INSTITUTE DATES:
The 2015-2016 Ethnomathematics and STEM Institute includes an orientation, series of professional development workshops, and a weeklong summer immersion (attendance is required on all dates).

Orientation: December 12-13, 2015
Professional Development Workshops: January 23, February 27, and March 26, 2016
Summer Immersion: June 6-12, 2016

MANDATORY PRE-INSTITUTE WORKSHOPS:
Potential participants must attend ONE of the pre-institute workshops: October 19, 2015, 5-6 p.m.; October 20, 2015, 6-7 p.m.; or October 21, 2015, 7-8 p.m. In-person sessions will be held at University Lab School Bldg. 3, Room 133. Neighbor island applicants participate online: October 14, 2015, 5-6 p.m. Applications must be received by the deadline October 30, 2015. Selection is competitive and priority is given to K-12 STEM educators.

COST: FREE. Educators receive a small stipend, and may additionally obtain 6 PDE-3 HIDOE credits (pending approval).

In Partnership With:
- University of Hawai‘i System
- State of Hawai‘i Department of Education
- Hawai‘i P-20 Partnerships for Education
- Polynesian Voyaging Society
- Pacific Resources for Education and Learning
- Pacific American Foundation
- University Laboratory School
- Kalaupapa National Historical Park

With Support From:
- U.S. Department of Education, Elementary and Secondary Act (ESEA) Title II

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2015-2016 ETHNOMATHEMATICS AND STEM INSTITUTE

Funded by the U.S. Department of Education Elementary and Secondary Act (ESEA) Title II with support from the UH Mānoa College of Education

Concluding the Institute

The resulting research and practicum-based lesson plans are designed by participants and aligned with Mathematics Common Core State Standards (CCSS) and Next Generation Science Standards (NGSS). The lesson plans may be used by University of Hawai‘i faculty and K-12 STEM educators to supplement curriculum and enrich teacher training.
About the Institute

In an effort to address issues of equitable and quality education, culturally responsive STEM (science, technology, engineering, math) pedagogy is explored across the State of Hawai‘i through the Mathematics Common Core State Standards (CCSS) and Next Generation Science Standards (NGSS).

Now in its eighth year, the Ethnomathematics and STEM Institute brings together K-12 public, public charter, and private school STEM educators and University of Hawai‘i STEM pre-service educators to design and implement lesson plans grounded in the ethnic, historical, and cultural diversities of our state. This is accomplished through an orientation, series of professional development workshops, and a summer immersion.

The resulting research and practicum-based STEM lesson plans may be used by current educators to supplement curriculum and future teachers as training material. According to the National Council of Teachers of Mathematics’ Statement on Equity (2014), “When we respect all students’ inventions, experiences, and applications of mathematics, we provide them with equal opportunity for access and achievement.”

The institute is committed to making high-quality professional learning relevant, contextualized, and sustainable. Past publications have been featured in print, online, and on the air at the Mathematical Association of America, UH Mālama Magazine, PBS Hawai‘i, Hawai‘i Public Radio, Pacific Business News, and Honolulu Star Advertiser.

Field Studies

Institute scholars may participate in field studies to the following locations: Waikalua Loko Fishpond in Kāne‘ohe, Ka Papa Lo‘i o Kānewai in Waikīkī, Ma‘o Organic Farms in Wai‘anae, Polynesian Voyaging Society, and Kalaupapa National Historical Park, Moloka‘i. Service learning is a critical aspect of the institute.

Ka Papa Lo‘i o Kānewai

Kānewai is a cultural research and outreach program housed in the University of Hawai‘i at Mānoa Hawai‘inuiākea School of Hawaiian Knowledge. In the ahupua‘a of Waikīkī, it provides a culturally place-based learning center and a pu‘uhonua (sanctuary). Kānewai is a venue for cultural activities and hands-on experiential learning curricula grounded in STEM.

Waikalua Loko Fishpond

Restoration and preservation of the 400-year old Waikalua Loko Fishpond is an opportunity to understand STEM principles as each stone is put back on the wall and each native plant takes root. Through a values-based, service-learning framework, we take an active role in preserving, protecting, and caring for our marine life. Participants help restore the fishing village, and in the process learn about STEM skills and the perpetuation and practice of fishing, sea-facing, and maintaining healthy viable oceans.

Polynesian Voyaging Society

With a legacy of ocean exploration as its foundation, the Polynesian Voyaging Society is committed to undertake voyages of discovery; to respect, learn from, and perpetuate heritage through practice; and to promote learning which integrates voyaging experiences and values into quality, STEM education. Through traditional, celestial navigation and wayfinding (i.e., sun, moon, stars, tides, etc.), we learn how STEM is a tool to learn about real-world applications, share knowledge, and foster living well on our special islands.

Kalaupapa National Historical Park

Kalaupapa, Moloka‘i was once a leprosy community in isolation, and now serves as a place for education, reflection, and contemplation. Here, past suffering has given way to personal pride about accomplishments made in the face of great adversity. Kalaupapa is a place where we can reconsider our responses to people with special needs. Moreover, it is a place where the land has the power to heal - because of its human history, natural history, and stunning physical beauty. Through first-hand STEM experiences, we learn about how these themes impact past, present, and future generations.