Development Group

Students participating in discourse about their thinking and work on rigorous problems provides opportunities for developing and examining their mathematical understanding. In this session we will look at characteristics of mathematical discourse and strategies for developing whole group discussions through student engagement in solving challenging yet accessible problems. A protocol for planning lessons that promotes student discourse will also be shared.

Poster Sessions

10:00 am – 10:50 pm

Seto Hall

Computer Science with CSTA Hawaii Chapter (ES, MS, HS, PS, G)

Shane Asselstine (hawaii@csta-hq.org), President Computer Science Teachers Association

Presented by CSTA Hawaii Chapter, this session will focus on computer science in Hawaii. The focus of CSTA is engaging, empowering, and advocating for computer science teachers. With so many math educators being asked to teach computer science, come check out how you can get involved!

Desmos Magic For All (G)

Jay Chow (mrchowmath@gmail.com), Desmos

Interactive poster session to teach the basics of working with the Desmos Computation Layer. Learn how Desmos makes rich activities that are easy for students to access and create classroom discussion.

Tin Man Challenge (ES, MS, HS)

Lisa Cockett (lcockett@iolani.org), Iolani School

Students calculate surface of their tin man and receive that amount of foil to cover their tin man. Students were limited in resources and found the surface area of rectangular prisms, cones, cylinders, and spheres. Some students chose to accessorize their tin man. Students were also expected to complete a reflection sheet, specifically to explain why they may have had too much or little foil.

Nominate a Deserving Teacher (Including Yourself) for the The Presidential Award for Excellence in Mathematics and Science Teaching (ES, MS, HS)

Dewey Gottlieb (dewey_gottlieb@notes.k12.hi.us), Hawaii Department of Education
Stacie Kaichi-imamura (Stacie_kaichi@notes.k12.hi.us), Salt Lake Elementary School

Yannabah Weiss (yanna_weiss@notes.k12.hi.us), Waiakea High School

The Presidential Award is the highest recognition a kindergarten through 12th grade mathematics or science teacher may receive for outstanding teaching in the United States. Come to this session to learn about the program and the application process. Then, leave with some motivation to nominate a deserving teacher or begin the application yourself.

Origami: Octagonal Star (MS, HS, PS, G)

Meryle Hirotsu (hirotsumeryle@gmail.com),

This paper folding activity helps students to review geometric terms while creating an octagonal star, using 8 pieces of squares. The activity can be extended to a writing activity where students will describe themselves, using 8 positive adjectives. This hands-on activity/writing can be used before Christmas and/or when part of the class is gone on a field trip and the teacher doesn't want to start a new lesson.

Computer Science Student Projects (HS)

Jackie Okumura (jokumura@iolani.org), Iolani School

Erin Nagoshi (enagoshi@iolani.org), Iolani School

Browse a variety of CS projects. The students will be available to share, discuss, and showcase how they applied coding and design in their projects.

Full STEAM Ahead with Ozobots!!! (ES)

Terri Trevathan (ttrevathan@ewa.k12.hi.us), Ewa Elementary

Beginning learners explore and learn about line programming using low tech (drawing with pens) to engage with the Ozobots. Then students can utilize devices to create their own code and upload to the Ozobots, and watch the Ozobot perform their computer program creation!

Session 2
11:00 am – 12:00 pm

Bring Amazing to Every Day - Improve Your Modeling Tasks With a Few Simple Questions (G)

W-203

Jay Chow (mrchowmath@gmail.com), Desmos

Many of today's modeling tasks fall well short of amazing and those that do not are often difficult to create. Videos, slides, and physical models can be difficult an time consuming to plan. Learn how to create exceptional activities and improve discourse in less time than you would take to create a worksheet.

Algebraic Thinking: Students Who Struggle Can Do It! (MS, HS)

W-213

Barbara Dougherty (bdougher@hawaii.edu), University of Hawaii, Director Curriculum Research & Development Group

Participants will engage in tasks that support conceptual understanding and are accessible for a diverse group of students. These tasks include Universal Design for Learning supports and assist students in developing generalizations that can be applied to broad classes of problems.

Origo Education - Fostering Mathematical Practices in the Classroom (K-2) (ES)

W-215

**Jennifer Omoto (Jennifer_Omoto@notes.k12.hi.us), Pearl Ridge Elementary
Tiffany Tawata (Tiffany_Tawata@notes.k12.hi.us), Pearl Ridge Elementary**

Participants will understand that...

- Helping students achieve the Common Core State Standards (CCSS) for mathematics begins with fostering the Standards for Mathematical Practice (SMP) in the classroom.
- Standards for Mathematical Practice can be used daily throughout instruction.

Participants will know...

- The 8 Standards for Mathematical Practice.

Participants will be able to...

- Begin monitoring how instruction impacts students' learning and understanding of the Standards for Mathematical Practice.

Math Games and Mathematics (ES)

W-214

Janel Marr (janelmarr@gmail.com), HI Department of Education, Windward Math/STEM Resource Teacher

- Discussion on why math games are important to play
- Participants will get opportunity to play games
- Participants will take home game resources

Preservice Teachers' Beliefs and Understanding of Algebra Word Problems (ES, MS, HS, PS)

W-202

Travis Mukina (travis.mukina@chaminade.edu), Chaminade University

Having the ability to model an algebra word problem situation with diagrams and equations proves difficult for many students and preservice teachers alike. This session will discuss a research project with preservice teachers' abilities to model different types of algebra word problems along with sharing the findings of the research. Explanations for modeling algebra word problems in a variety of ways will be shared.

Using Multi-Solution Problems to Engage Math Minds (HS)

W-309

Michael Park (mpark@iolani.org), Iolani School

Employing multiple-solution problems fosters better comprehension and increased creativity in mathematics for the student/learner, enriching teachers' pedagogical accomplishments and promoting lively class discussion. Solving problems in multiple ways is valuable in developing thinking ability for both students and teachers, encouraging creativity and increasing the quality of teaching. In this session, we will examine several problems that have multiple solutions, ranging from Algebra I to Precalculus.

Strategies to Support Fraction Sense (ES)

W-212

Eliza Yoshida (eliza_yoshida@notes.k12.hi.us), Pu'u Kukui Elementary

Fractions. The mere word can send chills down an elementary teacher's spine. Join us as we connect and reconnect to strategies that support fraction sense, engage in meaningful classroom activities and share ways we tackle fractions in the classroom. Breakout session utilizes ideas from Beyond Pizzas & Pies, Math Solutions, 2010.

Increasing Student Discussion with Desmos (MS, HS)

Weinberg 3rd floor computer lab

Yannabah Weiss (yanna_weiss@notes.k12.hi.us), Waiakea High School

Nikki Chiba, Chiefess Kamakahele Middle School

Experience how Desmos calculator and activities can be used to facilitate discussion in the middle and high school classroom. This session is designed for Desmos beginners. The session will highlight a number of tools available in Desmos and focus on how teachers can use these tools to help students talk about mathematics.

Thank you for attending today's conference. Please complete the survey that will be emailed to you. Your input is valued.