



HSI STEM Grant Program



COLLEGE OF
ENGINEERING AND
COMPUTER SCIENCE

AIMS² FALL 2019 STUDENT RESEARCH SYMPOSIUM PRESENTATIONS AND POSTERS

September 11, 2019 - 3:00 - 8:00 p.m. - University Student Union, Grand Salon

PROGRAM

3:15 - 4 p.m. **Poster Viewing**

4:00 p.m. **Welcome**

Dr. S. K. Ramesh, Project Director

SESSION 1: [4:10 PM – 6:00 PM]

4:10 p.m.

Dr. Behzad Bavarian, Prof. Lisa Reiner,

Manufacturing Systems Engineering and Management

Corrosion Inhibition Using Bio Friendly Packaging Materials

Students: Kathleen Molina, Kimberly Ortiz, Ismael Pablo, and Sherlyn Villasis

4:20 p.m.

Dr. Kyle Dewey, Computer Science

Automated Testing for Introductory Computer Science Assignments

Students: Mario Garcia, Kavya Manohar, Victor Pineda, and Alexis Siguenza

4:35 p.m.

Dr. Jimmy Gandhi, Manufacturing Systems Engineering and Management

Educated Future

Student: Teny Shahjahanian

4:45 p.m.

Dr. Kyle Dewey, Computer Science

Validating Machine Learning

Student: Meyer Millman

4:55 p.m.

Dr. Jimmy Gandhi, Manufacturing Systems Engineering and Management

Wireless Keyboard Powered by Piezoelectric Effect

Students: Demi Avilla, Waheeda Akberzie, Kamran Mapar, and Evelyn Mendieta

5:10 p.m.

Dr. Bingbing Li, Manufacturing Systems Engineering and Management

Reverse Engineering and Topology Optimization of Cam Support Plate for Harley Davidson Milwaukee 8 Engine in Metal Additive Manufacturing

Students: Christian Mariscal and Kerstern Malama

5:25 p.m.

Dr. Anwar Alroomi, Civil Engineering and Construction Management

A Mobile Construction Management Risk Assessment Model

Students: Marc Chanko and Yasaman Forouzes

5:35 p.m.

Dr. Ruting Jia, Electrical and Computer Engineering

A Particle Swarm Optimization Approach for Route Planning

Students: Jozsef Feher, Jose Flores, and Simran Gill

Presentation of Research Projects >

- 5:50 p.m. **Dr. Behzad Bavarian, Prof. Lisa Reiner,**
Manufacturing Systems Engineering and Management
High Strength Aluminum Alloys in Aerospace and Automotive Applications
Students: Armando Briseno, Emilio Aguilar, Christopher Villalpando, and Anthony De Leon
- 6 – 6:10 p.m. Refreshment Break**
- SESSION 2 [6:10 PM – 8:00 PM]**
- 6:10 p.m. **Dr. Tzong-Ying (Kay) Hao,** Civil Engineering and Construction Management
Earthquake Engineering Research: 3D Modeling & Simulation of Passive Water Dampers
Students: Jennifer De Avila, Azmain Hossain, Gerardo Reyes, and Andy Sanchez
- 6:20 p.m. **Prof. Bruno Osorno,** Electrical and Computer Engineering
Energy Storage and Environmental impact of Electric Vehicles
Students: Chelsea Mendez and Gerardo Sanchez
- 6:35 p.m. **Dr. Anwar Alroomi,** Civil Engineering and Construction Management
Virtual Labs – Learning Engineering Mechanics & Dynamics with Virtual Hands-on Experiments
Students: Alexis Sierra and Caroline Padilla-Ramerez
- 6:45 p.m. **Dr. Bingbing Li,** Manufacturing Systems Engineering and Management
Fluid Simulation and Micro-polishing of Internal Channels in Cam Support Plate for Harley Davidson Milwaukee 8 Engine in Metal Additive Manufacturing
Students: Osmar Estrada, Abraham Meiszner, Angela Calderon, and Andrew Langwald
- 6:55 p.m. **Prof. Bruno Osorno,** Electrical and Computer Engineering
Electric Transportation and PWM (Pulse with modulation) Speed Drives
Students: Froilan Campos and Samuel Ochoa
- 7:10 p.m. **Dr. Ruting Jia,** Electrical and Computer Engineering
An Evolutionary Approach to DoS Defense
Students: Elvis Chino-Islas, Christopher Cuellar, and Giovanni Martinez
- 7:25 p.m. **Dr. Jimmy Gandhi,** Manufacturing Systems Engineering and Management
HydroSól - A Solar Powered, Portable Charging HydroFlask Cap
Students: Jacob Delson and Kareem Asal
- 7:35 p.m. **Dr. Tzong-Ying (Kay) Hao,** Civil Engineering and Construction Management
Geotechnical and Earthquake Engineering Research: Active Earth Pressure On Retaining Walls & Soil-Structure Interactions on Building Structures
Students: Elizabeth Esquivel, Aaron Palacios-Romero, Musfiqur Ali, and Alexander Rivera
- 7:50 - 8 p.m. **Surveys and Symposium Closing Remarks**