UNIVERSITY OF HARTFORD
COLLEGE OF ENGINEERING,
TECHNOLOGY, AND ARCHITECTURE

hosts

AMERICAN SOCIETY FOR
ENGINEERING EDUCATION

2018 Northeast Section Conference
April 27 - 28, 2018

Leadership and Entrepreneurship
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Wifi: Use HAWKNET-GUEST
Register with your email address.
Conference Welcome

The University of Hartford College of Engineering, Technology, and Architecture is pleased to host the American Society of Engineering Education Northeast Section 2018 Conference with the theme of Leadership and Entrepreneurship. We believe that these disciplines are best taught with engagement from the profession and particularly partners in industry who are pushing forward the limits of the world-class engineering done in the region.

This conference brings together all the vital aspects of engineering education starting with faculty and students, but also including partners from industry, government, and the community. Please take advantage of this opportunity to experience the many excellent papers, posters, and exhibits that have been assembled. Thank you to the organizing committee for their exceptional work in developing a program that will enhance the goals of engineering education for all involved. I am also hoping you will be able to take some time to enjoy our campus, visit our labs and facilities, and learn more about the greater Hartford region, home to some of the world’s best engineering companies, as well as a great place to live and work.

Dean Louis Manzione
Workshop descriptions

**Multiphysics Modeling Workshop I (Dana 402, 10:30-12:20)**

Interested in learning how to solve engineering problems that involve multiple sets of coupled physics, or predicting an outcome based on one or more nonlinear material properties? These types of problems can best be addressed using numerical solvers. This workshop will show how COMSOIL Multiphysics® can be used as a simulation tool for analyzing devices in both space and time. Specifically, we will focus on developing a model for a microresistor that simultaneously computes the internal current density distribution, the resulting temperature increases, and the structural deformation caused by the coefficient of thermal expansion. You will also gain an appreciation for the wide range of post processing visualization options that are available within the software package.

**Standards Metrology and Conformity Assessment (Dana 102, 8:30-10:20)**

Global economy requires consistent conformity assessment to assure that specified requirements relating to a product, process, system, person, or body are fulfilled. This necessitates globally acceptable standards and methods to validate measurements against the standards. This workshop presents a brief overview of standards development process in form, dimensional, and surface metrology. Topics on Geometric Dimensioning and Tolerancing (GD&T), Gage Repeatability and Reproducibility (Gage R&R), and appropriateness of surface finish parameters will be discussed. The workshop will include demos on some metrology equipment.
Workshop descriptions

**Engineering Accreditation Panel Discussion (Dana 129, 10:30-12:20)**

This will be an informational session for anyone interested in the ABET accreditation process including the institutions request for accreditation, selection of ABET teams, campus visit, and tem report. Topics covered and discussed will be the following: the revised criteria for the 2019-20 review cycle, including the revised definitions, revised Criteria 3 (student outcomes) and revised Criteria 5 (curriculum), and the mapping from the old Criteria 3 (a-k) to the new Criteria 3 (1-7). There will be an opportunity to learn more about the accreditation visit, process, share ideas on assessment practices, and discuss ideas on preparing for the accreditation visit.

**Maturity, Complexity, Engagement: Support Adult Undergraduate Engineering Students On Your Campus (Dana 109, 8:30-10:20)**

Undergraduate engineering students aged 25 and over are an important but sometimes overlooked component of engineering classrooms. Adult students have a variety of backgrounds, experiences, and pathways that inform their engagement with engineering learning and their relationships with their peers. Many adult and nontraditional students have work experience in an engineering environment, and bring knowledge of practical applications as well as leadership and teamwork skills to their engineering study. Our work shows that experienced adult students in engineering have complex relationships with their traditional-aged peers, and approach student/faculty interactions differently from younger peers.

This workshop is designed for faculty members, administrators, policy makers, and students to learn about adult students in engineering programs, and identify key opportunities for supporting and integrating adult students at the campus level. Our research draws from adult engineering students in a range of institutional environments. This workshop will feature results of our research. The workshop will include role-play to address common barriers for adult students, and breakout groups to develop an action plan for use in your own classrooms.
# Workshop Schedule

**Friday, April 27, 2018**

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<thead>
<tr>
<th>Location:</th>
<th>Dana 109</th>
<th>Dana 129</th>
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<tbody>
<tr>
<td><strong>8:30-10:20</strong></td>
<td>Maturity, Complexity, Engagement: Adult Undergraduate Engineering Students on your Campus</td>
<td>Metrology</td>
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<tr>
<td></td>
<td>Maria-Isabel Carnasciali</td>
<td>Chittaranjan Sahay</td>
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<td>Suhash Ghosh</td>
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<table>
<thead>
<tr>
<th>Location:</th>
<th>Dana 402</th>
<th>Dana 129</th>
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<tbody>
<tr>
<td><strong>10:30-12:20</strong></td>
<td>Multiphysics Modeling</td>
<td>ABET</td>
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<td></td>
<td>Thomas Eppes</td>
<td>Paul Crilly,</td>
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<td>Chittaranjan Sahay</td>
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</table>
Jeffrey S. Katz is a Senior Member of the Institute of Electrical and Electronics Engineers. He is a member of the IBM Academy of Technology, a co-chair of the Industrial Internet Consortium’s Energy Task Group, and is a member of the Internet2 working group on the Internet of Things.

He was chair of the Smart Grid Session of the Yale Alumni in Energy conference in 2012, and was a co-chair of the IEEE 2030 Standard on Smart Grid Interoperability Guidelines, IT Task Force. Jeffrey was also on the External Advisory Board of the Trustworthy Cyber Infrastructure for the Power Grid, and is on the Advisory Board of the Advanced Energy Research and Technology Center. He was on the “Networked Grid 100: The Movers and Shakers of the Smart Grid in 2012” list from Green Tech Media. He was appointed to the IEEE Standards Association Standards Board for 2014. He is an Open Group Distinguished IT Specialist and an IBM Thought Leader level Distinguished IT Specialist, as well as the holder of an IBM First Plateau Invention Achievement Award. Jeffrey co-chaired the first IEEE Power and Energy Society workshop on Big Data in Utilities in September 2017, and the first PES workshop on Utility Cybersecurity in December 2017. He has given several industry keynote presentations, including the 2017 ISA Power Industry Division, and the 2016 National Renewable Energy Lab Cyber Security workshop.

Prior to IBM Jeffrey was the Manager of the Computer Science department at the U.S. Corporate Research Center of ABB, and then of ALSTOM. He is an author on seven patents, in tele-medicine, robotics and computer vision, intelligent electric power distribution, energy aware cloud computing, with others pending. He has a Commercial General Radiotelephone license from the U.S. Federal Communications Commission, and belongs to Sigma Xi.

Jeff has organized or taught several volunteer activities around robotics for education, including FIRST, FIRST Lego League, and VEX Robotics. He is also a long time amateur (ham) radio operator and was a Region 1 finalist in the Johns Hopkins National Search for Computing Applications to Assist Persons with Disabilities. He is the Connecticut District Vice President of the Yale Science and Engineering Association, and is also a Fellow of that organization.
Friday Schedule at a Glance

7:30 am - 5 pm  Registration  Dana Lobby  
7:30 - 8:30 am  Continental breakfast  1877 Club  
9 am - 3:30 pm  Exhibitions  1877 Club  
8:30-10:20  Workshops  Dana Hall  
10:20 - 10:30  break  
10:30-12:20  Workshops  Dana Hall  
12:30-1:30 pm  Lunch  1877 Club  
12:30 - 1:00  Presentation  1877 Club  
1:30 - 2:50  Faculty Presentations  Dana Hall  
2:50 - 3:10  break  
3:10 - 4:30  Faculty Presentations  Dana Hall  
5:00 - 6:00  Keynote  1877 Club  
6:00 - 6:05  Awards  1878 Club  
6:00 - 8:30  Buffet Dinner  1879 Club
# Saturday Schedule at a Glance

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
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<tbody>
<tr>
<td>8 am - 12 pm</td>
<td>Registration</td>
<td>Dana Lobby</td>
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<tr>
<td>9:00 am - 3:30</td>
<td>Exhibitions</td>
<td>1877 Club</td>
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<td>9:00 - 10:00</td>
<td>Breakfast</td>
<td>1877 Club</td>
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<td>9:00 - 10:30</td>
<td>Undergraduate Student Presentations</td>
<td>Dana Hall</td>
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<tr>
<td>10:30 - 1:30</td>
<td>Poster Presentations</td>
<td>Konover and Shaw</td>
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<tr>
<td><strong>10:30-11:45</strong></td>
<td><strong>Graduate Judging</strong></td>
<td>Shaw Center</td>
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<td><strong>11:45-1:00</strong></td>
<td><strong>Undergraduate Judging</strong></td>
<td>Konover</td>
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<tr>
<td>11:30 - 1:30</td>
<td>Grab’n Go Lunch</td>
<td>1877 Club</td>
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<td>1:00 - 2:20</td>
<td>Graduate Student Presentations</td>
<td>Dana Hall</td>
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<td>2:30 - 3:30</td>
<td>Closing Remarks</td>
<td>Konover</td>
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<td>2:30 - 3:00</td>
<td>Student Award Ceremony</td>
<td>Konover</td>
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<td>2:30 - 3:30</td>
<td>Ice Cream Social</td>
<td>Konover</td>
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### Detailed Friday and Saturday Schedules

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday, May 29</th>
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<th>Wednesday, May 31</th>
<th>Thursday, June 1</th>
<th>Friday, June 2</th>
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**Friday Schedule**

- **Dana Lobby**: Dana Lobby
- **Coffee Break**: Dana Lobby
- **Workshops**
- **ABET Accreditation**: Limited to 12 attendees
- **Future Students**: Dana Lobby
- **Chitraranjan Sahay**: Dana Lobby
- **Paul Chinly**: Dana Lobby

**Saturday Schedule**

- **Dana Lobby**: Dana Lobby
- **Coffee Break**: Dana Lobby
- **Workshops**
- **ABET Accreditation**: Limited to 12 attendees
- **Future Students**: Dana Lobby
- **Chitraranjan Sahay**: Dana Lobby
- **Paul Chinly**: Dana Lobby
# Saturday Schedule

**April 28, 2018**

<table>
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<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tr>
<td>8:00-12:00</td>
<td>Registration</td>
<td>Dana Lobby</td>
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<tr>
<td>9:00-3:30</td>
<td>Exhibitions</td>
<td>1877</td>
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<tr>
<td>8:00-9:00</td>
<td>Breakfast</td>
<td>1877</td>
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<tr>
<td>9:00-10:30</td>
<td>Student Presentations</td>
<td>Dana 204, Dana 232, Dana 315, Dana 321, Dana 324</td>
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<td>9:00-9:15</td>
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<td>1001, 1002, 1003, 1004, 1019, 1020</td>
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<td>9:15-9:30</td>
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<td>9:30-9:45</td>
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<td>9:45-10:00</td>
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<td>10:15-10:30</td>
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<tr>
<td>10:30-1:30</td>
<td>Poster Presentations</td>
<td>Konover, Shaw Center</td>
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<tr>
<td>10:30-11:45</td>
<td>Judging Time (GRAD, Shaw)</td>
<td>Undergraduate (93)</td>
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<tr>
<td>11:45-1:00</td>
<td>Judging Time (UG, Konover)</td>
<td>Graduate (83)</td>
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<td>11:30-1:30</td>
<td>Grab'n Go Lunch</td>
<td>1877</td>
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<tr>
<td>1:00-2:20</td>
<td>Grad Students Presentations</td>
<td>Dana 315, Dana 320, Dana 321, Dana 324</td>
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<tr>
<td>2:30-3:30</td>
<td>Closing Remarks</td>
<td>Konover</td>
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<tr>
<td>2:30-3:00</td>
<td>Student Award Ceremony</td>
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<td>2:30-3:00</td>
<td>Ice Cream Social</td>
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<td>3:00-4:00</td>
<td>ASEE Board Meeting</td>
<td>Dana 201</td>
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Friday Faculty Presentations

Dana Hall room 204  1:30-3:00 and 3:30-4:30
Chair: Paul Crilly       Abstract Only Session 1
Computer Log on:  user: asee  pw: asee123

F1  Implementing Technical Writing Across Civil Engineering Curriculum  
    *Kassim M. Tarhini, Hudson V. Jackson, Kathleen S. Jernquist*

F2  Putting an Engine back into Engineering!  
    *Andrew C. Foley*

F3  How to Measure, and Understand the Non-Ideal Behavior of Electrical Components  
    *Paul Benjamin Crilly*

    *Break*

F4  A Comprehensive Approach to Assessment Plan Development for an Interdisciplinary Graduate Degree  
    *Gonca Altuger-Genc, Bahar Zoghi*

F5  Hit the Ground Running: Incorporating Risk-based Management Systems Standards in the Curriculum to Enhance Career Readiness  
    *Lisa L. Greenwood*
Friday Faculty Presentations

Dana Hall room 232 1:30-3:00 and 3:30-4:30
Chair: Tooran Emami Abstract Only Session 2
Computer Log on: user: asee pw: asee123

F6  Undergraduate Research Experience in Mechanical Engineering Technology: Developing Discrete Event Simulation Model for a Robotics Application
    Gonca Altuger-Genc

F7  Inclusion of Earth and Space Science and Engineering Design in the NGSS: Challenges in Implementation.
    Nelson N. Ngoh

F8  Moving an ABET-accredited Electrical Engineering BSE Program from a Liberal Arts College to an Affordable Technical School that Serves Urban Youth
    Lisa Shatz

    Break

F9  Tales of the Human Genome
    Christian Bach

F10 Learn about the Field in the Field - Taking Water Quality Engineering to the Treatment Plants!
    Todd Brown, David Pines
Friday Faculty Presentations

Dana Hall room 315 1:30-3:00 and 3:30-4:00
Chair: Timothy Adekunle Abstract Only Session 1
Computer Log on: user: asee pw: asee123

F11 Strategies for Developing and Assessing Critical Thinking Across The Civil Engineering Curriculum
Kassim Tarhini, Hudson Jackson, Alina Zapalska

F12 MSIs vs PWIs: Why do More Women of Color Graduate from STEM Programs at Minority Serving Institutions than Predominantly White Institutions?
Theodore Randall Sawruk

F13 A Computational-based Study to Predict the Embodied Carbon and the Resilience of Sustainable Engineered Timber Buildings
Timothy O. Adekunle, Michael B.O. Adegbile

Break

F14 New Generation Foundations of Offshore Windfarms: Leveraging Expertise from Abroad
Sigrid Berka, Christopher Baxter, Aaron Bradshaw
Friday Faculty Presentations

Dana Hall room 319 1:30-3:00 and 3:30-4:30
Chair: Kiwon Sohn Trends in Engineering Education 1

Computer Log on: user: asee pw: asee123

F15 Determining the Drag Coefficient of a 3D Printed Canoe in an Hydraulic Flume

Gautham P Das, Anuja Kamat, Hajar Jafferji, Christopher Drussell

F16 Teaching Embedded Systems with a Robotics Theme using ROS on the Raspberry Pi

Christopher Lowrance, Dominic Larkin

F17 Reaching Higher Order Thinking in Mechatronics using a Controller Comparative Study

Christopher Lowrance, John Rogers, Dominic Larkin

Break

F18 Impact Analysis of Student-Centered Activities in a Statics Course to Create Student-Engaged Learning Environments

Seong Jin Kim, Namhun Lee

F19 Advancing Adoption of Building Integrated Photovoltaic (BIPV): Development of a Systematic Model for Research and Market Proposals

Daniel Efurosibina Attoye, Kheira Anissa Tabet Aoul, Ahmed Hassan, Timothy O. Adekunle
Friday Faculty Presentations

Dana Hall room 309 1:30-3:00 and 3:30-4:30
Chair: Ted Sussmann Trends in Engineering Education 2
Computer Log on: user: asee pw: asee123

F20 Faculty Collaboration to Remove Peaks and Valleys in Student Semester Work Load

   Leonard T. Anderson, James R. Lambrechts

F21 Earthquake Simulation Technology: Shake Tables

   Anuja Kamat, Hadi Kazemiroodsari, James McCusker, Tyler Boudrias, Emil Nunez, Guy-Bernard Sidze

F22 How can social media applications be better used in the process of recruiting and retaining engineering students from inception to post-college engineering trajectories? A Student’s Perspective Report.

   Farzam S Maleki, Gail Stephens

   Break

F23 STEAM Go! A School District’s Approach to Implementing New State Science, Technology & Engineering Pre K-12 Curriculum Standards

   Jennifer Ocif Love, Claire Duggan, Ellen Martin

F24 Lab Manual Design with Engineering Learning Style and Flipped Learning Model in Computer Engineering Technology Education

   Yu Wang, Sunghoon Jang
Friday Faculty Presentations

Dana Hall room 321 1:30-3:00 and 3:30-4:30

Chair: Krista Hill  Trends in Engineering Education 3

Computer Log on:  user: asee  pw: asee123

F25  Backpacking Tent Light – An Engineering/Visual Arts Interdisciplinary Product Development
     Peter Raymond Stupak, Darren McManus

F26  A Cause for Concern: Stress, Depression, and Anxiety in STEM Education
     Jason Hegenauer

F27  Putting an engine “cadaver” back into engineering!
     Andrew C Foley
     Break

F28  Preparing to Teach an Undergraduate Embedded Linux Course
     Krista Hill

F29  Integrating a Drawing Tablet and Markup Software into the Lecture Format
     Krista Hill
Friday Faculty Presentations

Dana Hall room 322 1:30-3:00 and 3:30-4:30
Chair: Hemchandra Shertukde  Other Session 1
Computer Log on: user: asee  pw: asee123

F30  By Teaching, We Learn – Creating video demonstrations of simple acoustics principles to facilitate learning  
   *Eoin A. King*

F31  Electric Vehicle 'REVOLT' by Green 707 Club at the University of Hartford for the Drag Race by NEDRA  
   *Hemchandra M. Shertukde*

F32  How to Use Diversity Surveys to Explore Disparities in STEM Participation and Retention  
   *Teresa C. Piliouras, Navarun Gupta, Bowen Long, Pui Lam Raymond Yu, Chuxuan Jin, Phillip H. Dunn, Haoran Zhu*

   *Break*

F33  Will Renewable Energy Create more STEM Related Jobs?  
   *Rajarajan Subramanian*

F34  Visualization Techniques to Support Course Design and Curriculum Development  
   *John McNeill*
Friday Faculty Presentations

Dana Hall room 324 1:30-3:00 and 3:30-4:30
Chair: Takafumi Asaki Other Session 2
Computer Log on: user: asee pw: asee123

F35 Incorporation of Computerized Applied Learning Environments in Traditional and Online Classrooms
Akin Tatoglu, Gonca Altuger-Genc, Yegin Genc, Yue Han, Claudio Campana

Basile Panoutsopoulos

F37 A Research-focused, Collaborative Relationship for Environmental Engineering Education
Luke Plante, Matthew Baideme, Jeffrey Starke, Michael Butkus, Richard Rogers III, Gabrielle Young, Kristen McCarty

Break

F38 Preparing Students Equipped with the State of Art Technologies with Appropriate Mix of Fundamentals
Kanti Prasad

F39 Inclusion of Earth and Space Science and Engineering Design in the NGSS: Challenges in Implementation
Nelson Ngoh, Jani Pallis
Saturday Undergraduate Presentations

Dana Hall room 204  9:00-10:30  (15 min per presentation)
Chair: Paul Crilly  Session 1

Computer Log on:  user: asee  pw: asee123

1001 Harnessing Vibrational Energy: Recycling Excess Kinetic Energy with Piezoelectric Generators
   Bala Maheswaran, Carl Underkoffler, Matthew Streibich, Alan Zhou, Matthew Warren

1002 Thermoelectric Energy Generation from Biomass: An Innovative Proposal for an International Problem
   Bala Maheswaran, Alam Lamia, Christopher Gehrke, Piper Jacobs, Clem Smith

1003 Power Generation Through Typing: Harnessing Wasted Mechanical Energy with Piezoelectric Sensors
   Bala Maheswaran, Brock Fenbert, Joshua Field, Noah Ossanna, Monika Pesa, Jack Streed

1004 Hydrothermal Vents: An Energy Source a Mile below the Surface
   Bala Maheswaran, Aberdeen Dinius, Maria Firan, Sara Kamboj, Michael Moscatt, Suha Yacoob

1019 Exploring Affordable Alternatives to Refreshable Braille Displays
   Thomas Henley, Mustafa Guvench

1020 Frequency Response of Coupled MEMS Resonators Operated Under Varied Differential Mass Loading
   Mustafa Guvench, Joshua D. Wiswell
Saturday Undergraduate Presentations

Dana Hall room 232 9:00-10:30 (15 min per presentation)
Chair: Hemchandra Shertukde  Session 2
Computer Log on: user: asee pw: asee123

1005 Preventing Man-in-the-middle attack in Wireless and Mobile Environments
   Abdelrahman Elleithy, Kevin Lazon, Jason Patti, Yasir Mcknight, Sungjin Yang, Matt Bogacz

1006 Glucose Concentration Simulation for Closed-Loop Treatment in Type 1 Diabetes
   Marilyn Urrea, Nora Richardson, Joseph Martel-Foley, Douglas E Dow

1007 Real Time Detection & Measurement of Remote Sensor Generated RF Signals and Spectra
   Kyle Brown, Mustafa Guvench, Stephen J. Cain

1008 IoT in Myo-Prosthetics
   Gabriel Martinez, XiaoLin Chen, Teddie Lai, Mohammed Alborati, Yu Wang

1021 Space Weather Effects of the September 6, 2017 Solar Event
   Kehinde Owoeye, Javed Sulaiman, Tobore Edema, Amir M. Maghsoudi, M. Chantale Damas

1022 Methods to Transmit LabView Data to Google Sheet
   Tung Xuan Pham, Douglas Dow
Saturday Undergraduate Presentations

Dana Hall room 315  9:00-10:30  (15 min per presentation)
Chair: Tooran Emami  Session 3

Computer Log on: user: asee  pw: asee123

1009 Design and Construction of a NIST Watt Balance
   James Fitz, Mustafa Guvench

1010 Wireless System for FM Transmission of MEMS Capacitive Vibration
    Sensor Data
   Shaun Sylvester, Mustafa Guvench

1011 Fabrication of Gas Sensor Arrays and Peripheral Surface Mount Circuits by Using PCB Printers
   Quinn Farwell, Richard Bigega, Mustafa G. Guvench

1023 IoT Instrument for Heart Monitoring : Interfacing Humans and Robots
   Antonio Morales

1024 Understanding Global Problems with an Interdisciplinary and Globally Focused Education
   Evelyn Grainger

1025 U.S. Coast Guard Academy 2018 Civil Engineering Capstone Project: C.G. Station Castle Hill Boat House Design Paper
   Casey Anne Cruzpino
Saturday Undergraduate Presentations

Dana Hall room 321 9:00-10:30 (15 min per presentation)
Chair: Kiwon Sohn Session 4
Computer Log on: user: asee  pw: asee123

1012 Dangers with Near Field Connection Enabled Devices using Android Based Systems
Abdelrahman Elleithy, Jilal Albibi, Grant Stonebrink, Jesse Cole, Jonathan Rivera, Daniel Baldino

1013 Alameda Storm Water System
Keegan True, Angel Fay, Maddie Heist

1014 Implementation of a Ball and Beam Control System Using PD Bode Design
Jordan K. Ford, Tooran Emami

1015 Implementation of Proportional and Derivative Controller in a Ball and Beam System
Alexander F. Paggi, Tooran Emami

1026 Network Controlled Patient Monitoring Signals Generator
Karolina Hawrylo, Marquise Maxwell, Tevin Williams, Abdullah Albalali, Ahmed Alharbi

1027 Stranger Physics: An Analysis of the Physics of the Television Show Stranger Things
Erin Marie Sussmann
Saturday Undergraduate Presentations

Dana Hall room 322  9:00-10:30 (15 min per presentation)
Chair: Navarun Gupta  Session 5
Computer Log on:  user: asee  pw: asee123

1016 United States Coast Guard Station Castle Hill Boathouse Design
   Casey Anne Cruzpino

1017 Cooperative Robotic Search
   Jordan K. Ford, Ashley Palmieri, Luke H. Telang, Richard Hartnett,
   Tooran Emami

1018 Root Locus PD Controller Design for a Ball and Beam System
   Jonathan G. Behnke, Tooran Emami

1028 U.S. Coast Guard Academy 2018 Civil Engineering Class Capstone
   Project- Alaska Helipad Rehabilitation
   Douglas Brown

1029 ANT Saugerties Capstone Research Paper
   John Mason Snuggs

1030 Rehabilitation and Modernization of United States Coast Guard Air
   Station Sacramento
   Patricia C. Talens
Notes
# Graduate Posters

**Shaw Center Poster Layout**

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<th>Graduate-Shaw Center</th>
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Entrance
Saturday Graduate Posters

Shaw Center 10:30-1:20
Chair: Timothy Adekunle Judging 10:30-11:45

101 Factors to Determine Business Intelligence Implementation in Organizations
   Michael Smith Moreno Saavedra, Christian Bach

102 Regeneration of Skull Bone through Tissue Engineering Techniques
   Modinat Jolade Adaranijo, Michelle Davis, Christian Bach

103 Optimizing Energy Consumption in Wireless Sensor Network Through Distributed Weighted Clustering Algorithm
   Anup Yadav

104 Solar UPS for Home Router
   Jan Ghalib

105 DNA Cloning in Cancer Treatment: Gene Infusion (CAR-T Therapy)
   Meet S Parikh

106 Mass Media
   Abhishek Amitkumar Modh

107 Analysis for Predicting the Selling Price of Apartments
   Pratik Nikte

108 The God Particle
   Shashwat Mandal, Christian Bach
Saturday Graduate Posters

Shaw Center 10:30-1:20
Chair: Timothy Adekunle Judging 10:30-11:45

109 Introduction to Breast Carcinogenesis- Symptoms, Risks factors, Treatment and Management
_Ebosetale Blessing Ikhuoria, Christian Bach_

110 Role of Big Data in Business and Information Technology
_Deepali Patil_

111 Organic Bioelectronics: Bridging the gap between natural and artificial materials for bio-electronics application
_Godspower Wise Omokhunu, Chriatian Bach_

112 Tools for Processing Big Data
_Jinan Mejbel Al Aridhee, Christian Bach_

113 Marketing Research
_Anisha Vaddepalli, Christian Bach_

114 The Video game Effect
_Sam Famodimu, Christian Bach_

115 Size Dependent Graphene Quantum Dot(GQD) Interactions with Protein Biomarkers
_Abimbola Atinuke Ayoola_

116 Iron and Steel Metal recycling in the United States
_Sulagna Dash, Lesley D. Frame_
Saturday Graduate Posters
Shaw Center 10:30-1:20
Chair: Timothy Adekunle Judging 10:30-11:45

117 Energy-efficient Key Distribution Protocol for Wireless Sensor Networks
Majid Alshammari

118 Task-Based Design Optimization of Modular Robots
Reem Jafar Alattas

119 Design and Fabrications of Self-Stabilizing 3D Printed Drone Using GPS Lock
Vijaya V L B Naishadam, Vamsi Krishna Chaitanya Molugu, Sai Mallikarjun Parandha, Xiong Xingguo, Xiong Xingguo

120 Visual Prosthesis
Ibrahim Alotaibi, Christian Bach

121 An Improved Novel Key Management Protocol for RFID Systems
Rania Baashirah, Venkata Namburi, Chakradhar Polisett, Naresh Ravuri, Vinay Avula, Shakour Abuzneid

122 Predictive Analysis of Machine Learning Models for Breast Cancer Diagnosis
Somi Jacob

123 Silicon Membrane Thickness Monitoring System based on Optical Sensing
Tong Zuo, Xiaoliang Li, soumil nitin shah, Xingguo Xiong
Saturday Graduate Posters

Shaw Center  10:30-1:20
Chair: Timothy Adekunle  Judging 10:30-11:45

124  A Novel Fuzzy Logic based Controller for Obstacle Avoidance to Guide the Visually Impaired
   Wafa Elmannai, Khaled Elleithy

125  Fabrication of Concussion Resistant Nanocomposites
   Tong Zuo, Xiaoliang Li, Kuangyu Shen, Prabir Patra

126  Design and Simulation of a BioMEMS Cell Counter with Concurrent Processing
   Xiaoxiao Sheng, Xingguo Xiong

127  Balluino: High Altitude Balloon-based Arduino Real Time Air Quality Monitoring System
   Soumil Nitin Shah, Zhaopeng Xu, Diya Peng, Tong Zuo, Xiaoliang Li, Jani Pallis, Xingguo Xiong

128  COMSOL Design and Simulation of MEMS Vibratory Energy Harvester with Extended Frequency Response
   Jing Zhao, Peiqiao Wu, Xingguo Xiong

129  Efficient Machine Learning Approach for Wireless Sensor Network Middleware
   Remah A Alshinina, Khaled M Elleithy

130  Steel Recycle Process Optimization
   Aditya Ozarkar
Saturday Graduate Posters

Shaw Center 10:30-1:20
Chair: Timothy Adekunle Judging 10:30-11:45

131 Graphene Patterned Microchip for Cholorectal Cancer Detection
   Kavya Hemmanur, Sanjay Robin Karimbanamlayil Babu, Prabir Patra, Isaac Macwan

132 Power Analysis and Conditional Expectation of CMOS Sensors
   Susrutha Babu Sukhavasi

133 Ultra-High Density Decoding of 2D Matrix Barcodes
   Eugene Gerety, Khaled Elleithy

134 Security Implementation Using Present-Puffin Protocol
   Rania Baashirah, Anusha Kommareddy, Sumanth Batchu, Vinusha Sunku, Rithvik Ginjupalli, Shakour Abuzneid

135 Integration of solar energy to the grid
   Sai Nikhil Vodapally, Linfeng Zhang

136 Material Analysis and Testing of TMT Steel Bars
   Shree Bubesh Kumaar Sridhar

137 Internet of Things in Health care using Fog Computing
   Anita George, Hindhuja Dhanasekaran, Lavanya Challagundla, Jagrithi Chittiappa, Shreya Nikkam, Omar Abuzaghleh
Saturday Graduate Posters

Shaw Center 10:30-1:20
Chair: Timothy Adekunle Judging 10:30-11:45

138 A computational approach using Cellular Potts Model for Simulation of Neural Stem Cells Grown in PCL-Graphene Scaffolds. Pegi Haliti, Bhushan Dharmadikhi, Prabir Patra

139 Integrated Energy Concept for Public Green Space Katie Scanlon, Theodore Sawruk

140 Carpenters Tower Timothy J. Applebee

141 Length Dependent Interactions of Carbon Nanotubes and Surfactant Protein B Qi Wu, Bhushan Dharmadhikari, Prabir Patra

142 COMSOL Simulation of MEMS Particulate Matter extraction and Enose sensor Srikar Sai Kolluri

143 A review of Big Data Technologies for Small Businesses Abhishek Kumar Jha

144 Theoretical Approach in Reducing Total Network Power Consumption by Utilizing 5G Technologies Alagappan Solayappan, Aarchi Patel, Viyaleta Peterson, Carey King, Venkateswarlu Nerusu, Mahendra Sai Mandalapu, Omar Abuzagleh
Saturday Graduate Posters

Shaw Center 10:30-1:20
Chair: Timothy Adekunle Judging 10:30-11:45

145 Cubesat Earth Elemetry Project by Discovery Museum and University of Bridgeport
   Xuan Zhang

146 Molecular Identification of Bacteria using sequencing technique
   Rohit Kanaparthy

147 Neurofibromatosis
   Eldar Kurtovic, Christian Bach

148 Developing Solar Powered Quadcopter Using Additive Manufacturing Techniques
   Sai Mallikarjun Parandha, Vamsi Krishna Chaitanya Molugu, Vijaya V L B Naishadam, Xingguo Xiong

149 Secret Key Establishment for Self Healing of Ad Hoc Networks Using ELGamal Algorithm
   Abdelshkour Abuzuneid, Abdul Ahay Yahiya Mohammed, Afzal Hussain Mohammad

150 Ultrasonic Concrete Quality Control Technology for Detecting Signs of Distress in Concrete Railway Crossties
   Daryoush Babaean Koopaei
Saturday Graduate Posters

Shaw Center 10:30-1:20
Chair: Timothy Adekunle Judging 10:30-11:45

151 Simulation and motion Study of Pick and Place Vehicle (prototype) for Inventory Management
   Jeet M Patel

152 Experimental and Computational Analysis of the Performance of Heat Sinks under Forced Convection
   Nouman Khan

153 Hospital Readmission System quality control using predictive clustering of DT-CWT transformed images
   Chiranjit Das

154 Visualizing Probabilistic Weather Forecasting Data
   Carlos Mesquita, Christopher Suter, Daniel Vasconez, Prachi Oke, Madan Veerarouth

155 Building an Arterial Photoplethysmogram for Measurement of Heart Beats per Minute (bpm)
   Sanjana Upendra Sanzgiri, Anuj Hemant Bhagwat

156 Arduino-based Seismic Sensor for Earthquake Detection and Response
   Omowho Charles Mac-Anigboro, soumil nitin shah, Xingguo Xiong Xiong
Saturday Graduate Posters

Shaw Center 10:30-1:20
Chair: Timothy Adekunle Judging 10:30-11:45

157 Environmental Pollution
   Swathi Sathaiahgari

158 Predicting Product Demand Based on 'Helpful' Online Reviews
   Prathmesh Savargaonkar

159 Impacts of Oil Spills on the Environment
   Abdalla Alzaroog

160 GPS Enabled Traffic Navigation
   Venkata Uday Shankar Kosaraju

161 Electrical Vehicle Battery CHANGE System
   Mohamed Aly Ibrahim Mohamed, Khaled Elleithy

162 Analyzing the Marketing Environment
   Peace Onyeka Okunbor

163 Text Mining and Sentiment Analysis using R
   Pratik Nikte

164 Data Analysis and Visualization of Factors Influencing Fuel Economy of Passenger Cars in the U.S.
   Saiprapul Reddy Thotapally
Saturday Graduate Posters
Shaw Center 10:30-1:20
Chair: Timothy Adekunle Judging 10:30-11:45

165 Genetic Optimization and Simulation of Modular Robots
Reem Jafar Alattas

166 In Silico Analysis of Human-induced Pluripotent Cells (hiPSCs) Re-programming
Romaben Patel, Pinakin Dhandhukia

167 Material Selection and Structural Analysis of Aircraft Engine Fan Blades
Kunti Juriya laguri, Nouman Y. Khan, and Mayukh Nemani, Junling Hu

168 Effective Leadership in Organization
Bhumika Shah

169 Reverse logistics involving Mattress Recycling
Anita Khanal

170 Carpenters Tower - Hartford, Connecticut
Timothy J. Applebee

171 Rapid Detection of Tuberculosis using Graphene Quantum Dots
Chidi Samuel Igweh
Saturday Graduate Posters

Shaw Center 10:30-1:20
Chair: Timothy Adekunle Judging 10:30-11:45

172 A Multi-Anatomical Retinal Structure Segmentation System for Automatic Eye Screening Using Morphological Adaptive Fuzzy Thresholding
Jasem Almotiri

173 COMSOL Simulation of a Virtual Impactor for PM2.5 Air Pollution Sensing
Naveen Ramachandran, Xingguo Xiong

174 Student Clinical Placement Tool
Sajiv I Francis

175 Digitized Estimation of Hemoglobin using Image Processing
Sanjay Robin Karimbanamalyil Babu

176 Design, Analysis and Fabrication of Thermo-acoustic Refrigeration
vivek Anant Raut

177 HASS Cloud Dynamics
Abul Hasan Fazulullah, Shakour Abuzneid

178 Size Dependent Graphene Quantum Dot(GQD) Interactions with Protein Biomarkers
Abimbola Atinuke Ayoola
Saturday Graduate Posters

Shaw Center 10:30-1:20
Chair: Timothy Adekunle Judging 10:30-11:45

179 Algorithm-Based Cholesterol Monitoring in Children with Type 1 Diabetes
   Ibrahim Alotaibi

180 Untitled
   Richard Johnson Selvaraj, Shiva Sundaram, Suresh Kumar Moru, Maheshwari Kumar Rakkappan, Rocen Krishna Thashnath Sajeevan, Xuan Zhang, Manoj Kurur Venkateshappa, Karan Kakanur Patel, Praveen Gudhi

181 Health Care System
   Kelechi Oghenekaro Onuegbu

182 Market Segmentation
   Olumide Adeniyi Adigboluja

183 Marketing Strategy in the Media Industry
   Chinedu Okpara
Notes
# Saturday Undergraduate Posters

## Konover Poster Layout

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Entrance
Saturday Undergraduate Posters

Konover 10:30-1:20
Chair: Bala Maheswaran Judging 11:45-1:00

1. COMSOL Simulation of Air Pollutant Particle Transmission in a Building  
   Manquan Fang, Jani Pallis, Xingguo Xiong

2. Effects of Controlling and Not Controlling Solids Retention Time in Glycerol-Driven Denitratation  
   Kristen McCarty, Gabrielle Young, Luke Plante

3. Tactile Object Mapping in Robotic Hands  
   Matthew Bennett, Nicholas Lemiesz, Jonathan Li, Geoffrey Penchuk, Aaron Carpenter

4. Low-cost Arduino-Based Ultrasonic Radar System  
   Mohammed Alyas, Youssef Agiez, Mohammed Errarheb, Yousef Mohamed Mossad, Shreyash Sharma, Xingguo Xiong

5. Performance Analysis of Wireless Sensor Network supported by GEO, LEO, and MEO Satellite system  
   Gukyoung An

6. Trail of the Senses: An ADA Compliant Student Constructed Outdoor Nature Trail  
   Jessica Oriente

7. Bicycle Adapter for Persons with an Above Knee Prosthetic Leg  
   Teagan Dunn, Kyle Farabaugh, Taylor Owen, Andrew Wager
Saturday Undergraduate Posters

Konover 10:30-1:20
Chair: Bala Maheswaran Judging 11:45-1:00

8 Efficient Snow Removal
Leonan Dos Santos, Luigi LoBrutto, Willard Henry Wider, Joseph F. Santacroce

9 Inertially Stabilized Balance Shoe
Christopher Joel McAuliffe, Brian Yaceshyn, Joseph Santacroce

10 Interview Skill Assessment Apparatus
Kim Cordeiro, Ryan Chase, Matthew Fregeau, Joseph Santacroce

11 Autonomous Preliminary Cleanup Robot
Thomas Christos Serbis, Julin Patel, Garrett Dube, Aaron Carpenter

12 Swarm Intelligence in Space Exploration
Samantha Anne Medeiros, Jack Balian Zendzian, Kleanthis Emmanuel-Zymaris, Patrick Stepnowski, Aaron Carpenter

13 Side-Channel Attacks on Smartphones Using Acoustic Analysis and Language Modeling
Samuel Levesque, Ryan Martineau, Ryan Reid, Aaron Carpenter

14 Rocket Landing System
Joseph F. Santacroce, James Ausiello, Hyungi Lee, David Regan

15 Mind-controlled Robot
Claudaire Jeudy, Duy Nguyen, Brian Pham, Germán Soto Apolinar, Joseph Santacroce
Saturday Undergraduate Posters

Konover 10:30-1:20
Chair: Bala Maheswaran Judging 11:45-1:00

16 Driving Analysis and Improvement
Amy Min-Yi Chen, Alex Cherny, Basher Siddique, Andy Vu, Aaron Carpenter

17 Hand Stabilizer for Patients with Parkinson’s Disease
Jean Atehortua, Lucas Grevers, Carlfred Malcolm, Sean Copp, Joseph Santacroce

18 Inexpensive and Modular AR Headset
Daniel Fein, Lyn Carswell, Rayan Rahbini, Robert Gionet-Giacomelli, Aaron Carpenter

19 A Mixed Reality Approach to Address Simulation Bias in Reinforcement Learning Robotics Applications
Bryon Kucharski, Michael Hickey, Collin Travers, Adam Ziel, Aaron Carpenter

20 Key Fob Protection
Alex Neville, Rachel Melisse, Alfonzo Sanfilippo, Gaston Cetrangolo, Aaron Carpenter

21 Designing a Handicap Accessible Fishing Pier in Bristol, Rhode Island
Bradford Jernegan, Michael Ordoñez, Michael Rossi, Emily Tartas, Jacqueline Wyka
Saturday Undergraduate Posters

Konover 10:30-1:20
Chair: Bala Maheswaran Judging 11:45-1:00

22 U.S. Coast Guard Academy 2018 Civil Engineering Class Capstone Project - Airstation Clearwater Liquefied Oxygen Maintenance and Storage Facility
Brett Alan Foster

23 IOT Based Real-time Patients Health Monitoring System
Zhaoqi Song, Wei Xia, Xinyue Gui, Manquan Fang

24 Network Traffic Measurement and Analysis
Youssef Agiez, Gukyoung An, James Innacell, Seoung Nhem, Jaimy Taskin, Omar Abuzaghlleh

25 U.S. Coast Guard Academy 2018 Civil Engineering Class Capstone Project; Alameda Storm
Keegan True

26 Sight Guidance System
Mohammed Alyas, Abdulmajeed Alzahrani, Mohammed Errarheb, Adel Alaeou, Navarun Gupta

27 Automatic Commemorative Coin Recognition System by using Image Processing Techniques and Supervised Classifier
Runhou Chen, Yawen Shen, Danpeng Cheng, Jian Guo

28 Portable Personal Safety
Tom Charles Montgomery, Jia Jun Lam, Aaron Carpenter
Saturday Undergraduate Posters

Konover 10:30-1:20
Chair: Bala Maheswaran Judging 11:45-1:00

29 Space Weather Effects of the September 6, 2017 Solar Event
   Kehinde Owoeye, Javed Sulaiman, Tobore Edema, Amir M.
   Maghsoudi, M. Chantale Damas

30 PLC Learning With EasyVeep
   Mustafa Mohammed Al-Azdee, Bhushan Dharmadhikari

31 Servo Motor Control Using Variable Frequency Drive
   Mustafa Mohammed Al-Azdee, Bhushan Dharmadhikari, Vaibhav Waste

32 Visualization and Analysis of Air Pollution in U.S. East Coast Cities
   Diya Peng, zhaopeng xu, Jani Pallis, Xingguo Xiong

33 Audio Surveillance Systems: Suspicious Sound Recognition
   Caokun Yang, Yusuf Ozkan, Buket D. Barkana

34 Gyroscopic Footwear
   Christopher Joel McAuliffe

35 Autonomous Electromechanical Heavy Object Lifting Robot
   Seth Giuliano, James Smith, Nevin Braganca, Ryan Kuhn

36 Wearable Air Pollution Sensor That Would Crowd-Source Pollution Data
   Lillian C Jeznach
Saturday Undergraduate Posters

Konover 10:30-1:20
Chair: Bala Maheswaran Judging 11:45-1:00

37  Compare PID Controller Design via Matlab Apps
    Tooran Emami, Raymond Cerrato, Raymond Cerrato

38  Implementation of Arduino Controlled RC Car
    James Louis Innacell, Daniel Coviella Fernandez Coviella, Anis
    Vohra, Bruna Barbara De Oliveira Dos Santos, Kareem Saleh,
    Xingguo Xiong

39  Simulation of PM2.5 Particulate Matter Pollution in U.S. East Coast
    Using SMAT-CE Software
    Zhaopeng Xu, Shah Soumil, Diya Peng

40  Solar Powered Desalination System
    Christina Ficaro, Nicholas DeBiase, Kacper Laska, Run Li, Ryan
    McGovern

41  A-stick: Arduino-based Smart Blind Stick Navigator with Obstacle No-
    tification
    Youssef Reda, Mohammed Alyas, Xingguo Xiong, Soumil Nitin Shah,
    Uday Kosaraju Shankar

42  RF Energy Harvesting for Embedded Systems Applications
    Philip Andrew Amarante

43  Development of a User-Friendly, Potential Flow Visualization Tool
    Cristian Woodford, Jacob Mele, Lynn Byers, Grant Crawford
Saturday Undergraduate Posters

Konover 10:30-1:20
Chair: Bala Maheswaran Judging 11:45-1:00

44 Automatic Spherical Bearing Torque Loosening Machine
   Jack D. Alderisio

45 Data and AI-Driven Dashboard for Commodities Trading
   Bradley Nordstrom

46 Magnetic Cell Sorting Chamber
   Sarah E. Niro

47 Land Maverick Soil Sampling Rover
   John O’Neill, Jose Osorio, Emily Yale, Ryan Ferreira

48 Foot Torsional Flexibility Platform for Injury Diagnostic and Orthotic Prescription
   Daniel Pieper, Ben Gibson, Connor Keenan

49 Redesign of a Portable Perfusion Simulation System
   Christian DeGenova, Troy Ingel, Tim Bai Rossi, Thomas Kemly, Nick Griswold, Rehab Elkharboutly, Bobby Crawford, Stefan Christov

50 Pericardial Sac Retractor
   Kaitlin Ann Donohue

51 Air Quality Visualization Application
   Nicole Claire Kwasnaza
Saturday Undergraduate Posters

Konover 10:30-1:20
Chair: Bala Maheswaran Judging 11:45-1:00

52 Energy Harvesting of Vortex-Induced Auto-Rotating 3D-Printed Turbines
   James Araneo, David Foote, Rachmadian Wulandana, Ashwin Vaidya

53 U.S. Coast Guard Academy 2018 Civil Engineering Class Capstone Projects
   Mark Anthony Braxton

54 Developing, Designing and Manufacturing a Prosthetic Flipper and Buoyancy Device for a Green Sea Turtle at the Key West Aquarium
   Maura Buckley, Katelyn Chagami, Kara Martin, Julia Veitch

55 Off Shore Wind Turbine Platform
   Scott MacGovern

56 Soft Starter for a DC Motor: From Theory to Design
   Kareem Saleh, Matt Moran

57 Gas Storage Design for Solar Powered CO2 to Fuel Cycle
   Johnathan Menz

58 Dynamic Load Balancing for Home Power Consumption
   Andrew Delosh, Nick Cambria, Joseph Santacroce

59 Autonomous Electromechanical Heavy Object Lifting Robot
   Nevin Joseph Braganca, Seth Giuliano, Ryan Kuhn, James Smith, Joseph Santacroce
Saturday Undergraduate Posters

Konover 10:30-1:20
Chair: Bala Maheswaran Judging 11:45-1:00

60  Predictive Smart Home
    Brenno DeSouza, Jacob Winnett, Paul Kardos, Aaron Carpenter

61  Automated Swarm Life Tubes System
    Hassan Sakhta, Hao An Wong, Joseph F Santacroce

62  U.S. Coast Guard Academy 2018 Civil Engineering Class Capstone Project- Alaska Helipad Rehabilitation
    Douglas Brown

63  Automated Gearbox
    Nick Panara, Matt Lee, Matt Mark, Ryan Fishbaugh, Marco Giordani

64  Self-Spotting Bench Press
    James V. Masi, Hunter Wing, William Wallace

65  Medical Guide Wire Proximal End Deburring Machine
    Christian Adamczyk, Peter K Colliard, Jack Crowley, Jerome Davis
    Michael Zabinski

66  Advanced Adhesive Bonding Application
    Samuel Klippel

67  U.S. Coast Guard Academy 2018 Civil Engineering Capstone Project: C.G. Station Castle Hill Boat House Design
    Casey Anne Cruzpino
Saturday Undergraduate Posters

Konover 10:30-1:20
Chair: Bala Maheswaran Judging 11:45-1:00

68 Automated Swarm Life Tubes System
   \textit{Hassan Sakhta}

69 Polyetherimide Nanocomposite Foams
   \textit{Gabriella D’Angelo}

70 Laser Robot Welding Shield
   \textit{Abdullah Alameer, Ryan Lawson, Stefan Keilich, Allan R Penda}

71 U.S. Coast Guard Academy 2018 Civil Engineering Class Capstone Projects- ANT Saugerties, NY
   \textit{John Mason Snuggs}

72 Micro Bioreactor Array via Additive Manufacturing and Solid State Foaming
   \textit{Gabriella Borea}

73 Gas Foil Bearing Deflection Testing for Bump Foil Compliance
   \textit{Abdul-Hameid Al-Attar, Reid Bassette, Scott Dion, Allan R Penda}

74 Electromagnetic Fields and Free Energy
   \textit{Stephanie Grace Atteridge, Jonathan David Belanger, Carmen Giambra, Jose Maria Fernandez, Joseph Santacroce}
Saturday Undergraduate Posters

Konover 10:30-1:20
Chair: Bala Maheswaran  Judging 11:45-1:00

75  Fort Taber Feasibility Report
    Nicholas S. Gaudio

76  Development of a Vibrotactile Device
    Heather Fields, Thienly Nguyen, Mohammed Alsulaiman, Takafumi Asaki

77  Makerspaces: Hobbyist vs. Engineers
    Ashley M. Chase, Maria-Isabel Carnasciali

78  Solar Energy with Alternative Storage
    Abdullah Albalawi

79  Microprocessor System Design, Simulation, and Implementation
    Brice Vadnais

80  U.S. Coast Guard Academy 2018 Civil Engineering Class Capstone Projects: Apron Rehabilitation and Construction
    Patricia C. Talens

81  Characterization of Carbon Fiber- Bamboo- Reinforced Hybrid Composite
    Rebecca Vigures, Perry Rocco
Saturday Undergraduate Posters
Konover 10:30-1:20
Chair: Bala Maheswaran Judging 11:45-1:00

82  Humanoid Robotic Leg
    Kelsey Wilson, Michael Barnett, Joshua Cain

83  Additive Manufactured Hand Tools for Space Applications
    Johanna Konseleus, Mark Markiewicz, Nicholas Siarkowski, Allan R Penda

84  Passive Motorcycle Accident Detection and Response
    Adam Hagget

85  Aerial Work Platform Wind Loading
    Colin Burke, Danielle Parkinson, Poorna Pruthvi Chandra Malempati, Allan R Penda

86  Feasibility Study and Dredge Proposal for Hamilton Reservoir
    Katherine Bednarz

87  Service Robot
    Thomas Bryan Currier, Shaun Merrill, Ethan Morris, Obioma Ulebor
Saturday Undergraduate Posters

Konover 10:30-1:20
Chair: Bala Maheswaran Judging 11:45-1:00

88 An Improvement on Mining and Occupational Safety: Smart Hard Hat
   Constance Wall, Rashed Alabbas, Hawraa Aldouri, Takafumi Asaki

89 Smart Infrastructure
   Josh Penk

90 Lightweight Composite Automobile Chassis Design
   Heston David Darlington, Amelia Hemingway-Martin, Allan R Penda

91 Prioritizing Alerts in Intensive Care Units Based on Analysis of Redundant Signals
   Rowan Colleen Davis, Douglas Dow

92 Development of an Advanced Portable Force Plate
   Samuel Bianco, Dana Lorenz, James Ruzbasan, Mary C. Arico

93 Rehabilitation and Modernization of United States Coast Guard Air Station Sacramento
   Patricia Talens
Saturday Graduate Presentations

Dana Hall room 315 1:00-2:20 (20 min per presentation)
Chair: Kiwon Sohn Session 1

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2001 Study Analysis of Integrating a Firewall in a Wide Area Network
   Reham Heart Almotiery, Eman Abdelfattah

2002 Design and Analysis of Rotating Solar Panel Support Structure
   Diwas Sapkota

2003 Solar UPS for Home Router
   Jan Ghalib

2004 Analysis for Predicting the Selling Price of Apartments
   Pratik Nikte
Saturday Graduate Presentations

Dana Hall room 320 1:00-2:20 (20 min per presentation)
Chair: Navarun Gupta Session 2

2005 Next Generation of Surgical Robotics
   Vaibhav Ashok Waste, Meet Parikh

2006 Contactless Magnetic Gears – A Project Based Learning Approach to Understanding Magnetic Gear Systems
   Esther Hiamang, Peter Raymond Stupak

2007 Distortion Guitar Pedals
   Sam Wong

2008 Experimental and CFD Study of Quadcopter Acoustics at Static Thrust Conditions
   Erdem Yilmaz, Junling Hu
Saturday Graduate Presentations
Dana Hall room 321       1:00-2:20  (20 min per presentation)
Chair: Tooran Emami       Session 3

2009 Role of Project Managers in Improving Project Performance
   Pratik Nikte, John Jagtiani

2010 In silico analysis of differentially expressed genes in hiPSCs, somatic cells and hESCs for evaluation of stable reprogramming
   Romaben Patel, Pinakin Dhandhukia

   Rania Baashirah, Anusha Kommareddy, Sumanth Batchu, Vinusha Sunku, Rithvik Ginjupalli, Shakour Abuzneid
Saturday Graduate Presentations

Dana Hall room  324     1:00-2:20  (20 min per presentation)
Chair: Paul Crilly  Session 4

2012 Text Mining and Sentiment Analysis using R
   Pratik Nikte, Christian Bach

2013 Quantification Of Posture In Human Lathe Interface
   Girishwaran Sundar

2014 An Improved Novel Key Management Protocol for RFID Systems
   Rania Baashirah, Venkata Namburi, Chakradhar Polisett, Naresh Ravuri, Vinay Avula, Shakour Abuzneid
Committee Members

Louis Manzione, Chair
Saeid Moslehpour, Associate Chair

Planning Committee
Timothy Adekunle
Takafumi Asaki
Paul Crilly
Tooran Emami
Laurie Granstrand
Navarun Gupta
Laura Heemskerk
Jerry Hopcroft
Bala Maheswaran
Katrina Mill
Allison Poulin
Hemchandra Shertukde

Special Thanks to students
Kiwon Sohn
Theodore Sussmann

Wifi: Use HAWKNET-GUEST
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Dear Friends and Colleagues,

It is a great pleasure and an honor to have everyone here at ASEE Northeastern 2018 Conference at the University of Hartford in West Hartford, Connecticut.

I am excited to announce that we received 351 total submissions, have accepted 94 undergraduate posters, 30 Undergraduate papers, 92 graduate posters, 21 graduate papers and more than 39 faculty papers and presentation from 36 different institutions.

We sincerely thank you for your participation in this year’s conference. We hope you will enjoy this year’s offerings and take a little extra time to enjoy the spectacular and unique beauty of this region.

With best wishes,
Saeid Moslehpour, Ph.D.
Associate Chair