i-ETC
Intermountain Engineering, Technology, & Computing

Utah Valley University, Orem, UT, USA

MAY 13-14
2022

Innovations & Solutions for Today's Challenges

Conference

Intermountain Engineering, Technology and Computing (i-ETC.org) Conference provides a forum for interaction among students, faculty, and industry. As contributors in the technology fields of engineering, technology, and computing, we join together to present research, product technology demonstrations, and advances in higher education.

Attendees will learn about current research, and industry best practices for digital product design, development, testing, deployment, and operation.

i-ETC is supported by Utah Valley University (UVU), Brigham Young University (BYU), University of Utah (U), Utah State University (USU), & a number of Utah's technology industries located along Silicon Slopes.

Sponsorships:
We welcome sponsoring donations from industry and academic institutions. In addition to recognition on the conference website, sponsors meeting minimum levels will be granted space in the conference area for a table or booth. For sponsorship information, please contact Stefan Harlan at **Stefan.Harlan@uvu.edu**

Conference Secretariat
● **ietc@uvu.edu**

Call for Papers

Prospective authors from universities, research institutions, government agencies and industry are invited to submit a full paper electronically (**http://i-etc.org**) with a maximum number of six pages.

Call for Papers Due Date
Full papers are due by January 31st, 2022.

Papers that are presented at i-ETC 2022 will be published in the i-ETC 2022 conference proceedings, and posted in the IEEE Xplore Digital Library.

Call for Posters
We invite undergraduate and graduate student researchers to participate in the student research poster competition. The best posters presented at the conference will receive nominal cash prizes. Abstracts of Posters are due April 1, 2022.

Abstracts of posters presented at the conference will be published in the i-ETC 2022 conference proceedings.

Panel Sessions/Tutorials and Technical Sessions
Prospective organizers of special sessions, panel sessions, tutorials sessions, and technical sessions are invited to submit their proposals by March 1, 2022.

Registration

One-Day	Student	Participant
$100	**$50**	**$150**
5/13-14/22	3/18/22	3/18/22
Industry Participants	Early Bird Registration	Early Bird Registration

Full participant registration fee is $200 ($150 early), and $80 per full-time student participant ($50 early), or one-day conference registration is available for industry participants at $100. Early bird registration deadline is March 18, 2022.

Accommodation
A limited number of rooms are available at Hampton Inn & Suites, Orem, Utah, at reduced rates.

Student Paper Awards and Travel Support
There will be over 10 student paper and poster awards. A number of partial travel grants are also available to full time students to attend/present a paper at i-ETC.

Conference Chair
Neil Harrison (UVU)
● **neil.harrison@uvu.edu**

Advisory Chair
Kazem Sohraby (UVU)
● **KSohraby@uvu.edu**

UVU UTAH VALLEY UNIVERSITY | BYU BRIGHAM YOUNG UNIVERSITY | THE UNIVERSITY OF UTAH | UtahState University | IEEE Advancing Technology for Humanity | IEEE Utah Section | IEEE PES Power & Energy Society Utah Chapter

ENGINEERING TRACK

Energy Systems
Smart Grid; Power Systems Operation & Planning; Sustainable & Renewable Energy Systems; Power Electronics; Electromechanical Energy Conversion & Storage; Energy Consumption Modeling & Optimization; Energy & Environmental Engineering.

Signal/Image Processing & Control
Smart Manufacturing & Automation Systems; Intelligent Robot Systems; Artificial Intelligence; Machine Learning & Neural Networks; Sustainable Manufacturing; Manufacturing Process Monitoring and Control.

Communication & Computer Engineering
5G and 6G wireless communication technologies, computer architecture & high-performance computing, VLSI & low-power design, robotic systems, Internet of Things (IOT).

Electronics & Circuits
Smart Circuits & Systems; VLSI Design; Nanomaterials & Nanotechnology; Optical Communication.

Mechanical Engineering
Heat Transfer; Fluid Mechanics; Thermodynamics; Mechanisms & Robotics; Mechanical Design; Mechanics & Mechatronics.

Material Science & Engineering
Smart Materials; Innovative Engineering Materials; Materials Design & Applications; Composite Materials Science & Technology; Nanomaterials; Materials & Manufacturing Engineering.

Civil & Environmental Engineering
Environmental Engineering; Water Resources; Water Resources; Hydrolic Information; Geotech, Water & Air Quality Studies; Instrumentation & Remote Sensing; Geographic Information Systems; Building Information Modeling; New Construction Materials; Sustainable Solutions and Practices; Transportation.

Capstone Projects/Undergraduate Research in Engineering

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www.i-etc.org

TECHNOLOGY TRACK

Technology Design
Architecture; Drafting; Surveying & Mapping; Drone Suveying; 3D Printing and Prototyping; UX Digital Product Design; Civil Engineering; Web & Digital Platforms; Human Centered Design; Mobile App; Accident Reconstruction.

Digital Media
Digital Animation; Game Development, Digital Cinema Production; Cinematography; Directing; Post-Production; Digital Photography; 360° Photography & Video; Digital Audio; Music Editing & Production. Home Automation & Internet of Things (IOT); VX Voice Experience Design & Development; Digital, Web, Interface & Experience Design;

Information Technology
Networking and Data Communications; Cybersecurity; Network Administration & Security; Virtualization; Automated Testing & Monitoring; Computer Forensics & Security; Healthcare Information Systems; Management Project Management; Product Management; Facilities.

Aerospace Technology and Management
Propulsion Systems; Fixed Wing, Helicopter, Advanced Air Mobility, UAS, Space Vehicle Technology; Maintenance Concepts; Technician Training; Safety Management; Airline & Airport Operations, Route Planning; Aviation Business Management; Aviation Business Management; Security; Flight Training; Corporate and Airline Pilot Operations.

Industrial Automation, Power and Control
Designing & Maintaining Automated Systems & Machines; Control System Programming; Protecting Critical Cyber Systems; Robotics in Manufacturing; Integrating Automation Solutions; Automated Safety Systems; Power System Protection & Control Solutions; Electrical Safety & Arc-Flash Hazard Reduction; Smart Sensors & Industrial Internet of Things (IIOT).

Transportation & Automotive
Diesel Systems; Automotive Technology; Collision Repair; Power Sport, Street Rod; Vehicle Electrification.

Mixed Reality
Augmented Reality; Virtual Reality; Hybrid Reality; Mixed Reality Visual and Audio; MR Simulations; 3D Modeling; Training Simulations; Drone Surveying and Automation.

Technology Management;
Entrepreneurship; Training & Education; Business Intelligence Systems; Business & Marketing Education.

Capstone Projects/Undergraduate Research in Technology

COMPUTING TRACK

Computing Trends
Database Systems; UX and Visualization; e-Business, e-Learning & e-Government; Modeling & Simulation; Data Science; Computing Education & Recruitment; Computing Frontiers.

Software Engineering
Software Design and Design Patterns; Software Reliability, Safety & Security Methods; Software Engineering Methodologies; Software Testing; Evaluation & Analysis Technologies.

Medicine & Healthcare
Bioinformatics; Health Informatics; Biomedical Engineering & Sciences; Medical Image Processing & Object Recognition.

Intelligent Systems
Artificial Intelligence; Machine Learning & Deep Learning; Cognitive Computing; Information & Knowledge Engineering; Data Mining; Computer Vision & Pattern Recognition.

Security & Communication
Privacy; Internet Security; Cryptography; Secure Storage and Transactions; Parallel & Distributed Computing; Internet of Things; Wireless/Mobile Communication; Cloud Computing.

Capstone Projects/Undergraduate Research in Computer Science

TEACHING i-ETC TRACK

Advancing Teaching and Learning
Effective Teaching Activities; Interdisciplinary Education; Engaging Undergraduate Students in Research; Industry & Education Collaboration.

Technology in Teaching and Learning
Innovation Strategies; Infrastructure Technologies; Online & Distance Learning; Smart Classrooms; Virtual & Remote Labs; Game-Based Learning.

Accreditation and Assessment
Curriculum Design & Development; Accreditation & Quality Control; Retention & Support Strategies; Educational Innovation, Role of Laboratories.

Diversity and Inclusion Issues
Academic Leadership, Diversity, & Inclusion; Assessing Diversity & Inclusion Programs; Skills Development & Competencies; Retention of Women & Gender Equality.