











Note: This program schedule version (v1 - 23Sept2019) is subject to change. Check website for most current information. Visit www.incose.org/GLRC13.

About the INCOSE 13th Annual Great Lakes Regional Conference (GLRC13)		
<p>Co-Location with ISS and ET2019: This year's GLRC is unique in that, for the 2019 Apollo 50th Anniversary Celebration only, it is co-located with two other conferences, and has "joint" activities with one of them. This arrangement has enabled the three conferences to deliver more extensive and richer programs, while at the same time saving on certain costs and gaining efficiencies in work performed by conference volunteer organizers. The goal of all three of the non-profit conference organizations with respect to the collaboration is to provide a better conference experience for conference attendees, sponsors and participants at a price and efficiency not possible otherwise.</p> <p>The INCOSE GLRC13 is co-located at the Cleveland I-X Center with the Information Security Summit (ISS) and the EnergyTech Conference and Expo. EnergyTech is a NASA-INCOSE sponsored Cleveland-based event established in 2009. The ISS is a Cleveland event in it's 15th year. While the INCOSE GLRC13 and ISS conferences will share some of the same conference spaces, their technical programs and registration systems are managed separately. On the other hand, the INCOSE GLRC13 and EnergyTech2019 programs and activities do have several jointly planned activities and some "inter-twined" programs.</p> <p>Jointly Planned Programs and Activities with ET2019: The main conference days for the ET2019 conference are Tuesday and Wednesday Oct 22-23, while the main days of the INCOSE GLRC13 are Wednesday and Thursday Oct 23-24. On Wednesday Oct 23rd registrants of both conferences may attend the sessions of the other conference at no additional cost. Thus, this is a "joint" conference day. In addition, INCOSE GLRC13 attendees may purchase a combined (GLRC13+ET2019) 3-day conference registration provides access to the ET2019 Tuesday Oct 22 program at a discounted price. INCOSE GLRC13 attendees may also purchase One-Day registrations for admission to the GLRC13 technical sessions on either Wednesday Oct 23 or Thursday Oct 24. The table below provides an overview of the INCOSE GLRC13 and EnergyTech2019 Programs.</p>		
 13th Annual INCOSE Great Lakes Regional Conference Cleveland, OH, USA October 22-25, 2019	Click Links at Right to View Registration	GLRC13 Full Registration - Wed and Thur (Oct 23-24) Sessions plus Tues/Fri Options
	GLRC13 One-Day Registration - Wed (Oct 23) Sessions plus Tuesday Options	Dual (GLRC13+ET2019) Conf. Registration - Tues/ Wed/Thur (Oct 22, 23, 24) Sessions plus Tues/Fri Options GLRC13 One-Day Registration - Thursday (Oct 24) Sessions plus Friday Options

"At a Glance" Overview of INCOSE GLRC13 and ET2019 Programs			
	INCOSE GLRC13 Program	EnergyTech2019 Program	Tips for Successful Registration
Monday Oct 21	Exhibitor Set-Up (in Grand Ballroom)		<i>Exhibitors should use the Exhibitor registration system.</i>
Tuesday Oct 22	Pre-Conference Tutorials	Day 1 - Technical Sessions *	<i>Tutorials /Lunch are "Ala Carte" items. Also see *.</i>
	Apollo 50th Anniversary Reception (Great Lakes Science Center)		<i>Tickets for this event are "Ala Carte."</i>
Wednesday Oct 23	Combined GLRC+ET+ISS Plenaries and Keynotes		<i>Wednesday is a "joint" (GLRC+ET) conference day. No special registration steps are requires. Also see **.</i>
	Day 1 - Technical Sessions **	Day 2 - Technical Sessions **	
Thursday Oct 24 ***	Day 2 - Technical Sessions / Keynote	NASA-SAE Workshop (Part 1)	<i>The ET workshop is available only through ET.</i>
	Requirements Engineering AI Machine Learning "Hackathon" Competition		<i>This not a registration item. See program details.to participate.</i>
Friday Oct 25	Post-Conference Tutorials / SEP Exam	NASA-SAE Workshop (Part 2)	<i>Tutorials/Exam/Lunch are "Ala Carte" Items.</i>
	Chapter Development Workshop ****	Drone Program and Competition	<i>The WS is not a registration item. See program. The Drone activities are available through ET only.</i>
	Exhibitor Tear-Down (Grand Ballroom)		
<p>* GLRC13 attendees may attend the ET Day 1 (Tuesday) Sessions by purchasing the 3-Day (GLRC+ET) registration (lunch is included). ** GLRC13 Full (2-Day) and Wed-Only (1-Day) registrations include FREE access to ET Sessions. *** The SE Professional Development Track will be LiveStreamed to Registered Satellite Sites (this is also known as "SE-PDD"). **** Depending on interest, this workshop may be made available by WebEx to chapter volunteers and leaders not attending GLRC.</p>			







Tues Oct 22: INCOSE GLRC13/ET2019 Schedule

NOTES: (1) To Attend Tues ET2019 Sessions Purchase the "Dual Conference (GLRC13+ET2019)" Package. (2) The Tutorial and Evening Event are "Ala Carte" Items.

Time (EDT)	TUESDAY -- INCOSE GLRC Tutorial and EnergyTech (ET) Track Session Schedule with Locations * -- TUESDAY					
	I-X Center East Lobby	INCOSE GLRC Tutorial Track (Conference Center)	ET Plenaries and STEM Education (Grand Ballroom)	ET Aerospace Track (ET Aero Rm. Conference Center)	EnergyTech (ET) Terrestrial Tracks (ET Terrestrial Rooms, Conference Center)	
7:30 AM	Registration and Check-in (I-X Center East Lobby)					
8:00 AM	EnergyTech Conference Welcome (8:00 AM - Grand Ballroom)					
8:15 AM	Conference Registration and Check-in NASA and Flyer Car Exhibits  	TUTORIAL PART 1 of 2: Lean Startup Method (LSM) and Agile for Resiliency Initial Project Planning (IPP) Instructor: Mike Pafford	-- Opening Panel Discussion -- Resilient Power & Energy: Mission Needs, Challenges and Opportunities Manto, Kerman, Baker, Schull, Fallen Moderator: A.J. Misra			
9:00 AM			Morning Break (10:00 AM - 10:30 AM)			
9:30 AM		TUTORIAL PART 2 of 2: Lean Startup Method (LSM) and Agile for Resiliency Initial Project Planning (IPP) Instructor: Mike Pafford	 EnergyTech "Spirit of Innovation" STEM/STEAM Education Program (Part 1)	Power Generation: Photovoltaic, Nuclear, and Energy Conversion Technology Challenges and Needs	-- Panel Discussion -- Powering Through: Building Critical Infrastructure Resilience W. Harris, G. Baker, R. Krieg, M. Kerman Moderator: M. Lasky	
10:00 AM					Lunch (12:00 PM - 1:00 PM)	
10:30 AM		 TUTORIAL PART 2 of 2: Lean Startup Method (LSM) and Agile for Resiliency Initial Project Planning (IPP) Instructor: Mike Pafford	 EnergyTech "Spirit of Innovation" STEM/STEAM Education Program (Part 2)	Energy Storage: Battery, Fuel Cell, and Flywheel, and Energy Storage Technology Challenges and Needs	Session 4 (Kerman) The Future of Energy Systems T. Bles and A. Juhasz	Session 5 (Baker) Microgrids - Transforming Our Infrastructure: Integrating Microgrid Design (B. Campbell) and Modeling Blackout Vulnerability (C. Shull)
11:00 AM					Afternoon Break (2:30 PM - 3:00 PM)	
11:30 AM		Apollo 50th Anniversary Celebration Attendees Travel from the I-X Center to the NASA Visitor and Great Lakes Science Center				
12:00 PM						Viewing: IMAX Theatre -- Film "Apollo 17" "Apollo 17 and Beyond" Dr. Harrison Schmitt (Apollo 17 Crew Member)
12:30 PM		 				
1:00 PM		* This schedule reflects best information available on 22Sept2019 and is subject to change. Visit www.incose.org/GLRC13 or www.energytech.org for the most current version.				
1:30 PM						
2:00 PM						
2:30 PM						
3:00 PM						
3:30 PM						
4:00 PM						
4:30 PM						
5:00 PM						
5:30 PM						
6:00 PM						
6:30 PM						
7:00 PM						
7:30 PM						
8:00 PM						
Adjourn 8:30 PM						




Wed Oct 23: INCOSE GLRC13/ET2019 Schedule

NOTE: Your INCOSE GLRC13 Registration Includes
Access to Wednesday EnergyTech (ET) Sessions at No Additional Cost

Time (EDT)	WEDNESDAY -- INCOSE GLRC and EnergyTech (ET) Track Session Schedule with Locations * -- WEDNESDAY				
	I-X Center East Lobby	ET Terrestrial Track (Conference Center)	INCOSE GLRC Day 1, Session Track 1 (GLRC Session Room A, Conference Center)	INCOSE GLRC Day 1, Session Track 2 (GLRC Session Room B, Conference Center)	ET Aerospace Track (Conference Center)
7:30 AM	Registration and Check-in (I-X Center East Lobby)				
8:00 AM	GLRC-ET-ISS Opening Plenary and Keynote Addresses (8:00 AM - Grand Ballroom)				
8:15 AM	-- Keynote --				
8:30 AM		"The Era of the Jetsons: Evolution of Air Mobility" <i>Mark Jennings-Bates</i> (Motivational Speaker and Vice President, PAL-V Flying Car Company)			 PAL-V Production Flying Car
9:00 AM	-- Honorary Keynote --				
9:30 AM		"Hammers, Core Tubes, and Rock Boxes - Reflections on Apollo 17" <i>Harrison Hagan "Jack" Schmitt</i> (Geologist, University Professor, former U.S. Senator, NASA Astronaut and Apollo 17 Crew Member)			
10:00 AM	Morning Break (10:00 AM - 10:30 AM)				
10:30 AM	Conference Registration and Check-in	EnergyTech (ET) Terrestrial Track	Improving Patients' Quality of Care in an Emergency Department Using Systems Engineering Tools, <i>H. Khazaei, R. Promyoo and H. El-Mounayri [49]</i>	MBSE 2.0: Enabling the Digital Enterprise, <i>Mark Simons [15]</i>	EnergyTech (ET) Aerospace Track
11:00 AM			Simulation Modeling of Energy Systems, <i>Rainer Dronzek [19]</i>	Methods for Security Analysis of Automotive Systems: A Comparative Study, <i>A Sidhu and S. Mahadevan [51]</i>	
11:30 AM			NASA and Flyer Car Exhibits		
12:00 PM	Lunch (12:00 PM - 1:00 PM)				
12:30 PM					
1:00 PM		EnergyTech (ET) Terrestrial Track	Experiences with Collaborative Model Based System Architecture Development within a Joint Venture R&D Organization, <i>Scott Millsap [11]</i>	Leaping into MBSE with a Model Management Plan (MoMaP), <i>Matt Meinhart [23]</i>	EnergyTech (ET) Aerospace Track
1:30 PM			INCOSE Infrastructure Working Group Exploratory Study of SE for Complex Buildings - Progress in Year One, <i>Jon Mooney [20]</i>	Effectively Communicating MBSE Concepts to Both Technical and Business Audiences, <i>David Walden [39]</i>	
2:00 PM					
2:30 PM	Afternoon Break (2:30 PM - 3:00 PM)				
3:00 PM	-- Panel Discussion (3:00 PM - Grand Ballroom) --				
3:30 PM	"Engineering the Infrastructure of the Future: Modeling, Building, and Managing Complex Systems of Systems"				
4:00 PM	-- Keynote (4:00 PM - Grand Ballroom) --				
4:30 PM	"The Need to Change the Paradigm of Control System Cyber Security – Culture and Technology" <i>Joe Weiss</i> (CEO, Applied Control Solutions, LLC and Chair, INCOSE Complex Systems WG)				
5:00 PM	GLRC-ET-ISS Grand Reception (5:00 PM - Grand Ballroom)				
5:30 PM	Featuring the "Spirit of Innovation" Exposition, Exhibitor Displays, and EnergyTech Aerospace Track Poster Presentations				
Adjourn 6:00 PM	* This schedule reflects best information available on 22Sept2019 and is subject to change. Visit www.incose.org/GLRC13 or www.energytech.org for the most current version.				



Thursday Oct 24: INCOSE GLRC13/ET2019 Schedule

- NOTES:** (1) This Thurs Program is Included in 3 of the 4 Available GLRC13 Packages.
 (2) The SE Prof. Dvlmt. Day Track will be Available by LiveStream in Some Cities.

Time (EDT)	THURSDAY -- INCOSE GLRC Track Session Schedule (and other activities) with Locations * -- THURSDAY					
	I-X Center East Lobby	Standards Workshop (Conference Center)	Plenary Sessions and SE Professional Development Day Track (Grand Ballroom)	INCOSE GLRC Day 2, Session Track 2 (GLRC Session Room, Conference Center)	SE Tool Challenge Track (Conference Center)	
7:30 AM	Registration and Check-in (I-X Center East Lobby)					
8:00 AM	INCOSE GLRC Opening Plenary: Michael Vinarcik, Emcee - (8:00 AM - Grand Ballroom)					
8:15 AM	 -- INCOSE GLRC13 Keynote (8:15 AM - Grand Ballroom) -- "Answering the Call for Technical Leaders" Michael Pennotti (Stevens Institute of Technology) [21]					
8:30 AM						
9:00 AM	-- Presentation and Panel Discussion (9:00 AM - Grand Ballroom) --					
9:30 AM	"Collaborating for Success: Integrating Program Management and Systems Engineering" PMI-INCOSE Alliance Team Leaders, MIT, INCOSE PM-SE Integration WG					
10:00 AM	Morning Break (10:00 AM - 10:30 AM)					
10:30 AM	Conference Registration and Check-in NASA and Flyer Car Exhibits  	NASA-SAE Electric and Autonomous Vehicle Standards Development Workshop (Day 1 of 2) NOTE: This workshop requires registration with the EnergyTech NASA-SAE Standards Workshop at www.energytech.org .	Apollo and the 1960's: One Giant Leap for Systems Engineering, Michael Vinarcik (SAIC) [16]	Use of Simulation with Behavior Diagrams to Automate Multi-tool V&V Workflows, K. Kalvit, S. Nuesch, M. Meinhart and G. Walley [47]	Artificial Intelligence (AI) Requirements Engineering Machine Learning Hackathon NOTE: This IBM Watson IoT sponsored activity requires pre-registration as a Hackathon team member. Ten teams of 5 members each will participate in a structured workshop-style session that combines education and training (for humans AND machine alike!) with a friendly, yet formidable, team competition. Team awards will be presented during the Closing Plenary at 4:30 PM in the Grand Ballroom	
11:00 AM			Back to Basics: Systems Engineers Must Think About the End before the Beginning, Dave Walden (Sysnovation) [38]	A Comparative Study of ARCADIA/Capella and OOSEM/SysML for System Architecture Development, S. Alai, R. Promyoo, H. El-Mounayri and K. Kalvit [48]		
11:30 AM			Lunch (12:00 PM - 1:00 PM)			
12:00 PM						
12:30 PM						
1:00 PM			Growing Systems Engineers through Gamification David Long (Air Force Institute of Technology) [43]	Model Based Technical Risk Assessment, R. Gupta, M. Sease, C. Sundaram and J. Hummell [26]		
1:30 PM			Demonstration of Mistake-Proof Scaled Agile SE Framework for Complex Systems Development Applied to Aerospace Domain, S. R. Murugesan and V. Thiruchirapalli (Collins Aerospace) [31]	Finding the STEM: An Analysis of Children's Activities for Systems Engineering Principles, Erika Esala [22]		
2:00 PM			Afternoon Break (2:30 PM - 3:00 PM)			
2:30 PM						
3:00 PM			MBSE Complete Eco-System Explained James Hummell (MBSE Solutions) [41]	Developing Safety and Mission Assurance Use Cases as a Foundation for Modeling, S. Beckman and S. Cornford [32]		
3:30 PM	Sigma Theta Mu Lecture: "From Models to Interactive Stories in Virtual Worlds: Model Based Systems Engineering in the 21st Century" Dr. Azad M. Madni (University of Southern California)	Capturing Quality Assurance Processes in an MBSE Environment, S. Beckman, S. Cornford and S. Darpel [33]				
4:00 PM						
4:30 PM	CLOSING PLEANARY (and Award Presentations) (4:30 PM - Grand Ballroom)					
5:00 PM	CLOSING RECEPTION (5:00 PM - Grand Ballroom)					
5:30 PM						
Adjourn 6:00 PM	* This schedule reflects information available on 22Sept2019 and is subject to change. Visit www.incose.org/GLRC13 or www.energytech.org for the most current version.					

Friday Oct 25: INCOSE GLRC13/ET2019 Schedule

NOTES: (1) The Tutorials and Exam are "Ala Carte" in the GLRC13 Registration.
 (2) Register for Standards WS and ET Drone Events at www.energytech.org.

Time (EDT)	FRIDAY -- INCOSE GLRC Education-Training and EnergyTech (ET) Activities with Locations * -- FRIDAY							
	I-X Center East Lobby	INCOSE GLRC Tutorial Track <i>(Conference Center)</i>	INCOSE Exam and Chapt. Dvlmt. Track <i>(Conf. Center)</i>	ET Drone Event Panels & Exhibits <i>(Grand Ballroom)</i>	ET Drone Activities Track <i>(Conf. Center & Conv. Floor)</i>	Standards Workshop <i>(Conference Center)</i>		
7:30 AM	Registration and Check-in (I-X Center East Lobby)							
8:00 AM	Conference Registration and Check-in NASA and Flyer Car Exhibits  	TUTORIAL System Model Simulation: Monte Carlo, Probabilities, and More Instructor: <i>Saulius Pavalkis</i>	INCOSE ASEP/CSEP Exam INCOSE Systems Engineering Professional (SEP) Certification Exam Proctor: <i>Michael Vinarcik, ESEP</i>	Drone Panel Session <i>(8:00 AM - Grand Ballroom)</i> NOTE: This activity requires registration for the EnergyTech Drone Event at www.energytech.org .	FAA Drone Pilot Certification <i>(Drone Meeting Room, Conference Center)</i> NOTE: This activity requires registration for the EnergyTech Drone Event at www.energytech.org .	NASA-SAE Electric and Autonomous Vehicle Standards Development Workshop (Day 2 of 2) NOTE: This workshop requires registration with the EnergyTech NASA -SAE Standards Workshop at www.energytech.org .		
8:15 AM								
8:30 AM								
9:00 AM								
9:30 AM								
10:00 AM		Lunch (12:00 PM - 1:00 PM)						
10:30 AM		TUTORIAL Less Work, More Right: Error-Proofing and Detection Techniques Instructor: <i>Michael Vinarcik</i>	INCOSE Chapter Development Workshop TOPICS: -- Chapter Website -- Financial Management -- Membership Growth and Engagement	"Spirit of Innovation" Exhibits and Drone Displays NOTE: This activity requires registration for the EnergyTech Drone Event at www.energytech.org .	Drone Flying Competition <i>(Convention Center Main Floor)</i> NOTE: This activity requires registration for the EnergyTech Drone Event at www.energytech.org .			
11:00 AM								
11:30 AM								
12:00 PM								
12:30 PM								
1:00 PM	Drone Event Closing Plenary (4:30 PM - Grand Ballroom)							
1:30 PM	* This schedule reflects best information available on 22Sept2019 and is subject to change. Visit www.incose.org/GLRC13 or www.energytech.org for the most current version.							
2:00 PM								
2:30 PM								
3:00 PM								
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4:30 PM								
Adjourn 5:00 PM								