

Educational Activities (EA)

Northeast Area Spring Meeting

Apr 6, 2019

Peijung Tsai

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EAB Portal

- *EAB's resources is contained in the volunteer portal: ea.ieee.org*
- *IEEE EAB Volunteer Manual is now available and needs to be distributed to all Section Chairs and Section Educational Activities Chairs (SEAC):*

https://ea.ieee.org/images/files/SEOC/IEEE_EA_Volunteer_Manual.pdf

Volunteers can also contact Section Educational Activities Outreach Committee (SEOC) with suggestions, comments and queries via the following platforms:

Website: <https://www.ieee.org/education>

Email: askeducation@ieee.org

Facebook: <https://www.facebook.com/IEEEeducation/>

Twitter: [@IEEEeducation](https://twitter.com/IEEEeducation)

Region 6 EA Goals

- *Promote and publicize EA at the Region/Area/Section/Chapter/Member level*
- *Encourage all Sections to have an EA Chair*
- *Identify/encourage, and team-up with local organization with similar goals for the purpose of implementing EA projects at the local level*
- *Seek industry and non-profit organizations for support and implementation of EA projects*
- *Volunteer Recruitment*
- *Use other IEEE events to promote EA*



2019 SET Congressional Visits Day Schedule

Tuesday, 2 April

12:00 - 3:30 PM

Rayburn House Office Building
Room 2075
([Map it](#))

Metro Stop:
Capitol South

ORIENTATION SESSION FOR NEW IEEE-USA PARTICIPANTS

Our training day has out-grown the IEEE-USA offices, so we will be holding our CVD training on Capitol Hill. Join us to learn how to meet with members of Congress, how to navigate Capitol Hill, and what the current state of play for our issues are. By the time we are done, you'll be fully prepared to discuss policy with anyone in Washington! Lunch provided



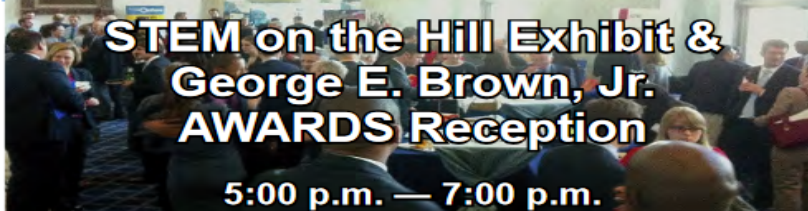
Please Join Us!

Keeping America's Promise Through Science, Engineering & STEM Funding

April 2-3, 2019

STEM on the Hill™ Schedule

Tuesday, April 2, 2019



**STEM on the Hill Exhibit &
George E. Brown, Jr.
AWARDS Reception**

5:00 p.m. — 7:00 p.m.

5:00 p.m.
Exhibits Open & Reception Begins

5:30 - 7:00 p.m.
George E. Brown, Jr. Awards

Kennedy Senate Caucus Room

Wednesday, April 3, 2019

9:00 AM - 5:00 PM

**CONGRESSIONAL VISITS
ON CAPITOL HILL**

*By appointment only.
Arranged by individual participating
SETWG organizations...*

http://www.setcvd.org/wp-content/uploads/pdf_2019/CVD2019-Draft-Schedule-1-24-19.pdf

EA Products

- *IEEE-HKN*
- *eLearning Library*
- *IEEE Learning Network*
- *EPICS in IEEE*
- *Teacher In Service Program*
- *ABET Accreditation*
- *TryEngineering*
- *TryEngineering for Teachers*
- *TryEngineering Together*



IEEE Eta Kappa Nu

<https://hkn.ieee.org/>

Eta Kappa Nu is the international electrical and computer engineering honor society of the IEEE

Mission: "encouraging and recognizing excellence in the electrical and computer engineering fields"





IEEE Eta Kappa Nu

<https://hkn.ieee.org/>

**NHK leadership Conference
Engineering your Future**

**Nov 1-3, 2019
TUFTS University**

**Early Bird:\$50 by 6/30/19
Regular:\$75**

IEEE-HKN
< 2019 >
**Student Leadership
CONFERENCE**

eLearning Library

<https://www.ieee.org/publications/subscriptions/products/elearning-overview.html>

The IEEE eLearning Library offers advanced technology content by subscription (more than 400 courses in core and emerging technologies). Subscription include:

courses that are developed, peer-reviewed, and updated by leading experts in the field;

continuing-education credits—earn CEUs and PDHs, valuable for career development and maintaining professional certifications;

courses led by leading experts in the field;

courses ranging from one to three hours in length;

self-paced, flexible learning modules;

interactive content via an easy-to-use player/viewer, audio and video files, diagrams, animations, and automatic place marking;

notes, glossary terms, and post-test included with each course;

Introductory, Intermediate, and Advanced levels offered for many subjects.

IEEE Learning Network (ILN) (June 19)

The IEEE Learning Network (ILN) is an upcoming program which will offer a single online portal for continuing education products from all organizational units and societies across IEEE. Educational content available on this portal is planned in areas like 5G, Autonomous Vehicles, AI & Ethics in Design, to name a few. ILN will offer the following features:

- Learners will have ability to access courses from any device, anytime, anywhere in the world;*
- Learners will have the ability to pick up courses where they leave off;*

The logo for the IEEE Learning Network. It features the IEEE logo (a diamond shape with a Greek letter psi) in blue, followed by the word "IEEE" in blue, a stylized network icon in orange and green, and the words "Learning Network" in green.

Scholarship and Fellowship

- IEEE Life Members Graduate Study Fellowship in Electrical Engineering
- The Charles LeGeyt Fortescue Scholarship

EPICS^{IN}IEEE

<http://epics.ieee.org/>

EPICS in IEEE empowers students to work with local service organizations to apply technical knowledge to implement solutions for a community's unique challenges.



For Applicants

Empowering IEEE volunteers and students who work on EPICS community service-related engineering projects. Ready to submit your proposal?

[Learn More »](#)



For Program Info

See how the development of devices and systems by university and high school student teams benefits communities worldwide.

[Learn More »](#)



For Contributors

Become a part of our mission and find out how you can make a positive impact in the lives of students and their communities.

[Learn More »](#)

EPICS Project at [Epsilon Xi Chapter](#) of [IEEE Eta Kappa Nu](#) (IEEE-HKN) at Wichita State University

<http://theinstitute.ieee.org/members/ieee-groups/students-receive-ieee-grant-to-build-rideon-cars-for-kids-with-disabilities>

EPICS IN IEEE

Engineering Projects In Community Service

IEEE Foundation

EPICS Expo

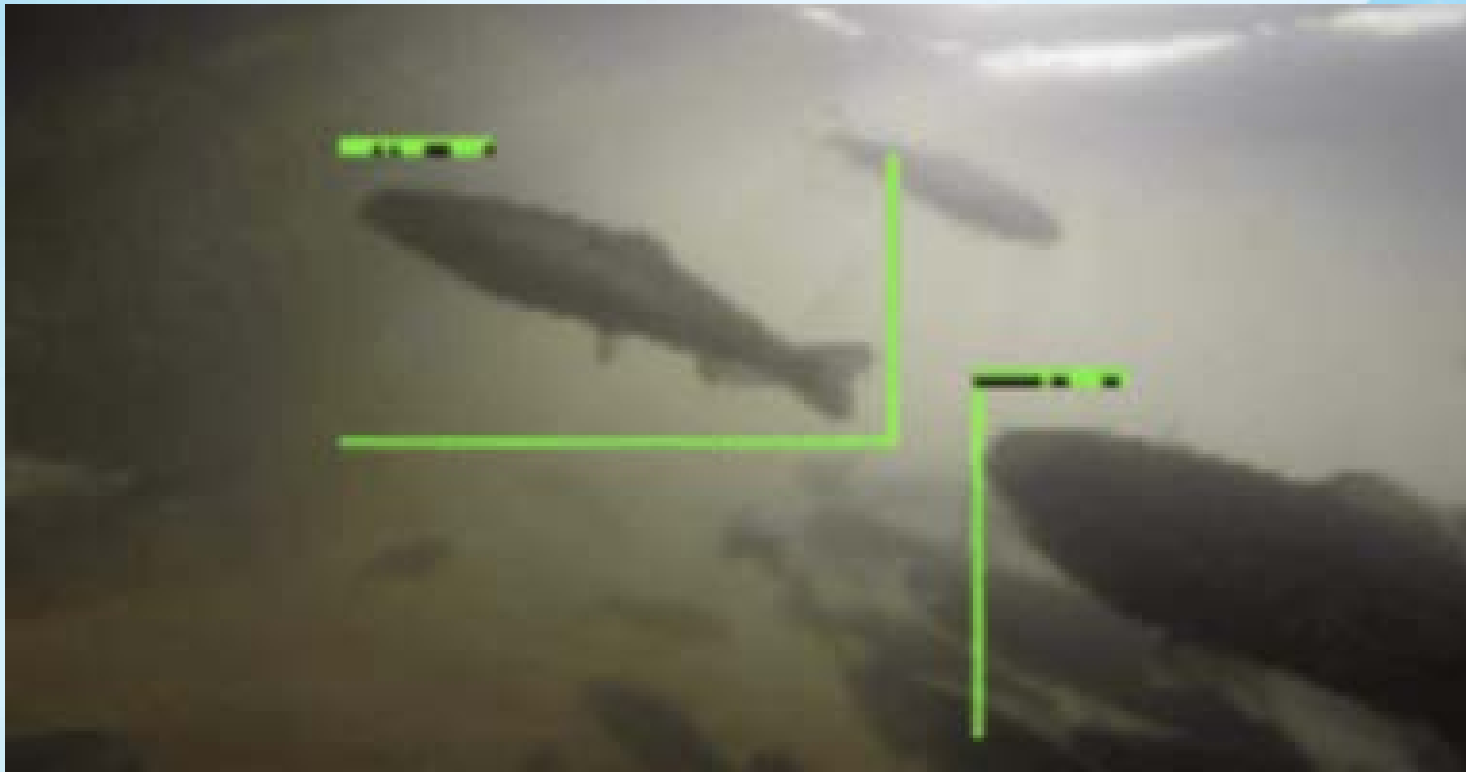


San Jose State University (SJSU) and Santa Clara University (SCU) Engineering Students Unveil Projects at the first EPICS Expo to Help Santa Clara County community (San Jose, February 18, 2019).



EPICS Example

SJSU Underwater Drone 3.0 with the South Bay Clean Creek Coalition Project to reduce depletion of endangered fish species



EPICS Example

Machine Learning Flood Sensor Project (SCU)



**Santa Clara
University**

School of Engineering

The project will be implemented in San Jose, CA, with the support of the Water District and San Jose, Mayor's Office.

- Installation of solar powered sensors on bridges of the Coyote and Guadalupe Creeks
- Quicker warning made available of imminent flooding disasters
- Real-time information gathering system, with water height measurement, still and video recordings, as well improved evacuation decision-making capability with use of machine-learning technology
- Energy harvesting, sensors, wireless communication and machine learning implementation
- Replication of technology solutions made available for other flood prone regions



LEAFS (Oregon State University)

"The goal of LEAFS is to help inspire youths with disabilities to find their passion by interacting with several STEM based activities. Promoting a more inclusive environment and developing diversity in thought for future engineers to tackle tomorrow's most challenging technological problems."

<https://aten-osu.github.io/LEAFSWebsite/index.html>



Universities involved with EPICS partnership Program

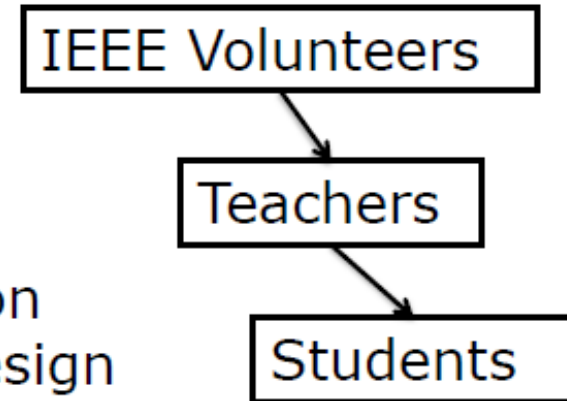
- *Arizona State University*
- *Santa Clara University*
- *The Ohio State University*
- *Univ. Del Norte (Colombia)*
- *University of Johannesburg (South Africa)*

EPICS Student Proposals

- *EPICS in IEEE typically receives between 40-50 student proposals a year*
- *Currently there are no Region 6 proposals submitted for approval*
- *2019 funding for EPICS are decided at the November board meetings*
- *Request for proposal is available on the EPICS website: <https://epics.ieee.org/applicants/proposal/>*

Teacher In Service Program (TISP)

- Train volunteers
 - IEEE Section Members
 - IEEE Student Members
 - Teachers and Instructors
- ...using approved lesson plans on engineering and engineering design
- IEEE members will develop and conduct TISP training presentations with Teachers
- Teachers will incorporate these lesson plans in their classroom instruction to impact students



ABET Accreditation

<http://www.abet.org/>

<http://sites.ieee.org/pcs/abet/>



- Federation of 35 professional and technical *member societies*
- *IEEE is one of the major Societies in ABET*
- *215 ABET visits in 2017*

ABET Program Evaluators Needed



<https://www.ieee.org/education/accreditation.html>

<http://tryengineering.org/>

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TryEngineering offers teachers resources for students all about engineering.

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Here you'll find **engineering lesson plans** for students of all ages that are **aligned to standards**.



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Counselors



Counselors can find **accredited engineering programs**, learn more about the many fields within engineering and how a high school student can best prepare for an engineering career.

TryEngineering Together

<http://tryengineeringtogether.com/>



TryEngineering Together partners with corporations to match company employee volunteers with students in 3rd to 5th grade, particularly those in economically disadvantaged communities, in 1:1 “eMentoring” relationships to create safe, powerful STEM learning experiences.

trynano

http://www.trynano.org/

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TryNano.org is a resource for anyone interested in learning about Nanoscience and Nanotechnology. Nanoscience and Nanotechnology are technical fields that focus on matter at the nanoscale - dimensions that are roughly 1 to 100 nanometers (1nm = 10⁻⁹m).

The term Nanoscience often refers to research that discovers and characterizes new behaviors and properties of materials at the nanoscale. Nanotechnology describes how discoveries at the nanoscale are put to work, especially by controlling the behavior of matter and building useful devices. Some of these devices have demonstrated applications in medicine, electronics, robotics, and energy production.

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http://www.trycomputing.org/



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Lesson plans

Section EA Plans for 2019

Open Discussion

Questions/Comments