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# ENGINEERING Senior Design EXPO

Friday, December 8, 2017 – Wooster Hall



2:30 p.m. Refreshments and Networking

3:00 p.m. Welcome Remarks

3:15 p.m. Judging Begins

4:45 p.m. Winners Announced



New Paltz

STATE UNIVERSITY OF NEW YORK

School of Science & Engineering

## HELLO AND WELCOME!

Creativity is the most distinctive trait in engineering. Engineers can certainly perform other tasks, such as management and testing, but creating a system (electrical, computer or mechanical) is undoubtedly the most pleasurable intellectual experience. The process of translating ideas from paper into systems that perform a function useful to society has no comparison.

In our engineering curricula, Senior Design is the culminating creative experience. This experience has two phases: Senior Design I, in which students plan their project and present a prototype, and Senior Design II, where students execute their plan and demonstrate a final product at the Senior Design EXPO.

This semester the EXPO consists of 15 Senior Design I and 9 Senior Design II presentations. Senior Design II projects compete for first, second and third prize granted by external judges. Senior Design I projects use feedback from professors and external assessors to improve the path to a successful Senior Design II.

Thank you to all the faculty, judges and mentors for improving the quality of the Senior Design experience. I would also like to thank the following EXPO sponsors for their support; MPI Systems, NanoNoggin® Fast Thinker Consulting, JBT Corporation®, Central Hudson® and GLOBALFOUNDRIES®.

Finally, congratulations to all of our Senior Design students! Let us now enjoy your display of hard work and creativity!

Julio Gonzalez, Chair  
Division of Engineering Programs

## Engineering Senior Design II

### **Sarnicus Electronics: “Organized Time”**

Joseph Sarni, Sandra Liranzo & Kumar Khamcha Magar (*EE*)

Advisor: Dr. Julio J. Gonzalez

### **Mobil Manufacturing: A 3D Printing Drone**

Azer Khan (*CE*)

Advisors: Dr. Faramarz Vaziri and Madar Khan (Siemens)

### **Vibrace**

Shakira Mata & Brian Castellano (*EE*)

Advisor: Michael Otis

### **Automatic Accident Assistance**

Jim Ogana & Nicholas Wohlfahrt (*EE*)

Advisors: Dr. Faramarz Vaziri & Dr. Damodaran Radhakrishnan

### **Internet-of-Things Home Automation**

Tony Thorbjornsen, Dhanvinder Singh & Patrick Hynes (*CE*)

Advisors: Michael Otis & Dr. Ghader Eftekhari

### **Solar Refrigerator Using Thermoelectric Cooling (TEC)**

Adama Ouedraogo (*EE*)

Advisor: Dr. Faramarz Vaziri

### **Thermal Pi Model**

Joseph Camillone (*ME*)

Mickandres Matias (*CE*)

Advisors: Dr. Heather Lai & Dr. Chirakkal Easwaran

### **Dental Identification Device**

Jessie Cziotka & Darwin De Brito (*EE*)

John Padoginog (*CE*)

Advisor: Dr. Julio Gonzalez

### **Hand Gesture Recognition Application**

Erin Rivera (*CE*)

Advisor: Dr. Yi-Chung Chen

## Engineering Senior Design I

### **Automatic White Board Eraser**

Paul Christian & James Coen (*EE*)

Joseph Palombo & Vaughan Clewis (*ME*)

Advisor: Dr. Kevin Shanley

### **Emergency Response System and Automated Drone (ERSAD)**

Ray Hall, Alicia Scott & Walter Roosa (*EE*)

Christopher Brandt (*CE*)

Advisors: Michael Otis & Dr. Chirakkal Easwaran

### **Sustainable Biking**

Megan Gangewere (*ME*)

Chad Plante & Christopher Amato (*EE*)

Advisor: Dr. Jared Nelson

## **Speaker Verification Using a Hardware Implemented Artificial Neural Network**

Anthony Carvino III & Thomas Coppola (CE)

Advisor: Dr. Yi-Chung Chen

## **Musical Tesla Coil**

Joseph Adamczyk & David Schloemer (CE)

William Gravelle (EE)

Advisor: Dr. Mohammad Zunoubi

## **Modena Substation Ring Bus**

Ian Liebman & Mason Mullamphy (EE)

Lamisa Rahman & Diego Diaz (CE)

Advisor: Michael Otis; Co-Advisor: C. Gilbert (Central Hudson)

## **Biometric Pill Dispenser**

Stephen Laguerra & James Cox (CE)

Nathan James & Christopher Vu (ME)

Advisor: Dr. Damodaran Radhakrishnan

## **Assistive Cutting for Investment Castings**

Scott To, Garrett Noach, Rushi Patel & Justin Buyes (ME)

Advisor: Dr. Jared Nelson; Co-Advisor: Sebastian Berner (Lamothermic)

## **Portable Power Generator**

Greg Schotte, Robert Ferrante & Danny Purtell (ME)

Marise Elias (EE)

Advisors: Dr. Kevin Shanley & John Tucciarone (Tucc Industries)

## **Solar-Powered Temperature Control Unit**

Julian Chipkin, Louis Condoluci & James Araneo (ME)

Jensen Charles (CE)

Advisor: Dr. Rachmadian Wulandana

## **The Void: A Noise Cancellation Device**

Nicholas Ziemis & Minh Nguyen (CE)

Cuiyu Kuang & Tamara Ordenez Diaz (ME)

Nicholas Ljeskovac (EE)

Advisor: Dr. Heather Lai; Co-Advisor: Dr. Yi-Chung Chen

## **Mini Tesla Multi Turbine**

Thomas Palombo & Stephen Neumann (ME)

Advisor: Dr. Rachmadian Wulandana

## **Acoustical Test Chamber**

Kristen O'Sullivan & David J. Foote (ME)

Jonathan Iglesias (EE)

Gabuk Cansu Çabuk (CE)

Advisor: Dr. Heather Lai

## **Who Let the Dog Out?**

Stephanie Fernandez & Daniel Pineda (ME)

Bryan Darcy, Lunmar Alcantara & Samuel Darkwah Boahen (CE)

Advisors: Dr. Baback Izadi & Nitya Narasimhan

## **Solar-Powered Vaccine Cooler ("S.O.L.V.A.C")**

Brian White, Adlai Hugo & Anthony Aversa (EE)

Nicholas DePietro (ME)

Advisor: Dr. Faramarz Vaziri; Co-Advisor: Dr. Rachmadian Wulandana



# CONGRATULATIONS SENIORS!

**WE WISH YOU WELL ON YOUR  
ENGINEERING JOURNEY!**

*Your Friends at*



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***A Special Thank You to our  
Engineering Sr. Design EXPO Judges:***

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**Royal Agha**

*Engineer, Millrock Technology, Inc.*

**Tom Brown**

*Senior Engineer, Distribution Engineering, Orange & Rockland Utilities*

**Luke Buschmann**

*Core Verification Engineer, IBM zSystems*

**Andrew Collier**

*Key Account Manager, JBT Wolf-tec*

**Randy Copeman**

*Lead Electrical Engineer, Sono-Tek Corporation*

**Paul Curran**

*Founder & Managing Director, BQ Energy, Ilc*

**Stephanie Genesee**

*Associate Engineer for Electric Distribution Planning,  
Central Hudson Gas & Electric Corp.*

**Genevieve Kane**

*Society of Women Engineers, RPI*

**James Lynch**

*Director of Engineering, Fair-Rite Products Corporation*

**Neil Peruffo**

*Vice President, Integration & Yield Engineering, Global Foundries*

**Lorraine Schomber**

*Electrical Controls and Engineering Manager, SP Scientific*