VIDEO CONTENT START

ASEE-NE 2016 Conference

Revolutionizing Engineering Education

April 28-30, 2016
University of Rhode Island
Kingston, Rhode Island

VIDEO CONTENT END
ASEE NE 2016 Conference Statistics

Total Paper and Poster Submissions: 547
Number of Submissions Accepted for Publication and Presentation: 286
Number of Submissions Declined: 261
Number of Undergraduate Posters: 117
Number of Graduate Posters: 75
Number of Student Papers: 23
Number of Workshops: 8
Number of Corporate Sponsors: 9
Number of Graduate Schools in the Career/Grad Fair: 11
Number of Technical Sessions: 18
Number of Professional Papers: 70
Number registered for the conference: 561
We at The University of Rhode Island are very pleased and excited to host the American Society for Engineering Education Northeast Section 2016 Conference with the theme of “Revolutionizing Engineering Education.” This Conference brings together engineering students, faculty, and professional leaders from 70 universities, colleges, and companies. The conference includes 286 technical and engineering education related posters, papers, and workshops. I wish all of you an invigorating conference and I hope you can also take some time during your visit to experience the many beautiful places in Rhode Island.

Bahram Nassersharif, Ph.D., F. AAAS

ASEE NE 2016 General Chair
Distinguished University Professor
Professor of Mechanical Engineering
University of Rhode Island
Our sincere thanks to our sponsors for their support!

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- tec
- Excellence in Technology and Training Solutions
- MathWorks

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Meeting Officials

Conference General Chair:
Dr. Bahram Nassersharif, University of Rhode Island

Conference Track Chairs:

Graduate Student Poster
  Chairs: Dr. Nicole Martino, Roger Williams University, Dr. Linda A. Riley, University of New Haven

Undergraduate Student Poster
  Chair: Dr. Linda Riley, University of New Haven

Student Papers
  Chairs: (Ugrad): Dr. Gretchen Macht, (Grad) Dr. Mayrai Gindy, University of Rhode Island

Curricular Design and Innovation
  Chair: Dr. Bahram Nassersharif, University of Rhode Island

Laboratory Development and Innovation
  Chair: Dr. K. Wayne Lee, P.E., University of Rhode Island

Teaching and Learning Techniques and Pedagogy
  Chair: Dr. Benjamin McPheron, Roger Williams University

Capstone Design
  Chair: Dr. Bahram Nassersharif, University of Rhode Island

Undergraduate Research
  Chair: Dr. Stephen Mecca, Providence College

Graduate Research
  Chair: Dr. Carl-Ernst Rousseau, P.E., University of Rhode Island

Assessment of Teaching and Learning
  Chair: Dr. George Veyera, University of Rhode Island

Diversity in Engineering Education
  Chair: Mr. Charles Watson, University of Rhode Island

Best Practices for ABET Preparation and Review
  Chair: Dr. Richard Vaccaro, University of Rhode Island

Online Engineering Education
  Chair: Dr. David Taggart, University of Rhode Island

Other Topics of General Interest in Engineering Education/Research
  Chair: Dr. Bahram Nassersharif, University of Rhode Island
George Hazelrigg enjoyed designing and building things when he was young, so he decided to go to college to study engineering. He obtained a BS in mechanical engineering from Newark College of Engineering (now New Jersey Institute of Technology) and went to work for Curtiss-Wright. There, he found that his education had utterly destroyed his ability to do engineering design. So he felt it necessary to get a master’s degree. He completed an MS in mechanical engineering, also from NCE, but still hadn’t regained his design abilities. While getting his MS, however, he did some teaching and liked it. So he figured that, if he couldn’t do design, the next best thing would be to teach it. Five years later, he had obtained MA, MSE, and PhD degrees in aerospace engineering from Princeton University.

Now, in addition to not knowing how to do design, he couldn’t teach it either. For the next 25 years, he roamed industry and academe in an attempt to understand the theory of engineering design, including time spent at the Jet Propulsion Laboratory, General Dynamics, Princeton University and a consulting firm of which he was a co-founder. He also spent a year in Korea helping to found the Systems Engineering Department of Ajou University. He joined the National Science Foundation in 1982 and, in 1996, became program director for the Engineering Design program where, for eight years, he provided support to others in the field. In 1996, he spent a month as Station Science Leader of the U.S. South Pole station. In 2004, he became Program Director for the Manufacturing Machines and Equipment program and subsequently Program Director of the Sensors and Sensing Systems program. Since the formation of the CMMI Division, he has been Deputy Division Director.

For relaxation, he spends his weekends soaring over the Shenandoah Valley, and he is a certified flight instructor in gliders (CFI-G) with about 1,800 total flying hours.
Dr. Joseph J. Rencis was born and raised in Northwestern New Jersey. He attended Milwaukee School of Engineering (MSOE), where he received his A.A.S. and B.S. degrees in Architectural and Building Construction Engineering Technology. From there, Dr. Rencis went on to earn his M.S. from Northwestern University and Ph.D. from Case Western Reserve University in Civil Engineering. From 1985 to 2004, he served as Assistant, Associate, and Professor of Mechanical Engineering at the Worcester Polytechnic Institute (WPI). He was Director of Engineering Mechanics at WPI from 1995 to 2004. From 2004 to 2010 he was Department Head and the inaugural holder of the Twenty-first Century Leadership Chair in Mechanical Engineering from 2007 to 2010 at the University of Arkansas, Fayetteville. At Arkansas, Dr. Rencis was also a tenured Professor of Mechanical Engineering. He is an inaugural fellow of the Southeastern Conference Academic Consortium Leadership Development Program. Since 2011, he has served as the Dean of Engineering, the inaugural holder of the Clay N. Hixson Chair for Engineering Leadership, and Professor of Mechanical Engineering at Tennessee Tech University. In the course of his career, Dr. Rencis’ principal research interests have been in boundary elements, finite elements, mechanics of materials, multiscale modeling, and engineering education. His research has been supported by National Science Foundation and industry. Dr. Rencis has published over thirty five journal articles and over one hundred and ten conference articles. He is an associate editor of the International Series on Advances in Boundary Elements and Journal of Online Engineering Education. Dr. Rencis also serves on the editorial board of Engineering Analysis with Boundary Elements, The Open Mechanics Journal, and International Scholarly Research Notices. He is a fellow of the American Society of Mechanical Engineers (ASME), American Society for Engineering Education (ASEE), and Wessex Institute of Great Britain. Rencis is the recipient of the ASEE New England Section Outstanding Teaching Award and ASEE Mechanics Division Archie Higdon Distinguished Educator Award. He is a registered professional engineer in Massachusetts. Dr. Rencis is active in various professional organizations at the local and national levels. Rencis currently serves as ASEE President and on the ASEE Board of Directors. He is also a member of the ASEE Engineering Deans Council Public Policy Committee, and Board of Directors for Advancement Scientific and Engineering Technology of Tennessee. Rencis was the Chair and Vice Chair of the ASME Mechanical Engineering Department Heads Committee and a member of the ASME Center for Education Board of Directors. Other past positions include Chair ASEE Professional Interest Council III, Chair ASEE Mechanical Engineering Division, Chair ASEE Mechanics Division, and member ASME National Nominating Committee. Dr. Rencis has been a ABET program evaluator and has conducted reviews of new M.S. and Ph.D. programs. He has served on the advisory boards of United Arab Emirates University, John Brown University (past President), and three high schools. Dr. Rencis received the ASEE New England Section Outstanding Leader Award, ASEE Mechanics Division James L. Meriam Service Award, and ASEE Midwest Section Outstanding Service Award. He is listed in several Who’s Who publications.
# ASEE NE 2016 Summary

## Thursday, April 28 -- Conference Welcome Reception and Registration

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<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00 - 7:00 PM</td>
<td>Registration</td>
<td>Alumni Center</td>
</tr>
<tr>
<td>4:00 - 7:00 PM</td>
<td>Conference Welcome Reception</td>
<td>Alumni Center</td>
</tr>
</tbody>
</table>

## Friday, April 29, 7:30 AM - 5:00 PM

**Student Conference, Industry Exhibits, Career Fair, and Workshops**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 AM - 1:00 PM</td>
<td>Main Registration</td>
<td>U-Club (95 Upper College Road)</td>
</tr>
<tr>
<td>7:30 - 9:00 AM</td>
<td>Undergraduate Posters Setup</td>
<td>U-Club</td>
</tr>
<tr>
<td>7:30 - 9:00 AM</td>
<td>Graduate Posters Setup</td>
<td>Alumni Center</td>
</tr>
<tr>
<td>9:00 AM - 12:45 PM</td>
<td>Undergraduate Poster Session</td>
<td>U-Club</td>
</tr>
<tr>
<td>9:00 AM - 12:45 PM</td>
<td>Graduate Poster Session</td>
<td>Alumni Center</td>
</tr>
<tr>
<td>9:00 AM - 12:45 PM</td>
<td>Career/Grad Fair</td>
<td>U-Club</td>
</tr>
<tr>
<td>9:00 AM - 12:45 PM</td>
<td>Industry Exhibits</td>
<td>Alumni Center</td>
</tr>
<tr>
<td>11:30 AM - 12:45 PM</td>
<td>Working Lunch</td>
<td>U-Club</td>
</tr>
<tr>
<td>11:30 AM - 12:45 PM</td>
<td>Working Lunch</td>
<td>Alumni Center</td>
</tr>
<tr>
<td>1:00 - 2:45 PM</td>
<td>Student Papers 1</td>
<td>Crawford 221</td>
</tr>
<tr>
<td>1:00 - 2:45 PM</td>
<td>Student Papers 2</td>
<td>Wales 226</td>
</tr>
<tr>
<td>1:00 - 2:45 PM</td>
<td>ABET Workshop</td>
<td>Bliss 205</td>
</tr>
<tr>
<td>1:00 - 2:45 PM</td>
<td>Undergraduate Research Workshop</td>
<td>Bliss 305</td>
</tr>
<tr>
<td>1:00 - 2:45 PM</td>
<td>Effective Teaching Workshop</td>
<td>Kirk PCR</td>
</tr>
<tr>
<td>1:00 - 4:30 PM</td>
<td>Simulation Workshop featuring Abaqus® FEA</td>
<td>Wales 225</td>
</tr>
<tr>
<td>1:00 - 4:30 PM</td>
<td>Simulation Workshop -- COMSOL Multiphysics</td>
<td>Kirk 212</td>
</tr>
<tr>
<td>1:00 - 4:30 PM</td>
<td>Workshop featuring Mathworks</td>
<td>Kirk Auditorium</td>
</tr>
<tr>
<td>3:00 - 4:30 PM</td>
<td>Student Papers 3</td>
<td>Crawford 221</td>
</tr>
<tr>
<td>3:00 - 4:30 PM</td>
<td>Student Papers 4</td>
<td>Wales 226</td>
</tr>
<tr>
<td>3:00 - 4:30 PM</td>
<td>International Engineering Education Workshop</td>
<td>IEP House</td>
</tr>
<tr>
<td>3:00 - 4:30 PM</td>
<td>Workshop on Recruitment, Retention, and Diversity</td>
<td>Bliss 205</td>
</tr>
<tr>
<td>4:00 - 5:00 PM</td>
<td>Student Pizza Dinner and Announcement of Award Winners -- Students not registered for Conference Banquet and Keynote or conference luncheon on Saturday, 4/3016, depart</td>
<td>U-Club</td>
</tr>
</tbody>
</table>
## ASEE NE 2016 Summary

### Friday, April 29 -- 5:30 - 9:30 PM
**Faculty and Professional Conference Banquet, Keynote, and Awards**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
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<tbody>
<tr>
<td>5:30 - 6:30 PM</td>
<td>Registration</td>
<td>Aqua Blue Hotel Grand Ballroom</td>
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<tr>
<td>5:30 - 6:30 PM</td>
<td>Main Conference Reception (Cash Bar)</td>
<td>Aqua Blue Hotel Grand Ballroom</td>
</tr>
<tr>
<td>6:30 - 9:00 PM</td>
<td>Dinner, Keynote, and Awards</td>
<td>Aqua Blue Hotel Grand Ballroom</td>
</tr>
</tbody>
</table>

### Saturday, April 30, 7:00 AM - 4:00 PM
**Faculty and Professional Conference, ASEE NE Section Meeting**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 - 10:00 AM</td>
<td>Registration</td>
<td>Kirk Engineering Building</td>
</tr>
<tr>
<td>7:30 - 10:00 AM</td>
<td>Continental Breakfast</td>
<td>Kirk Engineering Building</td>
</tr>
<tr>
<td>8:00 - 9:40 AM</td>
<td>Curricular Design and Innovation</td>
<td>Kirk Auditorium</td>
</tr>
<tr>
<td>8:00 - 10:00 AM</td>
<td>Laboratory Development and Innovation</td>
<td>Bliss 305</td>
</tr>
<tr>
<td>8:00 - 9:40 AM</td>
<td>Other Topics in Engineering Education/Research 1</td>
<td>Wales 226</td>
</tr>
<tr>
<td>8:00 - 9:40 AM</td>
<td>Teaching and Learning Techniques and Pedagogy 1</td>
<td>Wales 224</td>
</tr>
<tr>
<td>8:00 - 9:40 AM</td>
<td>Undergraduate Research 1</td>
<td>Wales 223</td>
</tr>
<tr>
<td>9:40 - 10:00 AM</td>
<td>Break</td>
<td>Kirk Engineering Building</td>
</tr>
<tr>
<td>10:00 AM - 11:40 AM</td>
<td>Other Topics in Engineering Education/Research 2</td>
<td>Wales 226</td>
</tr>
<tr>
<td>10:00 AM - 11:40 AM</td>
<td>Teaching and Learning Techniques and Pedagogy 2</td>
<td>Wales 224</td>
</tr>
<tr>
<td>10:00 AM - 11:40 AM</td>
<td>Online Engineering Education</td>
<td>Kirk Auditorium</td>
</tr>
<tr>
<td>10:00 AM - 11:40 AM</td>
<td>Undergraduate Research 2</td>
<td>Wales 223</td>
</tr>
<tr>
<td>12:00 - 1: 30 PM</td>
<td>Conference Lunch &amp; ASEE Section Meeting</td>
<td>Student Union Ballroom</td>
</tr>
<tr>
<td>1:30 - 3:10 PM</td>
<td>Assessment of Teaching and Learning</td>
<td>Bliss 205</td>
</tr>
<tr>
<td>1:30 - 3:30 PM</td>
<td>Capstone Design</td>
<td>Kirk Auditorium</td>
</tr>
<tr>
<td>1:30 - 3:10 PM</td>
<td>Teaching and Learning Techniques and Pedagogy 3</td>
<td>Wales 224</td>
</tr>
<tr>
<td>1:30 - 3:10 PM</td>
<td>Undergraduate Research 3</td>
<td>Wales 223</td>
</tr>
<tr>
<td>1:30 - 3:10 PM</td>
<td>Graduate Research</td>
<td>Glibreth 118</td>
</tr>
</tbody>
</table>
FRIDAY, APRIL 29
Career/Grad Fair - 9:00 AM - 1:00 PM
Track and Session Chair: Ms. Bethanie Pinkus, University of Massachusetts, Lowell
Location: U-Club (95 Upper College Rd)

Binghamton University

Drexel University, College of Engineering

New Jersey Institute of Technology

Rensselaer Polytechnic Institute

Stevens Institute of Technology

Tufts University

University of Connecticut

University of Maine

University of Massachusetts Lowell

Western New England University

Worcester Polytechnic Institute
FRIDAY, APRIL 29
Industry Exhibits - 9:00 AM - 1:00 PM
Track and Session Chair: Dr. Bahram Nassersharif, University of Rhode Island
Location: Alumni Center

SCHOTT North America

COMSOL, Inc.

AET labs

Lucas-Nuelle

MathWorks

Northeastern Section, American Nuclear Society

TEC, Inc.

Engineering Planning and Management, Inc.
[Poster-UG-481] 3D Printing Impacts on Education and Research
Kasey Packard Smart (University of Massachusetts)

[Poster-UG-552] 3D Printing of RFID Antennas in Photopolymer Substrates
Richard Rininger, Kevin Murphy, Daniel Englehardt, Kevin Murphy, Daniel Englehardt
(Wentworth Institute of Technology)

[Poster-UG-471] A Fully-differential Electrostatic Micropump with Anti-pull-down Feature
Haoran Wei, Xingguo Xiong (University of Bridgeport)

[Poster-UG-351] A Lab-on-a-Chip for Tuberculosis Diagnosis in Low-Resource Environments
Michael Rust, Eric Thibodeau, Majdi Sheikh (Western New England University)

[Poster-UG-338] A Neoadjuvant Cancer Therapy Assessment Platform
Anthony English, Erika Benlisa, Shane Waltsak, Joseph Baurys, Daniel King, Katherine Gilchrist (Western New England University)

[Poster-UG-251] A Pediatric Neurosurgical Head Fixation Device Utilizing Paddings and Actuation to Prevent Skin Necrosis and Pressure Sores
Chi Ta, Kevin Li, Kristen Billiar, Oguz Cataltepe (Worcester Polytechnic Institute)

Danielle Torchia, Nicolette LaPierre, Judy Cezeaux, Philip Stoddard (Western New England University)

Michael Rust, Shaine Spencer, Nicolas Striglio, Christian Salmon, Aliea Afnan (Western New England University)

[Poster-UG-573] Active and Passive Noise Cancellation Applied to an Ordinary Household Appliance
Christopher Caltri, Michael LoTurco, Vincenzo Moretti, and Tony Phantharangsy, Dr. Jeffrey Denenberg (Fairfield University)

[Poster-UG-285] Active Microfluidic Mixer with Fully-Differential Rotary Blades
Licheng Xiao (University of Bridgeport)
| Poster-UG-359  | Active Noise Control                        |
|               | Juliann Swift, Shubham Tandon (The College of New Jersey) |
| Poster-UG-417 | Actuated Finger Exoskeleton with Myo-Interface |
|               | Zahra Alkhabbaz, Dakota Ferguson, Brent Ulrey, Patrick Carley (Western New England University) |
| Poster-UG-381 | Affordable Microprocessor-Controlled Prosthetic Knee |
|               | Jonathan Robert Silva, Kevin Addo, Alexander Bush, Ethan Hurley, Connor Moriarty (Daniel Webster College) |
| Poster-UG-82  | Air Station Clearwater Pavement Design       |
|               | Kimberlee Lynne Capp, Tyler Henning, Carly Campbell, Jessica Wright (U.S. Coast Guard Academy) |
| Poster-UG-400 | Algorithms for Embedded Multivariable Algebraic Loops |
|               | Ambrose Adegbege, Zachary Evans Nelson (The College of New Jersey) |
| Poster-UG-371 | Analog Neural Network for Constrained Control Application |
|               | Richard Levenson, Ambrose Adegbege (The College of New Jersey) |
| Poster-UG-406 | Application of Sensor Control System to Industrial Respooling Machines |
|               | Drew Czarn, Bryce Holden, Jennifer McGunigal, Matt Polak (University of Rhode Island) |
| Poster-UG-360 | Assistive Technology for Use after Rotator Cuff Surgery |
|               | Samuel Mackerer, Judy Cezeaux (Western New England University) |
| Poster-UG-264 | Attacker Agnostic On-Chip Network Security   |
|               | Martin Chomicki, Andrew Wolf, Jacob Leonardi (Wentworth Institute of Technology) |
| Poster-UG-560 | Automated Aeroponic System                   |
|               | Michael Jacob McPhee, Khalid Alharbi (University of Hartford) |
| Poster-UG-333 | Automated Alignment of a Laser Welded Medical Device |
|               | Steven Michael Shiner, Yaroslav Kohut, Christian George Vrankovic, Austin Joseph Wesolowski (Fairfield University) |
FRIDAY, APRIL 29
POSTER SESSION: Undergraduate Student Posters - 9:00 AM - 12:45 PM
Track and Session Chair: Dr. Lina A. Riley, University of New Haven
Location: U-Club (95 Upper College Rd)

[Poster-UG-274]  Automated Direct Current Electromagnetic Field Demagnetizer
Marshall Vigneault, Robert Reynolds, Santiago Sanchez, Joshua De La Hoz, Daniel Genco
(University of Rhode Island)

Talal Ayed Alanazi, Bassam Abdulrazaq Alharbi, Waleed Saleh Alanazi (University of Bridgeport)

[Poster-UG-424]  Autonomous and Adaptive Environment for Plant Growth
Nathan Williams, Timothy Thomas (University of Scranton)

[Poster-UG-231]  Body Area Networking
Mark Lamothe, Alex LaMarche, ChaoTang (University of Hartford)

[Poster-UG-580]  Connecting People to Adequate Water Supply
Sarah Link, Scott Booth, DylanBoyle, Juan Hernandez, Samantha Russ, Janet Baldwin
(Roger Williams University)

[Poster-UG-585]  Crash Test Simulation of Mass Transit Busses
Kenny Sulaimon, Saad Ilyas, Pedro Raposo (University of Rhode Island)

[Poster-UG-547]  Daft Punk Helmet
Bryant Wiggins, Kyle DeStefano (University of Hartford)

[Poster-UG-329]  Design and Simulation of a 3-input Microfluidic Droplet Mixing Dispenser
Anqi Liu (University of Bridgeport)

[Poster-UG-617]  Design Improvement of Standardized Shoe Lace Tipping Block
Peter Swanson, Lyle Topa, Chris Lambert, Morgan Crandall (University of Rhode Island)

[Poster-UG-238]  Design of a Portable Perfusion Test Simulator
Keegan Etter, Wesley Breisch, Jonathan Gelfuso, Michael Podias, B. Grant Crawford,
Stefan Christov (Quinnipiac University)
FRIDAY, APRIL 29
POSTER SESSION: Undergraduate Student Posters - 9:00 AM - 12:45 PM
Track and Session Chair: Dr. Lina A. Riley, University of New Haven
Location: U-Club (95 Upper College Rd)

[Poster-UG-286] Design of a Shock Tolerant Universal Mounting System for Military Grade Submarine Cabinets
Nicole A Nigri, Daniel Fox, Matthew Coughlin, Rick Martin (University of Rhode Island)

Thomas Joseph Moore, Joshua Wolf, Brandon Ryan (University of Rhode Island)

[Poster-UG-254] Design of an Improved Gas Tank Handle
Sydney Collins, Rob Buehrer, Nick Morra, Dennis Lutskiy (University of Rhode Island)

[Poster-UG-627] Design Optimization of Indirect Fired Storage Water Heater
Matthew Jackvony, John Papa, Adam Camillo, Javier Sesma, Francesco Palumbo (University of Rhode Island)

[Poster-UG-408] Design, CFD Modeling, and Development of a Compact & Efficient Soil Steam Fumigation
Matthew Lazicky, Jason Alderisio, James Ursini, Connor Wallace (Fairfield University)

Claire E. Kleinschmidt, Stephen Mecca, Laura Williams (Providence College)

[Poster-UG-353] Device to Measure Pressure Applied During Sealing Process of Medical Device Packaging
Michael Rust, David Kisala, Matthew Coralli, Peter Florkoski (Western New England University)

Richard Hartnett, Benjamin Morseth (U.S. Coast Guard Academy)

[Poster-UG-428] Dual Tone Multi Frequency line follower robot
Mohammed Bahri (University of Bridgeport)

Faraz Syed, Yves Sabato, Joe Petruzziello, Hriday Chawla (Wentworth Institute of Technology)
Efficient Use of Stored Mechanical Energy and Remote Control
Rachel Gouveia, James Carlson, Alex Lam, Papa Sarpong, Patrick Worrell (University of Rhode Island)

Elastomeric Bouncy Balls - a Module to Connect Real-World Concepts and Current Engineering Research to K-12 Education
Victor Gregory Antontsev, Jocelyn Podyma, Lucas Landherr (Northeastern University)

Electronic Vaporizer
Michael Desiderio, Brandon Zonghi (University of Hartford)

Energy Recovery From Neutralization Utilizing Ion-Exchanging Resin
Andrew Joseph Peccerillo, John Greenleaf, Matthew Powers, Lauren McMahon, John Reap (Quinnipiac University)

Enhancements of the GSAP Microflush Valve
Brian Richard Nicholas, Nicholas Liotta (Providence College)

Enhancing Motorcycle Safety
Hunter Russel, Martin Mercer (University of Hartford)

Evaluation of Green House Gas Emissions from a Small Scale Wastewater Treatment Plant
Max Grabinski, Ryan Sullivan, Josh Wolf, Zachary Tiang, Vinka Oyanedel-Craver, Ian Dakers (University of Rhode Island)

Facial Recognition Door
Emily Mame Ford, Ben Franco, Scott Richard Glenn (Wentworth Institute of Technology)

Floor Sensor Grid and Wearable Sensor System for Medical Health Monitoring
Temour B Raza, Nilay Patel, Nilay Patel, Douglas E. Dow (Wentworth Institute of Technology)

Foot Pressure Mapping
Jeff Oddy, Brent Ulrey, Patrick Carley (Western New England University)
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<tr>
<th>Poster Number</th>
<th>Title</th>
<th>Authors</th>
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<tr>
<td>Poster-UG-203</td>
<td>Fort Adams Structural Analysis And Design</td>
<td>William Peregoy, Emily Carrier, Zachary Wasp, Juan Quintero, Andrew J. Amarone (Roger Williams University)</td>
</tr>
<tr>
<td>Poster-UG-394</td>
<td>Fostering the Entrepreneurial Engineering Mindset at the University of New Haven</td>
<td>Daniel V Delgado, Jean Nocito-Gobel (University of New Haven)</td>
</tr>
<tr>
<td>Poster-UG-581</td>
<td>Gunshot Detection and Reporting System</td>
<td>Jason Castro, Anthony Villanueva, Corey Lopes, Joseph Santacroce (Wentworth Institute of Technology)</td>
</tr>
<tr>
<td>Poster-UG-635</td>
<td>Home Security System</td>
<td>Richard Jasson Olano (University of Hartford)</td>
</tr>
<tr>
<td>Poster-UG-615</td>
<td>Ice Dam Mitigation and Prevention System</td>
<td>Tom Vorvolakos, Sean Marran, Kevin Walsh, Matt Morisseau, Connor Dacey (University of Rhode Island)</td>
</tr>
<tr>
<td>Poster-UG-452</td>
<td>Image processing tasks applied to robot vision system and path discovery (March 2016)</td>
<td>Italo Guedes Almeida Silva, Rafael Custodio Cejas (University of Bridgeport)</td>
</tr>
<tr>
<td>Poster-UG-614</td>
<td>Inertial Guidance Tracking System</td>
<td>Lauren Temple (Wentworth Institute of Technology)</td>
</tr>
<tr>
<td>Poster-UG-245</td>
<td>Inflatable Cervical O-Ring for Treatment of an Incompetent Cervix</td>
<td>Jennifer C Fremd, Kathleen Carroll, Christina Benak, Mary Phillips, Norman Gray (Quinnipiac University)</td>
</tr>
<tr>
<td>Poster-UG-426</td>
<td>Innovation on STEM exploration activities</td>
<td>Lin Lin, Sarah McClain (University of Southern Maine)</td>
</tr>
<tr>
<td>Poster-UG-488</td>
<td>Innovative Design of a Sustainable Hospital Wastewater Treatment System</td>
<td>Amalia O'Brien (Wilkes University)</td>
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</table>
FRIDAY, APRIL 29
POSTER SESSION: Undergraduate Student Posters - 9:00 AM - 12:45 PM
Track and Session Chair: Dr. Lina A. Riley, University of New Haven
Location: U-Club (95 Upper College Rd)

[Poster-UG-378] Integration of Pulse Rate and Core Body Temperature Sensors in Footwear
Adam Hamel, Connor Maloney, Brent Ulrey, Patrick Carley (Western New England University)

[Poster-UG-218] LED voltmeter for a smartphone
Cayla Stifler, Stephen Mecca (Providence College)

[Poster-UG-430] Low Cost Smart Home System Using Raspberry Pi
Rashid Alsuwaigh (University of Bridgeport)

[Poster-UG-601] Lunar Nuclear Reactor Design
Jeremy Hawes, Erika Steen, Luke Lasorsa, Nahshaun Bing (University of Rhode Island)

[Poster-UG-570] MagLev Suspension
Alvin Glavas, Joseph Santacroce, Anthony Louis Pierre, Juan Moreta (Wentworth Institute of Technology)

Bashar Alhafni, Saulo Fernando Guedes, Lays Cavalcante Ribeiro, JuhyunPark, Jeongkyu Lee (University of Bridgeport)

Kyle M. Robert, John Scolastico, Kyle Schwartz, Anthony Tran, Aaron Carpenter (Wentworth Institute of Technology)

Cameron Sayles (Fairfield University)

Nicholas P Truncale, Nathan Williams, Wilson I Ortiz (University of Scranton)

[Poster-UG-594] Miniature Nuclear Reactor Simulator
Louis Michael Peters, Kimberly Verderber, Joseph Notorantonio, Thomas Quaranta, Elise Staulo (University of Rhode Island)
   Kevin Willson, Philip Mayer, Drew Mignosa, Amalia Rusu (Fairfield University)

   Musaed Saeed Alyazeedi (University of Bridgeport)

[Poster-UG-519] Monitor and Control of Benchtop Digester
   Thomas Koulopoulos (Providence College)

[Poster-UG-530] Musical Feedback for Gait Rehabilitation
   Matt G. Bennett, Adam E. Ziel, Douglas E. Dow (Wentworth Institute of Technology)

[Poster-UG-629] Nonlinear Displacement-Dependent (NDD) Damper Design
   Joseph Frank Saccoccia, Jack O'Gorman, Kyle VanDenHeuvel (University of Rhode Island)

[Poster-UG-326] Novel Intravenous Cannulated System To Minimize Physical And Psychological Discomfort During Blood Draw
   Jessica Ann Konkol, Joseph Legris, Timothy McMahon, Brendan Surette (Roger Williams University)

[Poster-UG-224] On-Site Development and Implementation of an Eye Tracking System to Provide Users with Locked-In Syndrome a Means for Communication and Interaction with their Environment
   Jennifer C. Fremd, Andrew Joseph Peccerillo, Mary Phillips (Quinnipiac University)

[Poster-UG-545] Open source hardware and software design for a Quadcopter.
   Wayne Teto (University of Bridgeport)

[Poster-UG-51] Optical Character Recognition as a Measure of Image Processing Technique Quality
   Luke Bennett (University of Southern Maine Electrical Engineering)

[Poster-UG-275] Optical Sensor based Microfluidic Lab-on-a-Chip for Glucose Continuous Sensing
   Xin Song, Xingguo Xiong (University of Bridgeport)

[Poster-UG-569] Passion Heaven-Automated Drink Dispenser
   Anthony K Duru, Inol Santana (University of Hartford)
| Poster-UG-349 | Pneumatic Turbine Vibrator Press Fit Cover Design  
Mark Studer, Tyler Howland, Matthew Propp, Juan Aguon (University of Rhode Island) |
| Poster-UG-233 | Portable Green Dual Form Energy LED Array  
Turki Alsirah, Baqir Alasad (University of Hartford) |
| Poster-UG-608 | Prosthetic Hand Multi-Tool Attachment  
Christopher Babcock, Michael Nagy, Thomas Daniello, Thomas Lukacovic (Fairfield University) |
| Poster-UG-243 | Providence College S-Lab Health Portal  
Kathryn Ellersick, Julia Guerette, Peter Salhaney, Brittany Mandeville, Jack Ricci, Lauren Cramer (Providence College) |
| Poster-UG-619 | RADSUB - A Radiation Hardened Submersible for Remote Inspection of Nuclear Reactor Fuel Elements  
Matthew Repetto, Gabriel D'Antonio, John Carlin, Joshua Cormier (University of Rhode Island) |
| Poster-UG-328 | Raw Material Barrel Handling System Design for Cleaning  
Bradley Leusner, Pat Almonte, Andres Hull, Richard Lavender, Christopher Rose (University of Rhode Island) |
| Poster-UG-387 | Reducing the Cost of Bioprinting  
Michael Arena, Brent Ulrey (Western New England University) |
| Poster-UG-549 | Reliable Film Cutter Positioning Device Featuring Obstruction Avoidance System  
Christian Paquette, Tim Fowler, Abdool Hassan (University of Rhode Island) |
| Poster-UG-194 | Repurposing Plastic Waste in an Innovative Technology  
Michelle Feely (Providence College) |
| Poster-UG-637 | Retrofit Fuel Gauge  
Joseph Palmieri (Wentworth Institute of Technology) |
FRIDAY, APRIL 29
POSTER SESSION: Undergraduate Student Posters - 9:00 AM - 12:45 PM
Track and Session Chair: Dr. Lina A. Riley, University of New Haven
Location: U-Club (95 Upper College Rd)

[Poster-UG-565] Salt Water Vegetation
Mason Machado, Mark Brodeur, Trevor Morin, Joseph Santacroce (Wentworth Institute of Technology)

[Poster-UG-393] Securing Web Services with IP Traceback
Ana Carolina Trino de Carvalho, Daniel Barron, Yannie Bai (Roger Williams University)

[Poster-UG-247] Self-Healing Coatings for Steel-Reinforced Infrastructure
Matthew Carpenter, Ryan Loucks (Worcester Polytechnic Institute)

[Poster-UG-405] Senior Design: Image Based Population Counter
Paul Elias Boulos (Wentworth Institute of Technology)

[Poster-UG-327] Slow Sand Filter with Biochar Filter
Emily Elizabeth Link Carrillo (Providence College)

[Poster-UG-476] Small Handheld Metal Detector
Brandon James Wagner, Marquise Huie (University of Hartford)

[Poster-UG-107] Storm Water System Redesign of Coast Guard Base
Wes Fortna, Jordan Converse, Joe Rizzardi, Jordan Groff (U.S. Coast Guard Academy)

[Poster-UG-571] Tabletop Micro-Patterning Device
Ryan Brown (Fairfield University)

[Poster-UG-220] Temperature profile of a human waste digester
Cayla Stifler, Stephen Mecca (Providence College)

[Poster-UG-457] The Design and Construction of a Low-Speed Closed-Return Wind Tunnel with Modular Sections
Michael Albert Choiniere, Marrissa Caskin, Jordan Hall (University of Maine)

Kelsey Cintorino, Alexander Stein, Jacob Whaley, Colleen Munroe, Matthew Stein, Benjamin D. McPherson (Roger Williams University)
FRIDAY, APRIL 29
POSTER SESSION: Undergraduate Student Posters - 9:00 AM - 12:45 PM
Track and Session Chair: Dr. Lina A. Riley, University of New Haven
Location: U-Club (95 Upper College Rd)

Laura Elizabeth Corvese, Mitchell Contente, Cody McMillian, Gilbert Resto (University of Rhode Island)

Kristen Laird, Josef Shahbazian (Bunker Hill Community College)

[Poster-UG-305] Understanding Stories through Artificial Intelligence
Evan John Boliakis (Fairfield University)

[Poster-UG-623] UPLOAD -- Unmanned Precision-Landing Ocean Aerial-Delivery
Joseph Albanese, Adam Bowen, Alexander Desilets, Shane Fairbrother, Jason Pjojian (University of Rhode Island)

[Poster-UG-575] Uri Mini Baja Sae Competition 4 Wheeled Off Road Vehicle
Austin Blais, Andrew Dubay, Lucas Hanson, Tim Nowicki, Jason Dides, Mike Benoit (University of Rhode Island)

[Poster-UG-503] U.S. Coast Guard Sector San Francisco Sanitary Sewer Analysis and Design
John W Keiffer, Holden Takahashi, Thomas Porzillo, Christian Lee (U.S. Coast Guard Academy)

Sultan Mahfouz, Ali Alzamanan (University of Hartford)

Yazeed Mohammed Alotaibi, Wael Alanazi, Ibrahim Alfaris, Saleh Alrashed (University of Bridgeport)

[Poster-UG-296] Warren - East Bay Bike Path Connection Feasibility Study
Blake Hudson, Robert Angelo, Jon Belmore, Amanda Tavares, Mat Tavares (Roger Williams University)

[Poster-UG-472] WASH (Water Sanitation and Hygiene) + Energy system
Andrew DePerro, Michael Cudak, James Cunningham, Bridget McFadden, Liam Reilly, Connor Barrett (Providence College)
FRIDAY, APRIL 29
POSTER SESSION: Undergraduate Student Posters - 9:00 AM - 12:45 PM
Track and Session Chair: Dr. Lina A. Riley, University of New Haven
Location: U-Club (95 Upper College Rd)

[Poster-UG-517] WASH (Water Sanitation and Hygiene) + Energy system
Andrew DePerro (Providence College)

Howard Burpee, Hamza Tirida, ZiWang, Rabeeh Majidi, Ali Kiapour, Chen-Hsiang Yu
(Wentworth Institute of Technology)

Joseph Furdon, Jeremiah Holbrook, Max Gutierrez, Lucas Hohl-Marchetta, Brenno Ribeiro, Anthony Butera (University of Rhode Island)

Bader Alanazi (University of Bridgeport)

Egnon D. Locoh (Fairfield University)
**FRIDAY, APRIL 29**

**POSTER SESSION: Graduate Student Posters - 9:00 AM - 12:45 PM**

Track Chair: Dr. Nicole Martino, Roger Williams University  
Session Chair: Dr. Paul Crilly, U.S. Coast Guard Academy  
Location: Alumni Center

| Poster-G-340 | A New Approach for Detecting of Selective Forwarding Attack over WSN  
Naser Alajmi, Khaled Elleithy (University of Bridgeport) |
|---|---|
| Poster-G-432 | A Novel Mechanism for Cheiloscopy Authentication Using Bio-hashing Technique  
Shakour A. Abuzneid, Mohan Raju Anga (University of Bridgeport) |
| Poster-G-636 | A PEG-Based Hydrogel Bioink for Layer-by-Layer 3D Tissue Engineering Technique  
Moudley Louis-Jean (University of Bridgeport) |
| Poster-G-590 | A review of self-assembly materials  
Weibin Ye (University of Bridgeport) |
| Poster-G-603 | Analysis of Hypervisors in Virtualized Servers  
Sai Madhav Perumalla, Ananthi Selvamani, Narender Rayala, Vamshi Perumalla, Jagadeesh Battula, Omar Abuzaghleh (University of Bridgeport) |
| Poster-G-455 | Analysis of the structural evolution of Graphene-CNT-Polypyrrole nanocomposite.  
Maitri Kamlesh Jariwala (University of Bridgeport) |
| Poster-G-260 | Analyze MapReduce and HiveQL on Amazon Cluster EC2  
Utkarsh S. Parekh (University of Bridgeport) |
| Poster-G-377 | Are continuous or batch reactors the best tool to assess inhibition of nanoparticles on E. coli?  
Nelson M. Anaya, Fatemeh Faghihzadeh, Vinka Oyanadel-Craver, Geoff Bothun, Nasim Ganji (University of Rhode Island) |
| Poster-G-255 | Automatic Guided Robot  
Ketki Haridas Taware, Navarun Gupta (University of Bridgeport) |
| Poster-G-431 | Autonomic Future Internet  
Hitaishi Kasinath, Kislay Jha, Megha Thanvi Turlapati, Anudeep Gulla, Madhumita Gaat, Omar Abuzaghleh (University of Bridgeport) |
FRIDAY, APRIL 29
POSTER SESSION: Graduate Student Posters - 9:00 AM - 12:45 PM
Track Chair: Dr. Nicole Martino, Roger Williams University
Session Chair: Dr. Paul Crilly, U.S. Coast Guard Academy
Location: Alumni Center

[Poster-G-364] Bedridden Patient Lift Assist Robot (BePLAR)
Bhawna Shiwani, Dikshya Swain, Nikhil Kamalkumar Advani (Worcester Polytechnic Institute)

Peiqiao Wu (University of Bridgeport)

[Poster-G-435] Bioprinting Using Dual Injection Multi-Dimensional Embedding Of Hydrogels
Steven Falzerano, Amer Khamaiseh (University of Bridgeport)

[Poster-G-442] Chirality based separation of Carbon nanotubes by analyzing the specific interaction with the AMB-1 flagellin derived tri-peptide
Shrishti Sing, Isaac Macwan, Prabir Patra (University of Bridgeport)

[Poster-G-418] Comparative Study of Data Mining techniques to predict the credit card fraud detection
Utkarsh S. Parekh (University of Bridgeport)

Sri Lakshmip Priya Pedapati (University of Bridgeport)

[Poster-G-279] COMSOL Simulation of Fluid-structure Interaction of a Four-blade Active Microfluidic Mixer
Ting Li, Xingguo Xiong, Prabir Patra (University of Bridgeport)

Elyas Saleh Alhazmi, Zhiyu Zhu, Lenfing Zhang (University of Bridgeport)

[Poster-G-446] Design and Implementation of Dynamically Configured Multi-port Cache Memory employing new DMP Technique
Akshit Jain, Abhishek Krishna (University of Bridgeport)

[Poster-G-486] Design and Simulation of a 4-bit Multiplier Using Quantum-dot Cellular Automata
Mehak Jaswal (University of Bridgeport)

[Poster-G-522] Design And Simulation Of Multiple Filament Extrusion System
Ibrahim Shehadeh (University of Bridgeport)
FRIDAY, APRIL 29
POSTER SESSION: Graduate Student Posters - 9:00 AM - 12:45 PM
Track Chair: Dr. Nicole Martino, Roger Williams University
Session Chair: Dr. Paul Crilly, U.S. Coast Guard Academy
Location: Alumni Center

[Poster-G-467]  Design of a 4X4 Pipelined QCA Multiplier
Mingwei Jin, Xinguo Xiong (University of Bridgeport)

[Poster-G-454]  Design of a Piezoelectric Micromotor for Microrobot Application
Xuan Zhang, Xinguo Xiong (University of Bridgeport)

[Poster-G-644]  Design of an Ionization-based Portable PM2.5 Air Quality Sensor
Zhong Deng (University of Bridgeport)

[Poster-G-447]  Detecting and Defending Against DoS Attacks in Various Networks
Phaneendra Atmakuru, Krishna Sagar Biradawada, Sandeep Kumar Darla, Bala Rohit Reddy Gurivireddy, Bhargav Ram Mutukul, Omar Abuzaghleh (University of Bridgeport)

[Poster-G-643]  Device to Device Communication Using Cellular Networks
Chandra Sekhar Koneru, Mirza Mustafa Ali Baig, Srinivas Nalluri, Manoj Balla, Nihal Bayya, Omar Abuzaghleh (University of Bridgeport)

[Poster-G-366]  Direct Write of Micro-Circuitry via Capillary Focusing
Ryan Mocadlo (Worcester Polytechnic Institute)

[Poster-G-410]  Directed Self-Assembly Of Magnetite Through Electrospinning With Potential Applications In Nanopatterning
Kamila Aikebaier, Isaac Macwan, Prabir Patra (University of Bridgeport)

[Poster-G-404]  Electrically Controlled Drug Release using Graphene Based Hydrogels
Kimiya Zafar, Azeez Ojo, Isaac Macwan, Prabir Patra (University of Bridgeport)

[Poster-G-225]  Electrospun Separators for Structural Battery Applications
Wisawat Keaswejjareansuk, Jianyu Liang, Xiang Wang (Worcester Polytechnic Institute)

Adwan Alanazi, Khaled Elleithy (University of Bridgeport)
FRIDAY, APRIL 29
POSTER SESSION: Graduate Student Posters - 9:00 AM - 12:45 PM
Track Chair: Dr. Nicole Martino, Roger Williams University
Session Chair: Dr. Paul Crilly, U.S. Coast Guard Academy
Location: Alumni Center

[Poster-G-300] Energy-Efficient Dynamic Motion Control for Wheeled Mobile Robots Using Low Cost Resources
Abrar Alajlan, Khaled Elleithy, Marwah Almasri (University of Bridgeport)

[Poster-G-369] Epilepsy Seizure Detection Using EEG Signals
Zakareya Laserf, Raghavendra Sai Shiva Ayyalasomayajula Venkata, Khaled Elleithy (University of Bridgeport)

[Poster-G-390] Evaluation of the bacterial removal efficiency of several different silver nanoparticle species when used conjunction with ceramic water filters
Ryan K. Sullivan, Vinka Oyanedel-Craver (University of Rhode Island)

Alexander Kotelsky, Mark R Buckley, Barbara Masi (University of Rochester)

[Poster-G-502] Flu Trend Prediction Using Social Media Network Data
Ali Al Essa, Miad Faezipour, Jeongkyu Lee, Gopala Duggina (University of Bridgeport)

[Poster-G-283] Fourier transform infrared spectroscopy to assess molecular-level changes of bacteria exposed to silver nanoparticles
Fateme Faghihzadeh, Vinka Oyanedel-Craver, Laura Arabella Schifman, Nelson Martin Anaya (University of Rhode Island)

[Poster-G-444] FPGA based magnetic field control for guiding Magnetotactic bacteria
Marvin Xavier Selvan, Issac Macwan, Prabir Patra (University of Bridgeport)

[Poster-G-259] Fuzzy Logic Control for Autonomous Mobile Robots in Static and Dynamic Environments
Marwah Almasri, Khaled Elleithy, Abrar Alajlan (University of Bridgeport)

[Poster-G-443] Gait balance detection and analysis with smart phone application
Prithi Laxminarayana Donthula, Lavanya Vuligonda (University of Bridgeport)

[Poster-G-414] Gold Nanoparticles And Sirna Complex For Targeted Drug Delivery
Rupesh Srinivasal, Isaac Macwan, and Prabir Patra (University of Bridgeport)
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<td>Poster-G-568</td>
<td>GPS Based Attitude Determination And Verification Using A Serial Robotic Arm</td>
<td>Kishore Thota, Almat Raskaliyev (University of Bridgeport)</td>
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<td>Poster-G-266</td>
<td>Graphene Oxide-Polypyrrole Scaffolds To Promote Differentiation Of Embryonic Stem Cells Into Dopaminergic Neurons</td>
<td>Osama Alturkistani, Prabir Patra, Isaac Macwan, Ashish Aphale (University of Bridgeport)</td>
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<td>Poster-G-412</td>
<td>Graphene Semiconductor Field Effect Transistor</td>
<td>Manoj Kumar Manimaran (University of Bridgeport)</td>
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<td>Poster-G-313</td>
<td>Hybrid Evolutionary Framework for Designing and Implementing Autonomous Modular Robotics</td>
<td>Reem Alattas, Tarek Sobh (University of Bridgeport)</td>
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<td>IICONN Online Management System</td>
<td>Nurtai Lamie, Sai Krishna Kolanupaka, Sohail Syed, Brian Sutton (Fairfield University)</td>
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<td>Poster-G-297</td>
<td>Impact of TCP throughput and Loss behaviour in Multi hop Wireless Network</td>
<td>Neha Panugani, Yeqing Chen, Andre Robert Dusabirane, Neeraj Ram Motaparthy, Srinivas Praveen Gudhi, Omar Abuzaghleh (University of Bridgeport)</td>
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<td>Poster-G-439</td>
<td>Influence Of Graphene On Pcl Scaffold For Tissue Engineering Applications</td>
<td>Guruvel Raja Veluchamy Murugeshan, Prabir Patra, Sheila Berna, Issac Macwan (University of Bridgeport)</td>
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<td>Poster-G-473</td>
<td>Integration of SDN and NFV with Next Generation Networks</td>
<td>Hemanth Swamy, Ashwitha Thokala, Shashikumar, Amir Esmailpour (University of New Haven)</td>
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<td>Poster-G-271</td>
<td>Intelligent Docent Quadcopter</td>
<td>Smit Doshi (University of Bridgeport)</td>
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<td>Poster-G-276</td>
<td>Low Cost, Portable Non-Invasive Blood Sugar Detection</td>
<td>Chandrasekhar Babu Kamineni, Abhishek Krishna (University of Bridgeport)</td>
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Arwa Balobaid, Praveena Mareedu, Ramya Sripati (Fairfield University)

[Poster-G-332] MarkLogic DB - NoSQL Database
FNU Aashi Rastogi, Sanket Vinodchandra Patel (University of Bridgeport)

[Poster-G-268] Misuse Wireless Intrusion Detection System Based on Voting Technique
Bandar Alotaibi, Khaled Elleithy (University of Bridgeport)

[Poster-G-331] Movie Management System Using ArangoDB
Umang T Patel (University of Bridgeport)

[Poster-G-223] Neurobiological Based Navigation Maps Created During the SLAM Process of a Mobile Robot
Peter Zeno (University of Bridgeport)

Alan Eskandar, Junling Hu (University of Bridgeport)

[Poster-G-407] Office Automation System for LifeBridge Community Services
Richard W Paredes Cortijo, Spoorthi Raghunandan Pattaparla, Ravikiran Kondeti, Jayanth Murukonda (Fairfield University)

[Poster-G-401] Online Volunteer and Event Management System for Neighbors Link Stamford
Akaash Raj Athikam, Sameer Shaik, Praveen Alluri, Phong Do (Fairfield University)

[Poster-G-288] Plastic to fuel conversion kit
Soumya Jahagirdar, Aashish Kulkarni, Manasa Bhaskarayuni, Norman Tremblay (Fairfield University)

[Poster-G-319] Predicting Stock Price with Twitter Data Using Data Mining Techniques
Umang T. Patel (University of Bridgeport)

[Poster-G-484] Preliminary Design of a Wall Climbing Robot
Yong Zhu, Majed Hotami (Wilkes University)
[Poster-G-187] Qkd Initiated By Authentication Of Epr In 3 Way Channel
Abdulbast Abushgra (University of Bridgeport)

[Poster-G-262] Quantum Mutual Authentication Scheme Based on Bell State Measurement
Muneer Alshowkan, Khaled Elleithy (University of Bridgeport)

Neeraj Joshi, Syed Zain Hassan Zaidi, Mohamed Ben Haj Frej (University of Bridgeport)

[Poster-G-558] Resource allocation in device to device communication using cellular networks
Swetha Krishnamurthy Rao, Mounika Vasireddy, Naga Pallavikowtha, Anushaponnam, Naga Srinivas Boyapati, Omar Abuzaghleh (University of Bridgeport)

[Poster-G-131] Saliva Glucose Sensor
Anugnya Parvathgari (University of Bridgeport)

[Poster-G-449] Structural Analysis and Design of the Frame of a Desktop 3D Printer
Yi Tan, Yazhou Liu, Junling (Joyce) Hu (University of Bridgeport)

[Poster-G-249] The Access control system design
Zheng Duan (University of Bridgeport)

Taleb H Al-theanat, Aymen Elpizra (University of Bridgeport)

[Poster-G-384] The Testing Of A Carbon Foam Lead Acid Battery
Sai Praveen Kolli, Linfeng Zhang (University of Bridgeport)

[Poster-G-382] Transparent Touch Screen for Next-generation Interactive Display
Essa Alharbi, Matheus Lima, Ce Zheng, Xingguo Xiong (University of Bridgeport)

[Poster-G-330] Use of data mining techniques for the analysis of consumers’ electricity consumption over a year in particular region
Swapnil Krishnachandra Savale (University of Bridgeport)
FRIDAY, APRIL 29
POSTER SESSION: Graduate Student Posters - 9:00 AM - 12:45 PM
Track Chair: Dr. Nicole Martino, Roger Williams University
Session Chair: Dr. Paul Crilly, U.S. Coast Guard Academy
Location: Alumni Center

Mashal Alenazi, Hassan Bajwa (University of Bridgeport)

Swapnil Krishnachandra Savale (University of Bridgeport)
FRIDAY, APRIL 29
Effective Teaching Workshop - 1:00 - 4:30 PM
Workshop Organizers: Dr. Grant Crawford, P.E. and Dr. Mary Phillips
Location: Kirk Perdikakis Conference Room
Fee: $40

This three-hour, interactive workshop focuses on the fundamentals of effective teaching and is geared towards new faculty members or those wishing to review the foundations of their craft. It features seminars on how students learn and the characteristics of the effective teacher. The seminars are grounded on Richard Felder’s theory of learning styles and Joseph Lowman’s model of effective teaching. The workshop concludes with an overview of proven strategies, techniques, and resources that participants can use to increase their classroom effectiveness.

FRIDAY, APRIL 29
Undergraduate Research Workshop - 1:00 - 2:45 PM
Workshop Organizer: Dr. Stephen Mecca, Providence College
Location: Bliss 305

The workshop will feature a panel of speakers and facilitators addressing both models of established undergraduate research programs and issues facing faculty members seeking to get an undergraduate research program underway. Attendees will participate in small problem solving teams to address significant questions from sustaining or growing established programs to starting one from scratch. If you are struggling with issues such as supporting an undergraduate research program, credit versus non-credit experiences, expectations, the impact of such programs on your students, workload considerations, time commitments, institutional and external support, this is a must attend program.

The facilitators in the Undergraduate Research Workshop session are:

- Dr. Toby Cumberbatch, Professor, Albert Nerken School of Engineering, Cooper Union
- Dr. Robert Camp, Assistant Professor, Engineering, Massachusetts Maritime Academy
- Colin MacDonagh, MS, Program Engineering, CPI Aero in New York
- Dr. Stephen Mecca, Professor, Department of Engineering-Physics-Systems, S-Lab, Providence College
Invited Presentation: Preparing for the Future: Update on Proposed Revisions to ABET Engineering Criteria

Speaker: Dr. John A. Orr, Vice Chair of the ABET Engineering Accreditation Commission, Professor of Electrical and Computer Engineering, Worcester Polytechnic Institute

Speaker Bio: John A. Orr is Professor of Electrical and Computer Engineering at Worcester Polytechnic Institute. He served as Provost of WPI from 2007 through 2010 and prior to this he held the positions of Dean of Undergraduate Studies and head of the Electrical and Computer Engineering Department. Dr. Orr received the BS and PhD degrees in Electrical Engineering from the University of Illinois, Urbana-Champaign, and the MS degree in Electrical Engineering from Stanford University. He began his career at Bell Laboratories and joined WPI in 1977. Dr. Orr’s research interests span several aspects of communications and digital signal processing, including applications to the smart grid and power quality. His other professional interests are in the areas of engineering education and sustainability. Dr. Orr is Vice Chair of the ABET Engineering Accreditation Commission and an ABET-EAC team chair. He is a Fellow of the IEEE and of the American Society for Engineering Education, and past president of IEEE-HKN, the electrical and computer engineering academic honor society and of ECEDHA, the ECE Department Heads’ Association.

Abstract:
The ABET Engineering Accreditation Commission has proposed changes to Criteria 3 (Student Outcomes) and 5 (Curriculum). These proposals represent the most significant changes to the criteria since the adoption of EC2000. This presentation will review the history, rationale, timetable, and scope of the proposed changes. A discussion period will include consideration of the impact on a program’s preparation for an ABET visit under the new criteria.

[ABET-127] ABET Preparation and Review Process at Queensborough Community College
Marvin Gayle, Danny Mangra, Johnbuoncora (Queensborough Community College)

[ABET-128] One Small Step Towards the ETAC/ABET Accreditation: An Approach to Assess Professional and Ethical Responsibilities and Respect For Diversity In An Engineering Technology Program
Benito Mendoza, Farrukh Zia, Xiaohaili (New York City College of Technology)

John Andrew Orr (Worcester Polytechnic Institute)

[ABET-114] Systematic Approach to ABET Criterion 4: Continuous Improvement
Elizabeth (Elisha) MH Garcia, Michael J. Corl, Thomas W. Denucci (U.S. Coast Guard Academy)
FRIDAY, APRIL 29
Simulation Workshop featuring Abaqus® FEA and Topology Optimization
1:00 - 4:30 PM
Workshop Organizer: Dick Rotelli and Dimitri Soteropoulos of Dassault Systemes SIMULIA
Location: Wales 225

Learn how computer-based Engineering Simulation is driving innovation, and why Simulation is a key technology for today’s engineering students to know. This workshop will include: 1. An overview of modern simulation technology, including Finite Element Analysis (FEA), with many industry examples of the value it provides in today’s design process. 2. An introduction to the simulation software products from Dassault Systemes SIMULIA that are available to Academia for education and research. 3. A hands-on workshop, using the Abaqus® FEA software, taking a SolidWorks® CAD part though structural analysis and then topology optimization to yield a non-intuitive re-design. Attendees will be able to setup, solve, and view results all within the given time frame. Note: Part 3 above is limited to 35 participants.
FRIDAY, APRIL 29
Matlab Workshops: Part 1: MATLAB for Life Scientists and Engineers
Part 2: Deep Learning for Image Processing & Computer Vision
1:00 - 4:30 PM
Workshop Organizer: Adam Barber & Johanna Pingel, Mathworks
Location: Wales 225

Part 1: MATLAB for Life Scientists and Engineers
1:00 – 2:00pm

MATLAB provides a flexible environment for teaching and research in a wide range of life science applications, including signal processing and image processing, math and optimization, statistics and data analysis and computational biology. We will provide an overview of MATLAB as a flexible and powerful tool for data analysis and visualization. Highlights include:
• Access data from many sources (files, other software, hardware, etc.)
• Use interactive tools for iterative exploration, design, and problem solving
• Automate and capture your work in easy-to-write scripts and programs
• Share your results with others by automatically creating reports
• Build and deploy GUI-based applications

Part 2: Deep Learning for Image Processing & Computer Vision
2:10-4:30pm

Deep learning is a machine learning technique that can learn useful representations or features directly from data, images, text and sound. Deep learning models can achieve state-of-the-art accuracy, sometimes exceeding human-level performance in object classification. In this session, we will discuss typical object detection and object recognition workflows using MATLAB & deep learning techniques.

Highlights include:

• Accessing and managing large sets of images
• Leveraging the use of pre-trained networks for feature extraction
• Using standard computer vision techniques to augment the use of deep learning
• Speeding up the training process using GPUs and Parallel Computing Toolbox
FRIDAY, APRIL 29
International Engineering Education Workshop - 3:00 - 4:30 PM
Workshop Organizer: Dr. Sigrid Berka, University of Rhode Island
Location: IEP House

Internationalizing Engineering Education: Best Practices

The University of Rhode Island International Engineering Program is a five-year curriculum leading simultaneously to degrees in an engineering field (BS) and a foreign language (BA), which includes both a semester of study and a six-month professional internship abroad. The IEP also offers opportunities for joint global research through its dual degree masters programs. The mission of the URI International Engineering Program is to produce bilingual, cross-culturally competent engineers for successful careers in the global workplace. The workshop will address the rationale for integrating a study with an internship component in this program, successful cooperation across the disciplines between engineering and the languages, key strategies in sourcing internships in Asia, Europe and Latin America, best practices in sustaining corporate relationships, as well as strategies of securing outside funding from corporations, private donors and foundations. Speakers:

- Sigrid Berka, Executive Director International Engineering Program: “Rationale for a five-year dual degree international engineering program”
- 5th year German IEP student: “Impact of the year abroad in Germany on my life and career path”
- Silke Scholz, Director Spanish IEP: “Leveraging local corporate partners for internships abroad”
- 5th yr Spanish IEP student: Impact of the year abroad in Spain/Mexico on my life and career path
- Steven Wojciechowski, IEP alum ’93 currently working at Hexagon Intelligent Automation, Quonset, RI: “Benefits for Industry”
- Michelangelo LaLuna, Director Italian IEP: “Launching the Italian IEP – Developing university agreements, corporate network, and scholarship funds for the IIEP.”
The panel will discuss several initiatives to improve diversity, recruitment, retention and inclusion in engineering and STEM. Although we strive to attract students from historically under-represented groups, namely African American, Hispanic American, and Native American; our programs are open to all. The question is what is the key to a successful graduation of under-represented minority students? It is because of this question that colleges and universities across the country have adopted minority engineering program initiatives to advance engineering, STEM learning, discovery and engagement through outreach, recruitment, and retention of historically underrepresented students in their pursuit to become scholars. The workshop will feature a panel of speakers addressing the focal point within their colleges for diversity, and for working with underrepresented student groups at various levels. In addition, how they are actively involved in recruitment activities with high schools and middle schools throughout the Northeast while actively engaged in attracting, retaining and graduating the very best African American, Native American, Hispanic/Latino and Women from across the United States and internationally.

[DEE-73] Closing the Achievement Gap In STEM: a Two-Year Reform Effort at Brown University
Kyle Trenshaw, David Targan, James Valles (Brown University)

[DEE-126] Inclusivity In Engineering Education With LGBTQA Outreach
David McLaughlin, Paula Hodecker (University of Massachusetts at Amherst), Frances Harackiewicz (Southern Illinois University Carbondale)

Richard Harris | Assistant Dean for Academic Scholarship, Mentoring & Outreach Director of NUPRIME, Northeastern University

Aida Ghiaei Director, Graduate Outreach & Diversity Engineering Dean’s Office University of Connecticut Storrs
FRIDAY, APRIL 29
Student Papers 1 - 1:00 - 2:45 PM
Track Chair: Dr. Gretchen Macht, University of Rhode Island
Session Chair: Dr. Tooran Emami, U.S. Coast Guard Academy
Location: Crawford 221

Mark Orville Davis, Mehrdaad Ghorashi (University of Southern Maine)

[SP-111] Arm Mounted Exoskeleton to Mechanically Assist Activities of Daily Living
Katelyn Sue Jobes, Marcus J Bernier, Shawn L Dryer, Douglas E Dow (Oakland University)

[SP-62] Automated and High Speed Mechanical System for Assembling of Two Plates in Automobile Industry
Ajinkya Vivek Shah (University of Bridgeport)

[SP-63] Automated Mechanical System for loading & feeding two machined plates for assembly & rotating by 90° in Automobile Industry
Adhish Vijaykumar Umranikar (University of Bridgeport)

[SP-134] College Settings That Promote Innovation and Entrepreneurship -- a Comparative Case Study
Jonathan Spiegel, Amanda L. Becker, Judy Randi, Ed.D., Maria–Isabel Carnasciali, Ph.D. (University of New Haven)

[SP-163] Design and development of a near space Robotic Monkey
Rishi Gopal Warkoar (University of Bridgeport)

[SP-149] Efficient Design of Carry Look Ahead Adder Consuming CMOS Low Power Logic Strategies with Power Calculation Estimation
Suparshya Babu Sukhavasi, Susrutha Babu Sukhavasi, Dr. Navarun Gupta (University of Bridgeport)
FRIDAY, APRIL 29
Student Papers 2 - 1:00 - 2:45 PM
Track Chair: Dr. Gretchen Macht, University of Rhode Island
Session Chair: Dr. Gretchen Macht, University of Rhode Island
Location: Wales 226

[SP-132] High Level Implementation and Framework of a Novel Algorithm for Prescriptive, Predictive and Preventive Analysis of Personality Data
Muhammad Fahim Uddin, Jeongkyu Lee (University of Bridgeport)

[SP-141] Image processing tasks applied to robot vision system and path discovery
Italo Guedes Almeida Silva, Rafael Custodio Cejas (University of Bridgeport)

[SP-148] Implementation and Delay Estimation of Concurrent Error Detection Arithmetic Adders Using Hardware Redundancy Based on Dual Rail Encoding
Susrutha Babu Sukhavasi, Suparshya Babu Sukhavasi, Dr. Navarun Gupta (University of Bridgeport)

[SP-104] Monitoring Muscular Activity For Therapeutic Applications and Effectiveness to Encourage Patient Compliance
John C. Collins, Jordan E. Williams, Danielle M. Harrod, Douglas E. Dow (Wentworth Institute of Technology)

[SP-109] Portable Smart Door Lock
Hussain F. Alsaif, Mohammed A. Almaghrabi, Douglas E. Dow (Wentworth Institute of Technology)

[SP-108] Prescription Filling Pill Counter
Tyler M. Boudrias, Nathaniel F. Schwartz, Yousef Hanna, and Douglas E. Dow (Wentworth Institute of Technology)

[SP-61] Propose & Design an Automated Mechanical System for Capping and Water Level Measurement of Water Bottle
Abhinay Suhas Todmal (University of Bridgeport)
**FRIDAY, APRIL 29**

**Student Papers 3 - 3:00 - 4:30 PM**

*Track Chair: Dr. Gretchen Macht, University of Rhode Island*

*Session Chair: Dr. Gretchen Macht, University of Rhode Island*

*Location: Wales 226*

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<thead>
<tr>
<th>Session Code</th>
<th>Title</th>
<th>Authors</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>[SP-11]</td>
<td>Renewable Energy Generation from Frequent Human Activity</td>
<td>Bala Maheswaran, Matthew Bonanni, Peter Groen, Brian Liang, Owen Porth, Spencer Pozder</td>
<td>Northeastern University</td>
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<tr>
<td>[CD-494]</td>
<td>Pavement Design at Coast Guard Air Station Clearwater</td>
<td>Kimberlee Lynne Capp</td>
<td>U.S. Coast Guard Academy</td>
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FRIDAY, APRIL 29
Student Papers 4 - 3:00 - 4:30 PM
Track Chair: Dr. Gretchen Macht, University of Rhode Island
Session Chair: Dr. Tooran Emami, U.S. Coast Guard Academy
Location: Crawford 221

[SP-477] Vision-based Control of a Home Companion Robot
Yong Zhu, Islam Mohamad (Massachusetts Maritime Academy)

[SP-167] Utilizing Big Data Analytics to Improve Education Challenges, issues, opportunities and Future directions
Pooja Gupta, Annapoorna Manohar, Veena Priyanka Kaluvakolanu, Muhammad Fahim Uddin (University of Bridgeport)

[SP-106] Smart Ice Prevention System to Improve Effectiveness and Reduce Energy Cost
Alison M. Siegmann, Michael F. Algieri, Douglas E. Dow (Oakland University)

[SP-83] Resource Integration Gear: Neurological Testing for UI Design
Delson Jr Faria Da Silva, Joao Almeida, Joseph Shahbazian (Bunker Hill Community College)

[SP-499] Evaluation of Pavement Rehabilitated Stratigies on Rhode Island Route 165 And Prediction of Performance
Syed Amir Hassan (University of Rhode Island)

Aishwarya Mandalapa Bhoopathy, Steve Richard Ebenezer Amalorpavaraj, Vignesh Mandalapa Bhoopathy, Mohamed Ben Haj Frej (University of Bridgeport)
**Saturday, APRIL 30**

**Curricular Design and Innovation - 8:00 - 9:40 AM**

Track Chair: Dr. Bahram Nassersharif, University of Rhode Island
Session Chair: Dr. Linda Riley, University of New Haven
Location: Kirk Auditorium

[CDI-5]  Combating Ad hoc Fabrication in a Senior Level Mechatronics Course  
Matthew Stein (Roger Williams University)

[CDI-16]  Design and Implementation of a Reconfigurable Computing Course for Efficient Hardware/Software Co-Design in Reconfigurable Systems  
Daniel Llamocca (Oakland University)

Sangho Park (Central Connecticut State University)

[CDI-6]  Doing Community Engagement Projects in the Classroom  
Francis Hopcroft (Wentworth Institute of Technology)

Sriharsha Srinivas Sundaram (Fairfield University)
Saturday, APRIL 30
Other Topics in Engineering Education/Research 1 - 8:00 - 9:40 AM
Track Chair: Dr. Bahram Nassersharif, University of Rhode Island
Session Chair: Tooran Emami, U.S. Coast Guard Academy
Location: Wales 226

[OT-79] A New Framework for STEM Teacher Education in Urban Settings
Ioana A Badara, Buket Barkana, Maria Gherasimova, Navarun Gupta, Nelson Ngoh (University of Bridgeport)

[OT-173] Can We Use a Matlab Application to Improve Student Performance on Trigonometry of Complex Number Problem Solving?
Frank Caserta, Jr., James McCusker2, and Gloria Ma (Wentworth Institute of Technology)

[OT-64] Common Engineering Mistakes in the Analysis of Aquarium Fires
Navarun Gupta, Sarosh Patel, Lawrence V. Hmurcik (University of Bridgeport)

[OT-133] Rebuilding in the Floodplain: Revolutionizing engineering education through municipal infrastructure project
Tara Kulkarni (Norwich University)

Saturday, APRIL 30
Other Topics in Engineering Education/Research 2 - 10:00 - 11:40 AM
Track Chair: Dr. Bahram Nassersharif, University of Rhode Island
Session Chair: Tooran Emami, U.S. Coast Guard Academy
Location: Wales 226

[OT-146] Rise and Demise of a Startup Engineering Program at a Remote Location
Wilhelm A. Friess, Michael P Davis (University of Maine)

[OT-115] The AEC Employment Sector -- Are Mechanical Engineering Programs Dropping the Ball?
Jeffrey Mountain (Norwich University)

[OT-483] Workforce Development for meeting challenges of 21st century through Innovations in Engineering Education
Kanti Prasad (University of Massachusetts- Lowell)
Saturday, APRIL 30
Laboratory Development and Innovation 1 - 8:00 - 9:40 AM
Track and Session Chair: Dr. K. Wayne Lee, P.E., University of Rhode Island
Location: Bliss 305

[LDI-123] An Integrated Analytical, Simulation, and Experimental approach to the Laboratory Experiments
Basile Panoutsopoulos (Community College of Rhode Island)

[LDI-166] Biomedical Imaging course: Challenges and Solution
Joseph shahbazian, Premananda Indic, Krishnan Shankar Shankar (Wentworth Institute of Technology)

[LDI-170] DEVELOPMENT OF SOIL RESILIENT MODULUS TESTING SYSTEM FOR GREEN HIGHWAY
K. Wayne Lee (University of Rhode Island)

[LDI-8] Enhanced Learning - Combining MATLAB Simulation with Telecommunication Instructional Modeling in a Senior Level Communication Systems Course
Paul B. Crilly, Richard J. Hartnett (U.S. Coast Guard Academy)

Saturday, APRIL 30
Laboratory Development and Innovation 2 - 10:00 - 11:40 AM
Track and Session Chair: Dr. K. Wayne Lee, P.E., University of Rhode Island
Location: Bliss 305

[LDI-493] Incorporating Energy Related Concepts into EE and CS Laboratory Work and Coursework
Jack Adams, Christopher Stuetzle (Merrimack College)

[LDI-52] Interactive Software for Rendering Electromagnetic Fields: Structures and Algorithms
David S. Birkett (University of Bridgeport)
Saturday, APRIL 30
Undergraduate Research 1 - 8:00 - 9:40 AM
Track and Session Chair: Dr. Stephen Mecca, Providence College
Location: Wales 223

[UGR-155] 3D PRINTED DEXTEROUS PROSTHETIC FOOT STRUCTURE DESIGN
James V. Masi, Zachary Jon Stewart, Kevin Andrew Hutchens, David James Manzenberger, Matthew Adam Gordon (University of Southern Maine)

Benjamin David McPheron, Wesley C. Caruso, Kelsey M. Cintorino (Roger Williams University)

[UGR-77] A Static and Dynamic Study on Balance
James V. Masi, MacKenzie Sue Sullivan (University of Southern Maine)

Lisa C. Hix, James H. Kyle (Keene State College)

Peter Raymond Stupak (Raritan Valley Community College)

Saturday, APRIL 30
Undergraduate Research 2 - 10:00 - 11:40 AM
Track and Session Chair: Dr. Stephen Mecca, Providence College
Location: Wales 223

[UGR-98] Detecting Underwater Objects using Ultrasound
Benjamin David McPheron, Charles P. Flynn, Kevin Faria, Eissa A. Al-Uqaili, Mohammed A. Aldayel, Charles R. Thomas (Roger Williams University)

[UGR-492] Implementation of a Multi-band Equalizer in MATLAB and Simulink Using Algorithm Manipulation
Suhayb Alsaeedi, Jacob D. Whaley, Benjamin David McPheron, Wesley C. Caruso, Benjamin C. Fisk (Roger Williams University)

[UGR-97] Modeling a One and Two-Degree of Freedom Spring-Cart System
Benjamin David McPheron, Joseph D. Legris (Roger Williams University)

[UGR-100] Powerbuoy Design, Fabrication, and Efficiency
James V. Masi, Kristopher F Reed (University of Southern Maine)
Saturday, APRIL 30
Undergraduate Research 3 - 1:30 - 3:10 PM
Track and Session Chair:  Dr. Stephen Mecca, Providence College
Location: Wales 223

[UGR-76] Preparation, Properties, and Devices of Nano-Particulate Conductive and Dielectric Oxides via Chemical Co-precipitation
James V. Masi, Timothy Holt (University of Southern Maine)

[UGR-12] Simulation Model on Chaotic Asynchronous Transmitter and Receiver
Yilan Zhu, Andrew Fish (University of New Haven)

[UGR-139] The construction of a cosmic ray detector in an undergraduate research and technology institute project at a community college
Raul Armendariz, Tak David Cheung, Jose Lopez, Paul Harris, David Lieberman (Queensborough Community College)

[UGR-60] Translating a Digital Signal Modulation Synthesizer from LabVIEW to Simulink
Benjamin David McPheron, Drew M. Canfield, Kristi M. Perreault, Joseph D. Legris (Roger Williams University)

Saturday, APRIL 30
Online Engineering Education - 10:00 - 11:40 AM
Track and Session Chair:  Dr. David Taggart, University of Rhode Island
Location: Kirk Auditorium

[OEE-74] A Conceptual Framework for Online Course Teaching and Assessment in Construction Education
Namhun Lee (Central Connecticut State University)

[OEE-57] Implementing Online Content to Improve Learning in a Large Engineering Freshman Programming Course
David G. Taggart (University of Rhode Island)

[OEE-80] Lessons Learned Using Health Information Technology to Foster Student Interest in STEM Majors and Careers
Teresa C. Piliouras, Pui Lam Yu, Muzammil Pasha Maniyar, Liza Salloum, Robert J. Suss (Technical Consulting & Research)

[OEE-48] Progressing Online Teaching at the University by Assessing Online Courses
Talat Salama, Namhun Lee (Central Connecticut State University)
Saturday, APRIL 30
Teaching and Learning Techniques and Pedagogy 1 - 8:00 - 9:40 AM
Track and Session Chair: Dr. Benjamin McPheron, Roger Williams University
Location: Wales 224

[TLTP-66] Active Learning Approach for Enhanced Student Learning in Electromagnetic Compatibility Course
Uma Balaji, Douglas Lyon (Fairfield University)

[TLTP-461] Impact of Service Learning and New Teaching Methodologies on Students’ Learning Outcomes
Merlinda Drini (Queensborough Community College)

[TLTP-509] Increasing Engagement and Student Success in a Freshman Introductory Course
Antonella Pompo (Raritan Valley Community College)

[TLTP-113] Instructor-Developed Concept Map for a Survey Course
Elizabeth (Elisha) MH Garcia, Daniel H. Cost (U.S. Coast Guard Academy)

[TLTP-75] Using Stereoscopic Visualization to Support and Facilitate Student Spatial Skills in Construction Education
Namhun Lee, Sangho Park (Central Connecticut State University)

Saturday, APRIL 30
Teaching and Learning Techniques and Pedagogy 2 - 10:00 - 11:40 AM
Track and Session Chair: Dr. Benjamin McPheron, Roger Williams University
Location: Wales 224

[TLTP-543] Problem Solution: A Structured Approach
Basile Panoutsopoulos (Community College of Rhode Island)

[TLTP-145] The Impact of Music on Learning
Angel Ari Perez-Mejia, John Greenleaf, Kimberly DiGiovanni, Christopher Hakala (Quinnipiac University)

[TLTP-158] The Production of Science Comics To Improve Undergraduate Engineering Education
Lucas James Landherr (Northeastern University)

[TLTP-49] Training Civil Engineering Faculty on the use of AutoCAD Civil 3-D
Gautham P Das, Nakisa Alborz (Wentworth Institute of Technology)
Saturday, APRIL 30

Teaching and Learning Techniques and Pedagogy 3 - 1:30 - 3:10 PM
Track and Session Chair: Dr. Benjamin McPheron, Roger Williams University
Location: Wales 224

[TLTP-65] Teaching Robotics Through Self-Directed Learning (Or Is It The Other Way Around?)
Carlos Lück, Nathan Lareau (University of Southern Maine)

[TLTP-55] Making it Relevant: Using Research Articles to Teach Biomechanics
Jessica Dawn Ventura (Gordon College)

Saturday, APRIL 30

Assessment of Teaching and Learning - 1:30 - 3:10 PM
Track and Session Chair: Dr. George Veyera, University of Rhode Island
Location: Bliss 205

[ATL-30] Cooperative Educational Program Outcomes and its Correlation with Students: Academic Performance-A Case Study
Farzam Safarzadeh Maleki, Robert J. Camp, Gail M. Stephens (Massachusetts Maritime Academy)

[ATL-169] Developing an Evidence-based Education Tool to Support and Assess Student Analytical Skills in Electronics Engineering
Sangho Park, Deborah Zanella, Karen Tracey (Central Connecticut State University)

[ATL-53] Formative Homework Assessment Strategies to Promote Student Self-Reflection and Improve Time Management: A Pilot Study
Michael P. Davis, Wilhelm Alexander Friess (University of Southern Maine)

[ATL-10] Infusing Information Literacy into Civil Engineering Curricula
Hudson Jackson, Kassim Tarhini, Sharon Zelmanowitz (U.S. Coast Guard Academy)

[ATL-136] Read, Manipulate, and Write: A study of the role of these cumulative skills in learning computer programming
Laura Zavala (Medgar Evers College, City University of New York)
Saturday, APRIL 30

Capstone Design 1 - 1:30 - 3:30 PM
Track Chair: Dr. Bahram Nassersharif, University of Rhode Island
Session Chair: Dr. Linda Riley, University of New Haven
Location: Kirk Auditorium

[CD-INV] Invited Talk: Industry Perspectives on Capstone Design
Eric Carlson (Toray Plastics America, Inc.)

[CD-647] Working with Industry Partners on Capstone Design
Bahram Nassersharif (University of Rhode Island)

[CD-9] Dredge Spoils Management for Sustainable Support of U.S. Coast Guard Missions
Hudson Jackson, Erick Jackson, Bethany Gollin, Spencer Zwenger, Holly Moore, Kassim Tarhini (U.S. Coast Guard Academy)

[CD-58] Lab Scale Test System for a Brayton Cycle Engine
Lin Lin, Ryker Turcotte, David Stevens (University of Southern Maine)

Saturday, APRIL 30

Graduate Research - 1:30 - 3:10 PM
Track and Session Chair: Dr. Carl-Ernst Rousseau, P.E., University of Rhode Island
Location: Gilbreth 118

[GR-33] Enhancing the Quality of Service by Employing Swarm Intelligence in Multi Hop Heterogeneous Networks
Navarun Gupta, Ranvir Shinde, Vignesh Mandalapa Bhoopathy (University of Bridgeport)

[GR-42] NYC Taxi Trip and Fare Data Analytics using Big Data
Umang T. Patel (University of Bridgeport)

[GR-117] Optimized Occlusion-Free Viewpoint for Improving the Coverage in Wireless Multimedia Sensor Networks
Adwan Alanazi, Khaled Elleithy (University of Bridgeport)

[GR-118] Remote Attestation Scheme Using Camenisch et al.’s Dynamic Accumulator with Certificate Generation
Shakour A. Abuzneid (University of Bridgeport)
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<tr>
<th>Day</th>
<th>Time</th>
<th>Time Slot</th>
<th>Track</th>
<th>Description</th>
<th>Session Chair</th>
<th>Building</th>
<th>Room #</th>
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<tr>
<td>28-Apr</td>
<td>4:00-7:00 PM</td>
<td>Welcome Reception</td>
<td>Bahram Nassersharif</td>
<td>Alumni Center</td>
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<td>28-Apr</td>
<td>4:00-7:00 PM</td>
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<td>Bahram Nassersharif</td>
<td>Alumni Center</td>
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<td>29-Apr</td>
<td>7:30 AM - 12:45 PM</td>
<td>Registration</td>
<td>Bahram Nassersharif</td>
<td>Uclub &amp; Alumni Center</td>
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<td>29-Apr</td>
<td>8:00-10:00 AM</td>
<td>Continental Breakfast</td>
<td>Bahram Nassersharif</td>
<td>Uclub</td>
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<td>29-Apr</td>
<td>9:00 AM - 12:45 PM</td>
<td>UGSP Undergraduate Student Posters</td>
<td>Linda Riley</td>
<td>Uclub</td>
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<td>GSP Graduate Student Posters</td>
<td>Paul Crilly</td>
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<tr>
<td>29-Apr</td>
<td>9:00 AM - 1:00 PM</td>
<td>Career and Graduate Fair and Industry Exhibits</td>
<td>Bethanie Pinkus</td>
<td>Uclub &amp; Alumni Center</td>
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<td>29-Apr</td>
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<td>29-Apr</td>
<td>1:00 - 2:45 PM</td>
<td>A1 SPap1 Student Papers 1</td>
<td>Tooran Emami</td>
<td>Crawford 221</td>
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<td>29-Apr</td>
<td>1:00 - 2:45 PM</td>
<td>A1 SPap2 Student Papers 2</td>
<td>Gretchen Macht</td>
<td>Wales 205</td>
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<tr>
<td>29-Apr</td>
<td>1:00 - 2:45 PM</td>
<td>A1 WUG Undergraduate Research Workshop</td>
<td>Stephen Mecca</td>
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<td>A1 WABET ABET Workshop</td>
<td>Richard Vaccaro</td>
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<td>29-Apr</td>
<td>1:00 - 4:45 PM</td>
<td>A WEF Simulation Workshop featuring Abaqus® FEA</td>
<td>Dick Rotelli</td>
<td>Wales 225</td>
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<td>29-Apr</td>
<td>1:00 - 4:30 PM</td>
<td>A WMATH Workshop featuring Mathworks</td>
<td>Debbi Cohen</td>
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<td>29-Apr</td>
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<td>A WMP Simulation Workshop featuring COMSOL Multiphysics</td>
<td>Mian Qin</td>
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<td>Gretchen Macht</td>
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<td>Tooran Emami</td>
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<td>29-Apr</td>
<td>3:00-4:30 PM</td>
<td>A2 WRRD Workshop on Recruitment, Retention, and Diversity</td>
<td>Charles Watson</td>
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<td>29-Apr</td>
<td>3:00-4:30 PM</td>
<td>A2 WIEP Workshop on International Engineering Education</td>
<td>Sigrid Berka</td>
<td>IEP House</td>
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<td>29-Apr</td>
<td>4:00-5:00 PM</td>
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<td>Student Pizza Dinner, Awards Announcements, and Farewell to students not registered for remainder of conference</td>
<td>Jared Abdirlkin, Mayrai Gindy, Nicole Martino, Linda Riley, Gretchen Macht</td>
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<td>Conference Reception</td>
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<td>Conference Dinner, Awards and Keynote</td>
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<td>M1 LD1 Laboratory Development and Innovation</td>
<td>K. Wayne Lee</td>
<td>Bliss 305</td>
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<tr>
<td>30-Apr</td>
<td>8:00 - 9:40 AM</td>
<td>M1 OT1 Other Topics</td>
<td>Tooran Emami</td>
<td>Wales 226</td>
<td></td>
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<tr>
<td>30-Apr</td>
<td>8:00 - 9:40 AM</td>
<td>M1 TLTP1 Teaching and Learning Techniques and Pedagogy</td>
<td>Ben McPherson</td>
<td>Wales 224</td>
<td></td>
<td></td>
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<tr>
<td>30-Apr</td>
<td>8:00 - 9:40 AM</td>
<td>M1 UR1 Undergraduate Research</td>
<td>Stephen Mecca</td>
<td>Wales 223</td>
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<tr>
<td>30-Apr</td>
<td>9:40 - 10:00 AM</td>
<td>Coffee Break</td>
<td>Jen Cerullo</td>
<td>Kirk 122</td>
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<tr>
<td>30-Apr</td>
<td>10:00 - 11:40 AM</td>
<td>M2 OT2 Other Topics</td>
<td>Tooran Emami</td>
<td>Wales 226</td>
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<tr>
<td>30-Apr</td>
<td>10:00 - 11:40 AM</td>
<td>M2 TLTP Teaching and Learning Techniques and Pedagogy</td>
<td>Ben McPherson</td>
<td>Wales 224</td>
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<tr>
<td>30-Apr</td>
<td>10:00 - 11:40 AM</td>
<td>M2 OEE Online Engineering Education</td>
<td>David Taggart</td>
<td>Kirk 122</td>
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<tr>
<td>30-Apr</td>
<td>10:00 - 11:40 AM</td>
<td>M2 UR2 Undergraduate Research</td>
<td>Stephen Mecca</td>
<td>Wales 223</td>
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<tr>
<td>30-Apr</td>
<td>12:00 - 1:00 PM</td>
<td>Lunch Conference Lunch and ASEE NE Business Meeting</td>
<td>Bahram Nassersharif</td>
<td>Student Union Ballroom</td>
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<tr>
<td>30-Apr</td>
<td>1:30-3:10 PM</td>
<td>A1 ATL1 Assessment of Teaching and Learning</td>
<td>George Veyera</td>
<td>Bliss 205</td>
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<tr>
<td>30-Apr</td>
<td>1:30-3:10 PM</td>
<td>A1 CD1 Capstone Design</td>
<td>Linda Riley</td>
<td>Kirk 122</td>
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<td>30-Apr</td>
<td>1:30-3:10 PM</td>
<td>A1 TLTP Teaching and Learning Techniques and Pedagogy</td>
<td>Ben McPherson</td>
<td>Wales 224</td>
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<tr>
<td>30-Apr</td>
<td>1:30-3:10 PM</td>
<td>A1 UR3 Undergraduate Research</td>
<td>Stephen Mecca</td>
<td>Wales 223</td>
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<tr>
<td>30-Apr</td>
<td>1:30-3:10 PM</td>
<td>A1 GR1 Graduate Research</td>
<td>Carl-Ernst Rousseau</td>
<td>Gilbreth 118</td>
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</tr>
</tbody>
</table>
Conference Locations
### KINGSTON CAMPUS MAP BUILDING INDEX

#### Academic and Service Buildings
- 177 Plains Rd. (D1)
- 210 Flagg Rd. (A2)
- Adams House (C5)
- Administrative Services (B2)
- Agronomy Fields (B1)
- Alumni Center (C6)
- Athletic Maintenance Facility (B1)
- Automotive Garage (A2)
- Ballentine Hall, business administration (B5)
- Baseball Batting Barn (D1)
- Beaufre Center for Chemical and Forensic Sciences (A4)
- Bliss Hall, engineering (B5)
- Boss Arena (E1)
- Carlotti Administration Building (C4)
- Carothers Library and Learning Commons (B4)
- Catholic Center (B6)
- Center for Biotechnology and Life Sciences, environment and life sciences (A4)
- Central Receiving Warehouse (A1)
- Chafee Social Science Center, arts and sciences (A4)
- Child Development Center (E4)
- Christopher House (D4)
- Coastal Institute (A5)
- Crawford Hall (B5)
- Davis Hall (C4)
- Dining Services Distribution Center (A1)
- East Farm (off Rte. 108)
- East Hall (B5)
- Edwards Hall (C5)

#### Emergency Medical Services
- Station (EMS) (A1)
- Episcopal Center (E5)
- Fiscitelli Fitness and Wellness Center (C3)
- * Fernwood Building (Rte. 138 W.) (E1)
- Fine Arts Center (A6)
- Fire Station (B7)
- Fogarty Hall (D5)
- Gardner Crops Research Center (B1)
- Gender and Sexuality Center (E6)
- Gilbreth Hall (B5)
- Grandin IEP House (C6)
- Green Hall, enrollment services (C5)
- * Greenhouses (A5)
- Hart House (D6)
- Hillel (E3)
- * HRL Maintenance/Warehouse (B2)
- **Human Resource Building (C4)
- * Independence Square II (E1)
- * International Student Center (D5)
- * Keaney Gymnasium (C2)
- * Kelley Hall and Annex (B5)
- Kirk Applied Engineering Lab (B5)
- * Kirk Center for Advanced Technology (B5)
- Landscape and Grounds (A2)
- Lippitt Hall (B5)
- Macal Field House (D2)
- * Mallon Outreach Center (A5)
- * Meade Stadium (B2)
- Memorial Union (C4)
- Morrill Hall (D5)

#### Multicultural Center
- **Newman Hall, undergraduate admission (E6)
- * Niles Farmstead Cemetery (C2)
- Pastore Hall and Annex (D5)
- * Peckham Farm (E1)
- Pharmacy Building (A4)
- * Planetarium (B5)
- Police (University) (D6)
- Potter Building, health services (C3)
- **Public Safety, parking services (D4)
- Quinn Hall, human science and services, graduate admission (C5)
- * Ranger Hall (C5)
- * Research and Grant Accounting (C4)
- Rodman Hall (B4)
- Roosevelt Hall, *University College for Academic Success* (C4)
- Ryan Center (C2)
- Skogley Turf Research Center (B1)
- * Sherman Building (B1)
- Social Science Research Center (A4)
- * Storage (B1)
- Swan Hall (C5)
- * Taft Hall (B4)
- Texas Instruments House (TI) (C6)
- Tootell Physical Education Center (C2)
- * Transition Center (E4)
- Tucker House (C5)
- Tyler Hall (A5)

#### University Club
- **University Foundation (C6)
- Visitors Center (D6)
- * Wakefield House (B1)
- * Wales Hall (B5)
- * Washburn Hall (C5)
- Watson House (B4)
- West Kingston Research Center (Liberty Lane, off Rte. 138 W.)
- White Hall, nursing (A3)
- **Women's Center (E6)

#### Residential Buildings and Dining Halls
- * Adams Hall (D3)
- * Aldrich Hall (B3)
- Barlow Hall (D3)
- * Bressler Hall (D4)
- Browning Hall (C3)
- * Burnside Hall (B3)
- * Butterfield Hall (B3)
- * Coddington Hall (B3)
- * Dorr Hall (C3)
- Eddy Hall (C3)
- * Ellery Hall (C3)
- * Fayerweather Hall (C3)
- Garrahy Hall (A3)
- Gate House (D3)
- * Gorham Hall (C3)
- * Grandin IEP House (C6)
- * Heathman Hall (A3)
- * Hillside Hall (D4)
- Hope Commons (B3)
- * Hopkins Hall (C3)
- * Hutchinson Hall (C4)
- Merrow Hall (B3)
- Peck Hall (C3)
- * President's House (D5)

#### Texas Instruments House (TI) (C6)
- * Tucker Hall (B3)
- * University Gateway Apts. (E5)
- * University Graduate Village Apts. (E2)
- * Weldin Hall (D3)
- * Wiley Hall (A3)

#### Fraternities and Sororities
- * Alpha Delta Pi (E4)
- * Alpha Phi (D5)
- * Alpha Xi Delta (E3)
- * Chi Omega (E3)
- * Chi Phi (D3)
- * Delta Zeta (E3)
- * Lambda Chi Alpha (E7)
- * Phi Gamma Delta (B4)
- * Phi Sigma Delta (B4)
- * Sigma Chi (E3)
- * Sigma Delta Tau (E3)
- * Sigma Kappa (E3)
- * Sigma Phi Epsilon (E3)
- * Sigma Pi (E3)
- * Tau Epsilon Phi (D5)
- * Zeta Beta Tau (E3)
- * Zeta Tau Alpha (E3)

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* Unless marked by an asterisk, buildings are fully accessible.
* ** Public space is accessible.
* ** Limited or no access
* † Building construction or renovation

** URI is an equal opportunity employer committed to community, equity, and diversity and to the principles of affirmative action.**