The 2021 American Council of Engineering Companies of Hawai‘i (ACECH) Engineering Excellence Awards (EEA) was held virtually this year. The awards program culminated in a virtual event held on April 15, 2021. This year a total of 6 entries were received, all worthy and fine examples of engineering at its best.

The purpose of the EEA is to showcase and honor the most outstanding work in the engineering community, projects that exemplify the highest degree of merit and ingenuity. For over 40 years, ACECH has sent top winners of the local competition to the ACEC National Competition, which is considered to be one of the most prestigious design competitions in the world.

The project receiving the top honors this year, the highly coveted Grand Conceptor Award, was Punahou School’s Path to Net Zero submitted by RHA Energy Partners LLC and Ronald N.S. Ho & Associates Inc. The Lahaina Wastewater Reclamation Facility Stage 1A Improvements project submitted by Jacobs Engineering Group as well as Belt Collins’ Keauhou Beach Hotel and Site Demolition project were each awarded Excellence Awards.

Grand Conceptor Award Winner: Punahou School’s Path to Net Zero.
Client/Owner: Punahou School
Other Consultants & Contractors Involved: Okahara & Associates, GD Design, Preferred Mechanical, Alakai Mechanical, Kontec, LLC.

Punahou School’s Path to Net Zero is the first large-scale, whole-campus educational project of its kind in Hawaii that incorporated a turnkey approach towards achieving a 100% NZE goal through a top-down commitment to transformative occupant behavior and energy efficient facility operations. RHA Energy Partners served as the overall program manager and design-build contractor, completing the project eight months ahead of schedule and within budget. Punahou School has achieved energy-efficiency savings estimated at over 20% and has received over $100,000 in lighting incentives and $30,000 in A/C incentives from the Hawaii Energy Program for qualifying energy efficient equipment installations. Having started with a 13% NZE footprint in 2017 to an estimated 60% NZE footprint in 2021, the NZE Program serves as a role model for other educational institutions, organizations, and businesses in Hawaii and throughout the United States as how it can significantly impact and improve sustainable and energy initiatives.

Client/Owner: County of Maui

The Lahaina Waste Water Reclamation Facility Stage 1A Improvements Project offered a positive step forward in addressing potential environmental sustainability challenges in the County of Maui, including those due to drought, climate change, population growth, agricultural demand, dependency on source water supply, and nutrient load caps. The County partnered with Jacobs Engineering Group to plan and design plant improvements using aging infrastructure supplemented with new construction into a state-of-the-art facility with improved biological unit process redundancy. In addition, a Supervisory Control and Data Acquisition (SCADA) system was provided allowing continuous online dissolved oxygen (DO) and ammonia control. This SCADA system improved control of bioreactor blowers, the plant’s biggest energy demand. Furthermore, parallel bioreactor tank design allows operators to remove tanks from service to conduct maintenance without impacting wastewater treatment. These and other improvements allow the County to improve nitrogen removal from the wastewater.

Excellence Award Winner: Keauhou Beach Hotel and Site Demolition
Entering Firm: Belt Collins Hawaii LLC.
Client/Owner: Kamehameha Schools

The demolition of the Keauhou Beach Hotel, a 7-story, 309-room structure built in tide pools and on a parcel with 4 ancient heiau, is a major engineering achievement. The hotel demolition was accomplished with a high-reach excavator for landslide demolition and remote-controlled demolition robots for overwater work. The work, including footing removal from the tide pools, was completed in compliance with all permits and with minimal impact on the physical environment. Over 90 percent of all construction material generated from the building and site demolition work was recycled or salvaged and reused.

With the completion of the hotel demolition, the shoreline parcel will be redeveloped into an educational center that will focus on Native Hawaiian ‘aina-based science, technology,
38th ANNUAL HAWAII STATE MATHCOUNTS COMPETITION RESULTS

The Hawaii Society of Professional Engineers (HSPE) Educational Foundation is proud to announce the 2021 Hawaii National MATHCOUNTS Team (all from Honolulu Chapter):

Keisuke Kwong, Washington Middle School
Ashley J. Hong, Punahou School
Ryan Eto, Iolani School
Nicholas Biega, Iolani School

Our coaches include Sung Park from Washington Middle School, Yun Choe from Punahou School, and Joseph Guillou from Iolani School.

CONGRATULATIONS to all of our competitors, and to those advancing to represent Hawaii! The competition was held on the AoPS platform on Thursday, March 25, 2021. The Hawaii National MATHCOUNTS team will be competing in the 2021 Raytheon Technologies MATHCOUNTS National Competition, to be held online May 8-10, 2021. Other competitors making the top 10 (all from Honolulu Chapter):

Ian Jun, Punahou School
Hong Jin L. Kwak, Washington Middle School
Danwoo Kim, Iolani School
Katsutoshi Y. Yamamoto, Washington Middle School
Benjamin Kim, Iolani School
Nathan L. Yu, Punahou School

With students competing on-line, individual proctoring situations are necessary. Tighter proctoring conditions were put into effect for the State Competition. Proctors work to ensure the competitor is following competition rules and not gaining any unfair advantage, including but not limited to, (1) looking online for assistance, (2) communicating with someone electronically or in-person, (3) utilizing outside resources such as “cheat sheets” or books and (4) using a calculator when it is not permitted. (A calculator may only be used during the Target Round questions.) Proctoring remotely makes some of this more difficult, but it is possible to address each of these concerns. Proctors are reminded that while their role as a proctor is critical and should be taken seriously, students are likely to be nervous competing at this level of competition. As you fulfill the duties outlined, please try to be mindful of not adding any unnecessary stress to the student’s testing environment. A list of rules and proctoring conditions specific to the State Competition were provided. At the beginning of the test, students will be required to check off that they agree to these rules and conditions.

Hawaii MATHCOUNTS is organized by HSPE with competition assistance from Hawaii educators and engineers, and with financial support from Hawaiian Electric Company.

Hawaii Society of Professional Engineers
A state society of the National Society of Professional Engineers
P.O. BOX 3774
HONOLULU, HAWAII 96812

http://www.hawaiispe.org/

HSPE Officers for 2020-2021
Acting Pres: Sara Doi
Pres. Elect: Irima Constantinescu
Vice Pres: vacant
Past Pres: Sara Doi
Secretary: Majella Stevenson
Treasurer: Kurt Kunitumme

HOD ‘19-’21:
Mike Silva
Big Island Dir., NICET Chair ’19-’20:
Curtis Beck
curtisbeagood@gmail.com

ASCE Privacy Policy Update by D. Sato:
Positions, please contact President Dayna Nemoto-Shima, P.E.

Please help us increase our scholarship and opportunities, so contact President Dayna Nemoto-Shima, P.E.

For all events see our website

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ACEC Hawaii
Website: www.acechawaii.org

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ASME-HI 2021-2022 Officers
Chairperson: Derek Sato
derek.sato@hawaiianelec.com

Vice-Chair: vacant

Secretary: Raymond Liu
dangk001@hawaii.rr.com

NEXT ASME-HAWAII GENERAL MEMBERSHIP MEETING
Date: Friday, April 30, 2021

As usual, all members, students and guests are invited and encouraged to attend our meetings.

GENERAL MEMBERSHIP MEETING
Our first Zoom Conference Call meeting was held March 26, 2021 with seven participating. Meeting was conducted by Chairperson Derek Sato.

Student Section Report by D. Suyat: Several graduating students taking the FE exam are interested in FE study sessions and materials.

UHM DME Report by Dr. Shin:
• DME is close to establishing aerospace engineering program which will be a part of mechanical engineering.
• ABET on-site review will take place this fall. Dr. Qu will be assisting with the review. Industry Advisory Board assistance is usually needed for the review process.

• Most courses have been on-line the past three semesters and in-person courses slowly returning. Fall semester courses to be in-person for 30% of classes. Labs are in-person.

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The continued health and safety of our members, the page also offers several ways to get involved, including online tools and tips in ASCE’s COVID-19 RESOURCES PAGE

https://collaborate.asce.org/covid-19/home

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EXECUTIVE COMMITTEE MEETING
Last held: April 15, 2021
Next meeting: May 12, 2021

ASCE HAWAII SECTION DINNER MEETINGS
The continued health and safety of our membership is our top priority and we will continue to monitor the COVID-19 pandemic. Future in-person ASCE Hawaii Section events, including our section dinner meetings, are still temporarily on hold. Zoom meetings will be scheduled in lieu of in-person meetings, date and time TBD. We will keep you informed via email flyers.

MEMBERSHIP
If you haven’t already done so, please renew your ASCE membership, which includes 10 free PDHs. You can renew your membership at www.asce.org.

ASCE HAWAII SECTION STUDENT SCHOLARSHIPS
Please help us increase our scholarship endowment so that we can recognize deserving students. We continue to accept tax-deductible donations with the goal of increasing the annual scholarships. Make your check payable to ‘ASCE Hawaii Section’ and include the note ‘Walter Lum Scholarship Fund’ and mail to: ASCE Hawaii Section, P.O. Box 917, Honolulu, HI 96808-9117. If you have any questions, please contact Eric Tomishima at etomishima@ascehawaii.org.

ASCE JOB LISTINGS
The following job listings are currently posted on the ASCE Hawaii Section website:

- **AECOM** (Civil Engineers II)
- **City and County of Honolulu** (Civil Engineer III, IV, V, Civil Engineer V (Geotechnical), & Electrical Engineer V)
- **Gray Hong Nojima & Associates, Inc.** (Junior Civil Engineer)
- **G70** (Civil Designer, Civil Engineer, Civil Project Manager, Construction Manager)
- **HDR** (Senior Civil Engineer, Project Manager, Senior Engineering Project Manager, Water/Wastewater Engineer)
- **Hawaii Housing Finance and Development Corporation** (Section Chief)
- **Kennedy/Jenks Consultants** (Project Manager, Honolulu Staff Engineer, Hawaii Staff Engineer)
- **Nagamine Okawa Engineers Inc.** (Structural Engineer)
- **R.M Towill Engineers Inc.** (Junior Civil Engineer)
- **Stantec** (Account Manager/Engineer-Water)
- **SSFM** (Civil Engineer V, Structural Engineer IV)

For further information, please visit http://www.ascehawaii.org/job-listings.html.
2021 ACECH ENGINEERING EXCELLENCE AWARDS, from Page 1

Engineering, and mathematics programs and arts education for keiki and kupuna.

Honor Award Winner: Opaekaa Bridge Rehabilitation

Entering Firm: KAI Hawaii, Inc.
Client/Owner: County of Maui, Department of Public Works

What do you do with a 130-year old, 73 ft long, steel truss bridge that is in extremely poor condition and is no longer capable of safely supporting vehicles? And what do you do when the local residents and historic community insist that this State and Nationally registered historic 1890's bridge be repaired and not replaced?

The ultimate solution was to design a retrofitted bridge that incorporated the original steel trusses giving the Opaekaa Bridge its iconic 19th century aesthetic appearance while maintaining its historic integrity. Retrofitting/repairing old steel trusses for reuse is sustainable, however it's unique and has rarely, if ever, been accomplished for a bridge in Hawaii as old and severely damaged as this one. This is because the design and construction was costly, complex and challenging due to a thorough assessment of each original truss member, creating innovating ways to strengthen damaged truss members, and duplicating the 19th century construction method.

Honor Award Winner: Ke'anae Road Safety Improvements

Entering Firm: Hart Crowser, a division of Haley & Aldrich
Client/Owner: County of Maui, Department of Public Works

The mile-long Ke'anae Road originates as Hana Highway and provides the only access to historic Ke'anae Peninsula. This road supports resident and tourist traffic important to the community’s financial well-being. A 100-foot high slope along an 800 foot portion of the road had a history of rockfalls, endangering residents and tourists. The County of Maui sought to mitigate the rockfall hazards, even considering whether the roadway should be relocated. After gathering site information by engineering geologists rappelling down the cliff face, Hart Crowser assessed the rockfall risk and worked with the County to select a mitigation strategy that included a combination of rock scaling, netting, rock fencing, and concrete barriers. Roadway improvements, including regrading, pavement widening, and installing guardrails, were incorporated into the project to further improve roadway safety. Significant community outreach and coordination benefitted the project and community as construction required road closures with major impact to residents and tourism-related business.

Honor Award Winner: Koa‘e Makana Workforce Housing Project

Entering Firm: Bow Engineering & Development, Inc.
Client/Owner: Mark Development

As of January 2021, the median price for a single-family home on the island of Kauai was $1.03 million where the average income is just over $60k. For low income families, affordable housing is a scarce necessity that needs to be more abundant. Thanks to Koa‘e Makana, Kauai now has its largest affordable housing property and has begun to address its inequality in the housing market. With roughly 40” of rainfall a year, careful consideration of the drainage and layout led Bow Engineering to redefine the flood plain to account for excess storm water runoff generated from a 100-year storm event. Solar panels were also installed on the units to aid in creating an even more affordable living situation that is environmentally friendly. This development project is a pioneer for all future affordable housing projects.

Congratulations to all of this year’s award recipients, all projects were outstanding examples of how engineering can provide extensive benefits to the community while utilizing innovative approaches that provide the best engineering solutions. Mahalo to this year’s sponsors, the event would not be possible without their continued support and generosity.
Yoga Social

On March 18th, seven ASCE members gathered together on zoom for a yoga session. All of the members found their center as they worked through each pose. Unlike a traditional yoga class, there were some workout moves incorporated; however, everyone seemed to still enjoy the experience. The yoga session concluded with the Savasana (also known as corpse pose) as everyone melted into their yoga mats. We ended our meeting with a social event as the participants met each other’s company. Thank you to all the participants for attending!

Virtual Networking Event

On April 7th, ASCE YMF held a virtual networking event with civil engineering students at UH Manoa, YMF members, and Hawaii Section members. The 30 participants at this event did a series of one-on-one “breakout sessions” with 3 to 5 other participants. Student attendees were paired with either YMF or Hawaii Section members to learn more about each engineer’s company, job responsibilities, and to have the opportunity to ask questions. Some YMF and Hawaii Section members chose to be paired with other industry professionals if they were interested in general networking or if they wanted to learn what type of work they did. Thank you to everyone who participated in this event and we hope that it was beneficial to everyone! We hope to do another networking event later this year!

2020-2021 YMF Officers

Carly Kameko, President
cskane@ascehawaiiymf.org

Claire Fukuoka, Vice President
cfukuoka@ascehawaiiymf.org

Brandon Uejo, Treasurer
buejo@ascehawaiiymf.org

Lance Lam, Secretary
llam@ascehawaiiymf.org

Kapiolani Street, Past President
kstreet@ascehawaiiymf.org

2020-2021 Officers:

President:           Kelly Akasaki
Vice Pres.:          Jasmine Teramae-Kaehuea
Sec/Treas:           Keoni Wasano

ITE Hawaii Section held a virtual speaker meeting on April 21st, 2021. We heard from Jon Nouchi who is the Deputy Director for the City and County of Honolulu Department of Transportation Services. Jon’s presentation focused on the City’s response to O’ahu residents’ needs during the Coronavirus pandemic and a past, current, and future look at mobility on our island.

The ITE Hawaii Section will be hosting a virtual Technical Solutions Event on Wednesday, May 19th; in collaboration with transportation industry partners including Carmanah, Econolite, Iteris, McCain, PedSafety, and Q-Free. The goal of these sessions would be to provide attendees with innovative solutions for transportation issues and shared lessons learned from these projects. For this inaugural year, registration is free for ITE members and public agency members with a nominal fee for everyone else.

If you would like to be added to the ITE mailing list, please email Keoni Wasano at keoni@goldwings-supply.com.

Thank you to all the participants for attending!