

SECC eNewsletter

STEM event for all students!

To inspire students' interest in STEM through hands-on and creativity projects



Event Highlights Edition

DFW 2019 SECC

CIE/USA-DFW successfully held its new STEM flagship program Student Engineering and Creativity Competition (SECC) on March 23rd, 2019 at the University of Texas at Dallas (UTD).

2019 SECC was co-hosted by Texas Instruments and UTD. SECC is a new platform for STEM events designed by CIE/USA-DFW Chapter to support national-wide DiscoverE's Engineers Week program to celebrate and raise the awareness: how engineers make a difference in our world, increase public dialogue about the need for engineers, and bring engineering to life for kids, educators, and parents.

Event Programs

2019 SECC featured Engineering Challenge (EC), Creativity Challenge (CC), and STEM Seminar for students of all grades. The goal is to inspire students to discover and develop their interest in Science, Technology, Engineering, and Mathematics (STEM) through hands-on projects, developed by sponsor companies, and creativity challenge to solve engineering problems. Students' interaction with the real world applications is a key element of this platform.

Program Agenda

3/23/2019		Saturday DFW 2019 SECC (Student Engineering and Creativity Competition)			
Start	End	Program agenda 1	Time	Program agenda 2	Time
8:30 AM	9:00 AM	Event Check-in			0:30
9:00 AM	9:15 AM	Opening Ceremony			0:15
9:15 AM	9:35 AM	Raffle Drawing #1 & Breakout			0:20
		Competition			
9:35 AM	10:05 AM	Speaker-1 (PepsiCo)	0:30		
10:05 AM	10:35 AM	Speaker-2 (UTD)	0:30	SECC competition EC: ECSW room 1.355 CC: ECSW room 1.365	2:00
10:35 AM	11:35 AM	Speaker-3 (UTD) - Ideation Workshop	1:00		
11:35 AM	11:50 AM	Break (combined)			0:15
11:50 AM	12:30 PM	Closing Ceremony* & Raffle Drawing #2,3 (room 1.315)			0:40

*Competition winners announced

Over 150 people participated in this event, including 12 teams 21 student contestants, contestants' family members, 20 volunteers, 15 judges, speakers, and seminar participants.

Engineering Challenge

In EC competition, students began with a live demonstration of their hands-on project. Students are challenged to design a unique solution to the problem of growing food in a space trip, build a battery tester for a single cell alkaline battery, or design a unique solution to the engineering problem of building a growing chamber for an agribusiness company. Students used provided tool kits to build a system including various sensors, and then control the system via a program written on the calculator that monitors the sensor inputs and outputs. After the demo, students used their poster to showcase their experiment, research, and results. This gives students opportunity to practice their presentation and communication skills.

Creativity Challenge

In CC competition, students began with an oral presentation of their ideas and solutions to the engineering problems. Students are challenged with ideas to design a plant growing chamber for food to be used for a space flight to Mars, or design a plant growing chamber for genetically modified agricultural plants. After the oral presentation, students used

their poster to showcase their research, ideas, and solutions.



Engineering Challenge Contestants/Poster



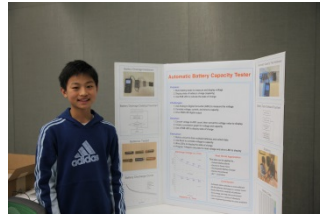
Engineering Challenge Live Demo



Creativity Challenge Contestant/Poster



Engineering Challenge Live Demo



Engineering Challenge Contestant/Poster



Engineering Challenge Live Demo



Engineering Challenge Live Demo



Engineering Challenge Live Demo



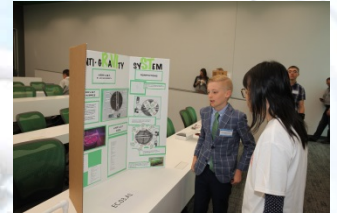
Engineering Challenge Contestants/Poster



Engineering Challenge Live Demo



Creativity Challenge Oral Presentation



Engineering Challenge Poster Presentation



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STEM Seminar

In STEM seminar, Mr. William Yang from PepsiCo R&D gave a talk on STEM in the Consumer Packaged Goods Industry. Mr. Yang used an example of a new potato chip product called Poppables, and the STEM and creativity behind it that made this product a huge success in the very first year. Next, Dr. Jey Veerasamy, Director of Center for Computer Science Education & Outreach at UTD, talked about exciting tools to learn coding. Dr. Veerasamy gave live demo on a tool which is interactive and requires little to no programming. The demo was fun and drew a lot of laughs from the audience. Lastly, Mr. Rod Wetterskog, Assistant Dean of Corporate Relations in School of Engineering at UTD, hosted an interactive Ideation Workshop with the audience. The workshop gave a tough challenge to each team comprising the 'role' of a designer, R&D scientist/engineer, manufacturing manager, marketer, and attorney. At the end of ideation stage, creating potential ideas for a solution to a new problem, each team presented a commercial on their product – product name, what problem does it solve, how does it work, who will buy it, and why will they pick it over other similar solutions. Participant learned a lot from this Ideation Workshop.

Award Ceremony

The award ceremony started with introduction of two distinguished guests as award presenters, Dr. Faa-Ching Wang and Ms. Laura Chambers. Dr. Wang is Chairman and President of ConsulPath Inc. and founding president of CIE/USA-DFW Chapter. Ms. Chambers is Director of Product Line Management in Texas Instruments. Introduction followed by raffle drawing; lucky winners received TI-Innovator™ Hub, TI-Innovator™ Rover, and TI-Nspire™ CX CAS Handheld Calculator donated by SECC sponsors. 2019 SECC was concluded with award presentation where award presenters and CIE officers presented trophies and scholarship to seven winners. In addition, seven students received honorable mentions.

2019 SECC was chaired by Dr. Min Chu and Mr. Simon Chang. Directors of Logistics were Dr. Tiger Zhou and Ms. Susan Yin. Director of EC competition was Dr. Yang Yang. Director of CC competition was Dr. Lun Tsuei. The program committee and CIE/USA-DFW Chapter would like to express our sincere appreciations to all the volunteers, judges, corporate sponsors (Texas Instruments, Oncor, Huawei, Diodes, BNSF, ConsulPath, and Altair), and prize donors (ConsulPath and Altair) for their contributions to make this event a great success.



2019 SECC STEM Seminar



Seminar Speaker William Yang (PepsiCo)



2019 SECC Winners and Award Presenters



CC First Place Winners and Presenter Laura Chambers (TI)



Seminar Speaker Jey Veerasamy (UTD)



Ideation Workshop with Rod Wetterskog (UTD)



CC Second Place Winner and Presenter Laura Chambers (TI)



EC First Place Winner and Presenters Faa-Ching Wang and Laura Chambers



Ideation Workshop Presentations



STEM Speakers and CIE/USA-DFW Officers



EC Second Place Winners and Presenters Faa-Ching Wang and Laura Chambers



EC Third Place Winner and Presenters Faa-Ching Wang and Laura Chambers



2019 SECC Judges (partial)



2019 SECC Volunteers (partial)



EC Honorable Mention Winners



Award Presenters, STEM Speaker, and CIE/USA-DFW Chapter's officers



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Winner List of 2019 Student Engineering & Creativity Competition (SECC)				
Engineering Challenge (EC)	1 st Place (Trophy + Scholarship)	Justin Li	Honorable Mentions (Medals)	Joseph Maldjian, Ani Maldjian, Andre Maldjian, Raphael Maldjian, Garrett Fusfield
	2 nd Place (Trophy + Scholarship)	Shashank Iswara, Samarth Kamat		
	3 rd Place (Trophy + Scholarship)	Jackson Aarseth		
Creativity Challenge (CC)	1 st Place (Trophy + Scholarship)	Joseph Maldjian, Ani Maldjian	Honorable Mentions	NONE
	2 nd Place (Trophy + Scholarship)	Garrett Bell		NONE

Proud Sponsors:



Pre-competition Hands-on Workshop (Jan 19-20, 2019)

Over 80 students attended this free pre-competition hands-on workshop. As part of the 2019 SECC (Student Engineering and Creativity Competition), this workshop was designed for students of ALL grades who want to see the demonstration of an actual SECC competition project, or just to practice how a program written on a calculator controls attached hardware & sensors via a TI-Innovator hub. Students were encouraged to bring their own TI-Innovator Hub and TI calculator and practice at this workshop, or ask the instructor questions. Two sessions were available to give students flexibility.

Instructor was Mr. Fred Fotsch, a STEM expert. Mr. Fotsch has 28 years of teaching experience in STEM education and computer programming at public schools. Fred is presently the STEM Education Manager at Texas Instruments.

Competition Preparation Workshop (Feb 17, 2019)

The purpose of this workshop was tailored to tutor SECC contestants on building the Engineering Challenge (EC) project and to prepare for the SECC competition on March 23, 2019.

This was a tutoring workshop, not an instructor-led workshop, and was designed for SECC contestants only. Focus was to give students opportunity to build the project from scratch, ask questions, and get help from the tutor. Students were required to bring their own TI-calculator, TI-Innovator Hub, and tool kits required for the registered competition topic.

More Event Information

More event information about SECC is available at CIE/USA-DFW website: <http://cie-dfw.org/events/2019/SECC/>

Useful links to learn about related hardware / device:

- o What is the Hub: Click [here](#)
- o What is the Rover: Click [here](#)
- o How to learn TI-BASIC: Click [here](#)
- o Introductory Feedback and Control activity: Click [here](#)
- o YouTube How-To videos: Click [here](#)
- o Smart Irrigation Project: Click [here](#)
- o How to interface to the HUB using a breadboard kit: Click [here](#)



Pre-competition hands-on workshop (Session-2)



Students at hands-on workshop asked questions (Session-2)



Pre-competition hands-on workshop (Session-2)



Parents also participated pre-comp hands-on workshop



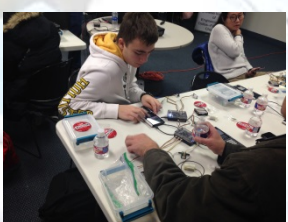
Pre-competition hands-on workshop (Session-1)



Parent helped students at pre-comp hands-on workshop



Parent helped student at pre-comp hands-on workshop



Parent and student worked together at hands-on workshop