

2019 IEEE International Symposium on Technology and Society (ISTAS)

15 - 16 November 2019

School of Engineering, Tufts University,
Medford, MA

Hosted By Technical Co-Sponsors and Support Organisations

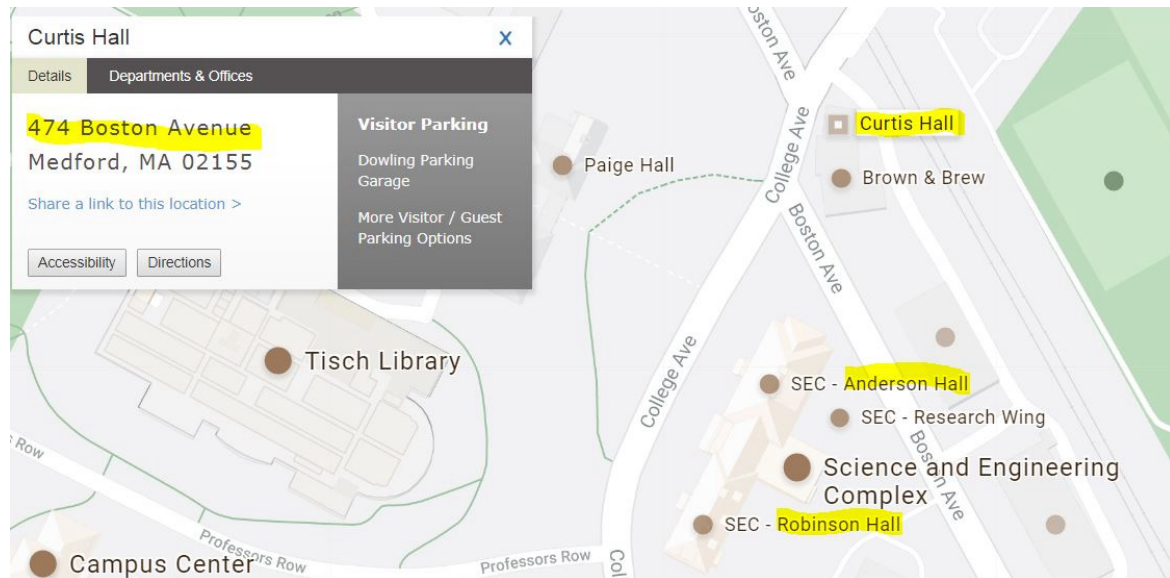


School of Engineering



Humanitarian Activities Committee

Map of Meeting Rooms



Friday 15 November 2019

Morning Registration - Curtis Hall (474 Boston Avenue, Medford)

Morning Plenary Sessions, Coffee Break, Lunch - Curtis Hall

Breakout Sessions

12 noon - Track A Session 1 (Curtis Hall), Track B Session 2 (Anderson 212)

1:50pm Move from Curtis Hall to Anderson Hall (200 College Avenue, Medford) - coffee in meeting rooms

2:15pm onwards - Track A (Anderson 210), Track B (Anderson 212)

Saturday 16 November 2019

Registration and Plenary Sessions - Robinson 253 (200 College Avenue, Medford Avenue)

Lunch - Atrium

Breakout Sessions

2pm onwards - Track A (Robinson 253), Track B (Anderson 206) - coffee in meeting rooms



IEEE ISTAS 2019 Program as at 12 November 2019
 School of Engineering of Tufts University, Medford Campus, Boston, MA
<https://attend.ieee.org/istas-2019/program/>

Friday 15 November 2019

08:45	<p><i>Welcome (Curtis Hall)</i> Prof. Karen Panetta, School of Engineering, Tufts University Gil Cooke, Chair, IEEE Boston Section Robert Dent, IEEE SSIT President</p>
09:00	<p><i>Keynote Address (Curtis Hall)</i> Tom Coughlin, President, IEEE-USA</p>
09:30	<p><i>Plenary 1: Sustainable Development – Addressing Societal Challenges (Curtis Hall)</i> <i>Moderator: Prof. Paul M Cunningham, IST-Africa Institute / Past President, IEEE SSIT</i> <i>Panelists:</i> Dr. Özge Karadag Caman, Center for Sustainable Development, Earth Institute, Columbia University Dr Amy Pickering, Tiampo Family Assistant Professor in Civil and Environmental Engineering at Tufts University Prof. Paul M Cunningham, IST-Africa Institute / mHealth4Afrika, Ireland</p>
10:30	<p><i>Plenary 2: Creating Ethically Informed Standards (Curtis Hall)</i> <i>Moderator: Prof. Beth-Anne Schuelke-Leech, Chair, IEEE SSIT Standards Committee</i> <i>Introduction</i> Prof. Beth-Anne Schuelke-Leech, Chair, IEEE SSIT Standards Committee <i>P7014</i> Ben Bland, Sensum Co, Northern Ireland <i>P7000 and Ethics Certification</i> Prof. Ali Hessami, Vega Systems UK <i>Wrap Up / Q&A</i></p>
11:30	<p><i>Coffee Break & Networking</i></p>

	Track A (Curtis Hall)	Track B (Anderson 212)
12:00	<p>Session 1: Ethics and Human Values - Privacy & Security Considerations</p> <p><i>Moderator: Prof. Beth-Anne Schuelke-Leech, Chair, IEEE SSSIT Standards Committee</i></p> <p><i>Cyber Influence of Human Behavior: Personal and National Security, Privacy, and Fraud Awareness to Prevent Harm</i></p> <p>Mary Michel, Florida Institute of Technology, USA</p> <p><i>A Framework to Deal with Privacy in Systems</i></p> <p>Marcel Simonette, Universidade de São Paulo – USP, Brazil</p> <p><i>Making use of foresight to capture the co-evolution of security technologies and societal development</i></p> <p>Lars Gerhold, Freie Universität Berlin, Germany</p> <p><i>Data Rights, Privacy and Security: Achieving Sustainable Development Goals Using Technology for Good</i></p> <p>Katina Michael, Arizona State University, USA</p>	<p>Session 2: Societal Implications of Technology - Healthcare Delivery</p> <p><i>Moderator: Prof. Paul M Cunningham, IST-Africa Institute / mHealth4Afrika, Ireland</i></p> <p><i>mHealth4Afrika –Lessons Learnt and Good Practices from Validation of a Comprehensive Healthcare Solution for Resource Constrained Environments</i></p> <p>Prof. Paul M Cunningham, IST-Africa Institute / mHealth4Afrika, Ireland</p> <p><i>Designing Technology and Healthcare Delivery Systems to Support Clinician and Patient Care Experiences: A Multi-Stakeholder Systems Engineering Co-Design Methodology</i></p> <p>Inas Khayal, Geisel School of Medicine at Dartmouth, USA</p> <p><i>From HealthDrone to FrugalDrone: Value-Sensitive Design of a Blood Sample Transportation Drone</i></p> <p>Dylan Cawthorne, Unmanned Aerial Systems Center, University of Southern Denmark</p>
1:15pm	Lunch & Networking (Curtis Hall - then move to Anderson Hall for coffee and sessions)	
	Track A (Anderson 210)	Track B (Anderson 212)
2:15pm	<p>Session 3: Ethics and Human Values - Design Considerations</p> <p><i>Moderator: Lewis Terman, SSIT</i></p> <p><i>Incorporating Societal (Social) and Ethical Implications into the Design, Development, and Deployment of Technologies</i></p> <p>Beth-Anne Schuelke-Leech, University of Windsor, Canada</p>	<p>Session 4: Protecting the Planet 1 - Energy</p> <p><i>Moderator: Prof. Xinghuo Yu, President, IEEE Industrial Electronics Society</i></p> <p><i>Teaching and Research on Plasma-Based Green Energy Technologies and Some Associated Environmental and Societal Impacts</i></p> <p>Prof. Min-Chang Lee, Boston University, USA</p> <p><i>Renewable Energy Hybrid Grid-Connected System Sensitivity Analysis, Integration, and System Flexibility</i></p> <p>Yahya Alharthi, University of Missouri Kansas City, USA</p>

	<p><i>Incorporating Social and Environmental Ethics into the Design and Operation of Energy Systems: A Pedagogical Perspective</i> Salman Mohagheghi, Colorado School of Mines, USA</p> <p><i>Equity and Fairness Norms in Sociotechnical Systems: Emerging Perspectives for Design</i> Afreem Siddiqi, Massachusetts Institute of Technology, USA</p> <p><i>“A Success Story that Can Be Sold”? A Case Study of Humanitarian Use of Drones</i> Ning Wang, Institute of Biomedical Ethics and History of Medicine (IBME), University of Zurich (UZH), Switzerland</p>	<p><i>The Prospect of the Internet of Renewable Energy (IoRE) in Electricity Networks</i> Famous O. Igbinovia, University of Pardubice, Czech Republic</p>
3:30pm	Coffee Break & Networking	
	Track A (Anderson 210)	Track B (Anderson 212)
4:00pm	<p>Session 5: Autonomous Systems Moderator: Robert Dent, President, SSIT <i>Contemporary Virtue Ethics and the Engineers of Autonomous Systems</i> Lee Barford, University of Nevada, USA</p> <p><i>The ABCs of Assured Autonomy</i> Joshua Mueller, Johns Hopkins University Applied Physics Laboratory, USA</p> <p><i>Education and Licensure Requirements for Automated Motor Vehicles</i> Olivia Wanless, Kettering University, USA</p>	<p>Session 6: Protecting the Planet 2 Moderator: Michael Cardinale, SSIT <i>Electronic Waste and the Special Case of Lead-Free Piezoelectrics: A Call for Legislative Action</i> Alex Hsain, North Carolina State University, USA</p> <p><i>Predicting the Likelihood that the United States will Implement Solar Radiation Management through an Analysis of Responses to Historical Crises</i> Timothy Leech, Mary Baker Eddy Library, USA</p> <p><i>Quantitative Carbon Dioxide, Temperature, and Sea Level Relation for the Future of Terrestrial Fossil- Fueled Technology</i> Thomas Valone, Integrity Research Institute, USA</p>

5:00pm	<p>Panel 7: AI: Pervasive, Invasive and Persuasive</p> <p><i>Moderator: Jim Isaak, Chair IEEE USA Committee on Communications Policy</i></p> <p><i>Panelists:</i></p> <p>Laura Edelson, NYU / Past SSIT President (2013 - 2014)</p> <p>Jim Isaak, Chair IEEE USA Committee on Communications Policy</p> <p>Matt McCloskey, Cesari and McKenna, LLP, USA</p> <p>Stephen Y. Chow, Hsuanyeh Law Group, USA</p>	<p>Session 8: Protecting the Planet 3</p> <p><i>Moderator: Joshua Mueller, Johns Hopkins University Applied Physics Laboratory, USA</i></p> <p><i>Enabling a Shared Integrated Grid via New England's Energy Water Nexus</i></p> <p>Steffi Muhanji, Thayer School of Engineering, Dartmouth College, USA</p> <p><i>Towards Upcycled and Sustainable Robotics: Developing an Accessible, Flexible, and Environmentally Friendly Robotics Platform</i></p> <p>Eric Williams, Florida Polytechnic University, USA</p> <p><i>Using Sustainable Robotics in Intelligent Robotic Gardening System for Education</i></p> <p>Elise Araiza, Florida Polytechnic University, USA</p>
6:30pm	End of Sessions	

Saturday 16 November 2019

09:00	<p>Keynote Address (Robinson 253)</p> <p>Dr Babak Beheshti, Director, IEEE Region 1</p>	
09:30	<p>Plenary 3: Impact of Division VI Societies (Robinson 253)</p> <p><i>Moderator: Prof. Paul M Cunningham, IST-Africa Institute / Director- Elect Division VI</i></p> <p><i>Panelists:</i></p> <p>John Allen, President, IEEE Product/Safety Engineering Society</p> <p>Prof. Manuel Castro, Director, IEEE Division VI</p> <p>Dr Michael Condry, President, IEEE Technology and Engineering Management Society</p> <p>Bob Dent, President, IEEE Society on Social Implications of Technology</p> <p>Prof. Russ Meier, President, IEEE Education Society</p> <p>Dr Jeff Voas, Past President, IEEE Reliability Society</p> <p>Prof. Necia Werner, President, IEEE Professional Communication Society</p> <p>Prof. Xinghuo Yu, President, IEEE Industrial Electronics Society</p>	
11:00	Coffee Break & Networking	

11:30	<p><i>Plenary 4: Brave New Brain-Tech: IEEE Neuroethics Program Development of Guidelines for Use of Neurotechnologies in Practice (Robinson 253)</i> <i>Moderator: Mark A. Vasquez, IEEE TechEthics</i> <i>Panelists:</i> Dr. James Giordano, Georgetown University, USA Dr. Laura Specker-Sullivan, College of Charleston, USA Dr Francis X. Shen, Executive Director of the Harvard MGH Center for Law, Brain, and Behavior, USA Prof. William (Jamie) Tyler, School of Biological and Health Systems Engineering, Arizona State University, USA</p>	
1:00pm	<p><i>Lunch & Networking</i></p>	
	<p><i>Track A (Robinson 253)</i></p>	<p><i>Track B (Anderson 206)</i></p>
2:00pm	<p><i>Session 9: Ethics and Human Values - Artificial Intelligence 1</i> <i>Moderator: Ken Foster, University of Pennsylvania, USA</i> <i>Ethics and Artificial General Intelligence</i> Charles Simon, FutureAI, USA <i>Designing Artificial Intelligence Review Boards: Creating Risk Metrics for Review of AI</i> Sara Jordan, Virginia Tech, USA <i>Severing of the Species-Implications of Genetic Editing and Artificial Intelligence on the Human Substrate</i> Joseph Carvalko, Interdisciplinary Center for Bioethics, Yale University, USA</p>	<p><i>Session 10: Ethics and Human Values</i> <i>Moderator: Prof. Necia Werner, President, IEEE Professional Communication Society</i> <i>The Price for Blowing the Whistle when Facing Ethical Dilemmas</i> Subrata Ghoshroy, Massachusetts Institute of Technology, USA <i>Sustainable Engineering Ethics: Teaching Sustainability as a Macroethical Issue</i> Chris Swan, Tufts University, USA <i>A Case Study on a Sustainable Framework for Ethically Aware Predictive Modeling</i> Thomas Lux, Virginia Polytechnic Institute and State University, USA</p>
	<p><i>Track A (Robinson 253)</i></p>	<p><i>Track B (Anderson 206)</i></p>
3:00pm	<p><i>Session 11: Ethics and Human Values - Artificial Intelligence 2</i> <i>Moderator: Lewis Terman, SSIT</i> <i>Continuing the Conversation on How Structural Racial and Ethnic Inequalities Affect AI Biases</i> Soraya Cardenas, Cascadia College, USA</p>	<p><i>Session 12: Sustainable Development</i> <i>Moderator: Robert Dent, President, SSIT</i> <i>Meteorological Risk Early Warning System for Air Operations</i> Jimmy Florez, Colombian Air Force-Aerospace Technology Development Centre for the Defense, Columbia</p>

	<p><i>Ethical Considerations in AI-Based Recruitment</i> Dena Mujtaba, Michigan State University, USA</p> <p><i>Government AI Readiness Meta-Analysis for Latin America and the Caribbean</i> Laura Montoya, Accel AI Institute & Pablo Rivas, Marist College, USA</p>	<p><i>Active Transportation and the Performance of Passive Infrared Sensors - A Functional Test Case Scenario in Winnipeg, Canada</i> Nini Nytepchuk, British Columbia Ministry of Transportation and Infrastructure, Canada</p> <p><i>An Evaluation of Geotagged Twitter Data during Hurricane Irma using Sentiment Analysis and Topic Modeling for Disaster Resilience</i> Ike Vayansky, Coastal Carolina University, USA</p>
4:00pm	Coffee Break & Networking	
4:30pm	<p>Workshop 13: Fair AI-Based Recruitment <i>Moderator: Dr. Nihar R. Mahapatra, Michigan State University, USA</i></p> <p><i>Welcome and Workshop Overview</i> Dr. Nihar R. Mahapatra, Michigan State University, USA</p> <p><i>Introduction to the Hiring Process and AI-Based Recruitment</i> Dr. Christopher D. Nye, Michigan State University, USA</p> <p><i>Sources of Bias in AI-Based Recruitment</i> Dr. Nihar R. Mahapatra, Michigan State University, USA</p> <p><i>Consequences of Biased Recruitment Decisions</i> Dr. Jason L. Huang, Michigan State University, USA</p> <p><i>Bias Metrics, Detection, and Mitigation Methods</i> Dr. Nihar R. Mahapatra, Michigan State University, USA</p> <p><i>Recruitment Bias Detection and Mitigation Demo</i> Dena F. Mujtaba, Michigan State University, USA</p>	<p>Session 14: Societal Implications of Technology <i>Moderator: Prof. Min-Chang Lee, Boston University / Chair, SSIT Chapter, Boston</i></p> <p><i>A Multi-Stakeholder Co-Design Approach to Making Strategies for Community Development Harnessing Emerging Technologies</i> Maximiliano Lainfiesta-Herrera, Texas A&M University-Kingsville, USA</p> <p><i>Broadband for Socio-Economic Development. A Case Study: Broadband in the State of Pará, Brazil</i> Linda Bower, USA</p> <p><i>Machine Translation of English Videos to Indian Regional Languages using Open Innovation</i> Chaitanya Krishna Kasaraneni, San Jose State University, USA</p> <p><i>The Future of Online Advertising - Thoughts on Emerging Issues in Privacy, Information Bubbles, and Disinformation</i> Brendan Kitts, Verizon, USA</p>
6:00pm	End of Conference	