



Virtual Regional
Conference and Workshop
April 9-17, 2021
Systems Engineering
Capability and Competency



Attendee Prospectus

INCOSE NC-GLRC14 Spring Virtual Conference & Workshop

Conference Overview, Technical Program Content, Schedule, Pricing and Registration Link

Dean Norfleet

President, INCOSE Michigan Chapter; INCOSE NC-GLRC14 Conference Chair

Curtis Potterveld

Treasurer, INCOSE Michigan Chapter; Finance Chair INCOSE NC-GLRC14 Conference

Jack A. Stein

Asst. Director, INCOSE Americas Sector, NC-GLRC Conference Planner (jack.stein@incose.org)



14th Annual Americas
North-Central and
Great Lakes Regional



**Virtual Conference
and Workshop**

April 9-17, 2021

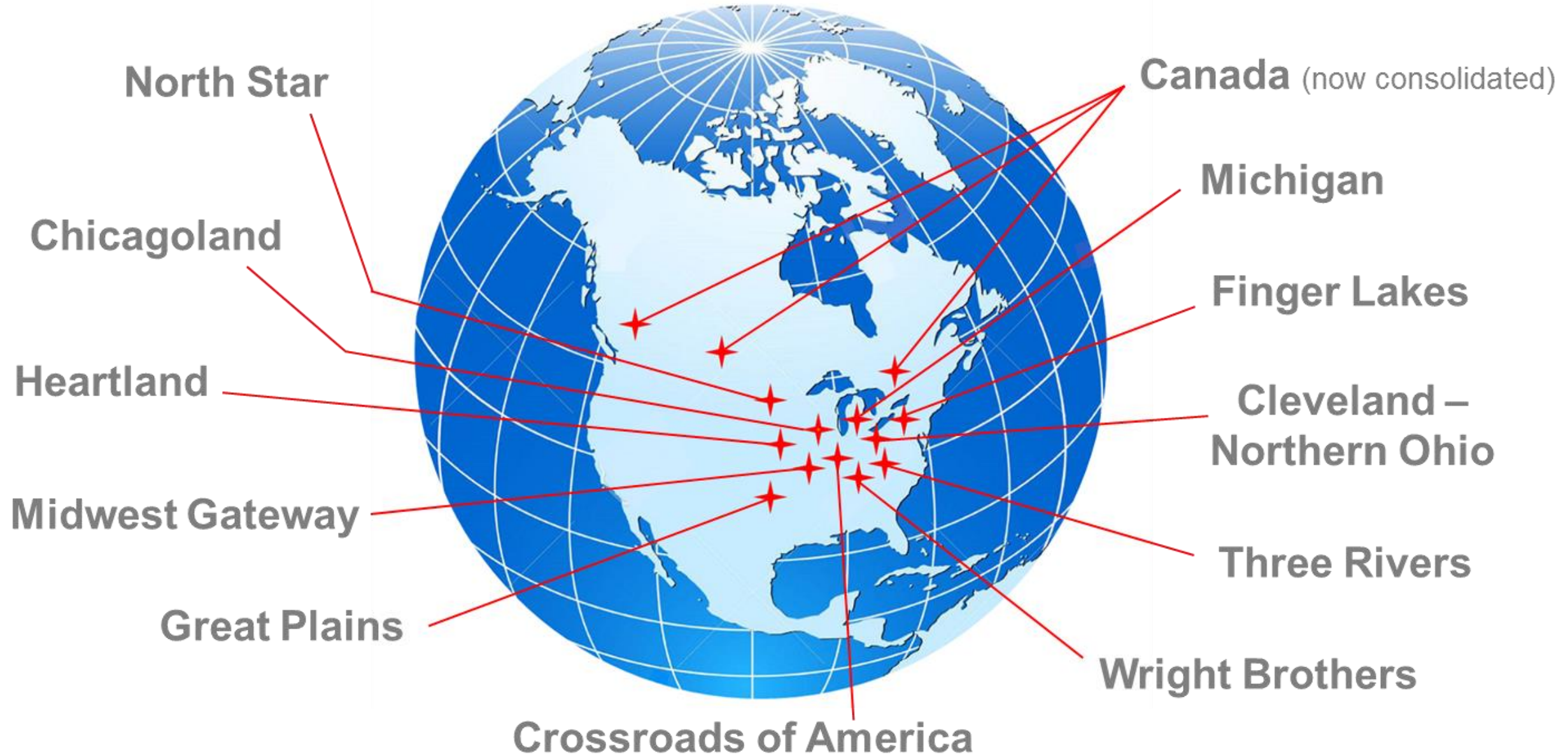
Systems Engineering
Capability and Competency

12 Chapters in the Americas North (NC-GL) Region *

Canada - Chicagoland - Cleveland–Northern Ohio (C-NO) - Crossroads of America (COA)
Finger Lakes - Great Plains - Heartland - Michigan - Midwest Gateway (MGC)
North Star - Three Rivers (TRC) - Wright Brothers

** Participation by additional INCOSE Chapters (not just those above), and
INCOSE members and SE colleagues worldwide, is welcome!*

The 12 Chapters of the INCOSE Americas North (NC-GL) Region



Theme: **Spring** Virtual Conference & Workshop

Systems Engineering Capability and Competency

with *featured content* on

Mobility Systems: Land, Sea, Air and Space*

* Note: (1) The majority of conference content is of a generally applicable SE nature and useful in any area or industry. (2) Most all domains involve mobility. For example: Medical (e.g., hospital beds, air and ground ambulances). Manufacturing (e.g., conveyers, supply chain delivery). Other (e.g., warehouse robotics, inspection drones, agriculture equipment, home food delivery, on-line shopping).



14th Annual Americas
North-Central and
Great Lakes Regional



**Virtual Conference
and Workshop**

April 9-17, 2021

Systems Engineering
Capability and Competency

Virtual Conferencing IT Platform by KMD Events (INCOSE Provider)

Other Events by KMD: [INCOSE IS2020](#), [IW2021](#), [IS2021](#), [WSRC](#), [SCER](#) and more!



14th Annual INCOSE and Great Lakes Regional Conference
Virtual Conference and Workshop
April 9-17, 2021
Systems Engineering Capability and Competency

 Home

 Program

 Showcase

 Social Wall

 C@fé

 Latest News

 Help Desk



You are not connected, please connect to the platform to enjoy all the capabilities

LoginRegister

LIVE ONLYLIVE & REPLAYPRE-RECORDED

View in your Local TimeZone

FRI 09SAT 10SUN 11MON 12TUE 13WED 14THU 15FRI 16SAT 17

Search

GridsList

Fri 909:0009:45 EDT



From the Roads to the Skies - Transferring Insights Between Systems of Systems (SOS) Domains

Alan Harding

Session: 9.1.1

Fri 909:4510:30 EDT

A Model-Based Systems Engineering Approach to Assessing Modularity of System Architectures

Benjamin Stirgwolt *(The George Washington University)*

Session: 9.1.2

MBSESystem ArchitectureModularity

Fri 910:3011:00

Morning Break

NOTE: This is a screen shot of the NC-GLRC14 virtual event (test) site. Launch Date: April 2, 2021

INCOSE NC-GLRC14 - Attendee Prospectus - Spring Conference & Workshop (v1) | J. Stein | 3/31/2021 5



**Virtual Regional
Conference and Workshop**

April 9-17, 2021

 **Systems Engineering
Capability and Competency**



The virtual event platform (including Showcase areas) will remain open for On-Demand viewing of conference content through May 17, 2021.

40+ Technical Presentations
10+ Keynotes & Featured Speakers
10+ Tutorials and Hands-on Workshops
SE Student Program and Virtual Career Fair
16+ Hours of Keys to Effective Chapters Workshops
5th Annual SE Professional Development Day Livestream (6 PDUs)

Model Based Systems Engineering (MBSE) - Lean- Agile-SAF e - Safety-Security-Risk Mgmt
Space Systems - Automotive Systems - Soft Skills/Leadership - Smart Cities
Complex Systems-of-Systems - V&V - Automotive Spice / STPA / ISO 26262 - and More!

5 Keynote Speakers and Sigma Theta Mu Lecture:

Conference (and SE-PDD) Opening Keynote – Friday April 9 – 9:00 AM EDT

- Alan Harding
- BAE Systems, UK / INCOSE President, 2016-17 / Co-Chair, INCOSE System of Systems WG
- “From the Roads to the Skies - Transferring Insights Between Systems of Systems (SOS) Domains”

System Honor Society Sigma Theta Mu Lecture (SE-PDD) – Friday April 9 – 11:45 AM EDT

- Ryan A. Noguchi
- Director, Space Architecture Department, The Aerospace Corporation
- “Evolving Lessons Learned and Recommended Best Practices from MBSE Pilot Projects”

Day 2 Opening Keynote – Monday April 12, 2021 – 9:00 AM EDT

- David Long
- Founder and President, Vitech Corp. / INCOSE Fellow / INCOSE President
- “The 6 Vs and 3 Ts of Systems Engineering”

Day 2 Afternoon Keynote (also part of Student Program) – Monday April 12, 1:30 PM EDT

- Randall C. Iliff
- Founder and Principal, Eclectic Intellect, LLC / INCOSE Lead, PMI-INCOSE-MIT Alliance Team
- “Unlimited Potential: Leveraging the Power of Mind in Design”

Day 3 Opening Plenary Keynote #1 – Friday April 16, 9:00 AM EDT

- Jon Mooney
- INCOSE Smart Cities Initiative
- “Spectacular Views of the City”

Day 3 Opening Plenary Keynote #2 – Friday April 16, 9:45 AM EDT

- Zane Scott
- VP, Vitech Corp. / Past Chair, INCOSE Corporate Advisory Board (CAB)
- “There is No Such Thing As Non-model-based Systems Engineering”



**Virtual Regional
Conference and Workshop**
April 9-17, 2021
★ Systems Engineering
Capability and Competency



Detail of Peer- Reviewed Conference Content

Page 1 of 2

IN

Spreadsheet: Final Program Schedule v2 (31Mar2021) - INCOSE NC-GLRC14

(FTP = Featured Tech Presentation, FSP = Featured Student Presentation, TP = Technical Presentation, SP= Student Presentation, T-WS = Tutorial or Workshop)

#	Presenter(s) / Author(s)	Date	Time (EDT)	Duration	Track	Type	Title
100	Alan Harding	9 Apr - Fri	9:00	45 min	A	FTP	From the Roads to the Skies - Transferring Insights Between Systems of Systems (SOS) Domains
19	Benjamin Stirgwolt	9 Apr - Fri	9:45	45 min	A	TP	A Model-Based Systems Engineering Approach to Assessing Modularity in System Architectures
45	Tim Boyd	9 Apr - Fri	11:00	45 min	A	TP	The Unforeseen Impacts of Cognitive Bias
101	Ryan A. Noguchi	9 Apr - Fri	11:45	45 min	A	FTP	Evolving Lessons Learned and Recommended Best Practices from MBSE Pilot Projects - 2021 Update
35	Rick Flores and Halim Ragab	9 Apr - Fri	13:30	45 min	A	TP	Application of PLE in MBSE including AUTOSAR variant handling use case
14	Nathan Vinarcik	9 Apr - Fri	14:15	45 min	A	FSP	A Model of Firsts: A Student Rendering of NASA's Cassini-Huygens Spacecraft
29	Brian Croyle and Matthew Bradstreet	9 Apr - Fri	15:30	45 min	A	TP	Building System Confidence Efficiently through Capability-Based Verification
33	Matthew Hause	9 Apr - Fri	16:15	45 min	A	TP	Systems Engineering in the Time of Corona Virus
24	David Long (Vitech)	12 Apr - Mon	9:00	45 min	A-B	FTP	6 Vs and 3 Ts of Systems Engineering
11	Michael Vinarcik	12 Apr - Mon	9:45	45 min	A-B	FTP	Outcome: Rules-Based Training and Development for System Modelers
18	David Hetherington, Antoine Dubois and Eric Cortez	12 Apr - Mon	11:00	45 min	A	TP	Automotive Component Supplier Use of SysML Modeling to Support ECU/System Development
30	Zane Scott	12 Apr - Mon	11:00	45 min	B	TP	With a Little Help From Our Friends: The Family of Systems Disciplines and What We Can Learn From One Another
13	Subodh Chaudhari	12 Apr - Mon	11:45	45 min	A	TP	ModelCenter MBSE: The next generation MBSE to Analysis integration tool
46	Tim Boyd and Maria Grundmann	12 Apr - Mon	11:45	45 min	B	TP	The True Value of Creating a Failure Resume
102	Randal C. Iliff	12 Apr - Mon	13:30	45 min	A-B	FTP	Unlimited Potential: Leveraging the Power of Mind in Design
34	Matthew Hause and David Hetherington	12 Apr - Mon	14:15	45 min	A	TP	A Micro-services Integrated Architecture to Support Systems Development
15	Nathan Vinarcik	12 Apr - Mon	14:15	45 min	B	SP	Avoiding Engineering Gaffes: Automated Criticality Assessment and Error Detection
21	Sean McCan and C. Robert Kenley	12 Apr - Mon	15:30	45 min	A	SP	Systems Thinking During a Global Pandemic: Applying the Viable Systems Model, Critical Systems Heuristics, and Soft Systems Methodology to a Small Non-Profit During COVID-19
41	Paul Heininger	12 Apr - Mon	15:30	45 min	B	TP	Risk Management in International Standards
9	William Bolander	12 Apr - Mon	16:15	45 min	A	TP	An Introduction to Automotive SPICE
52	Laurie Bowman	12 Apr - Mon	16:15	45 min	B	SP	A Guide for Designing a Meaningful Risk Matrix
26	David Long (Vitech)	13 Apr - Tues	9:00	3.5 hr	A	T-WS	The Beginner's Guide to Model-Based Systems Engineering (MBSE)
1	Robert Bordley	13 Apr - Tues	13:30	3.5 hr	A	T-WS	Should individuals always avoid unfair risks, even if they expect to fall short of requirements?
3	Robert Bordley	13 Apr - Tues	13:30	3.5 hr	A	T-WS	The Systems M: A Variation on the Winged Vee
302	Jason Wilson and Saulius Pavalkis	14 Apr - Wed	9:00	8 hr	A	T-WS	Dassault Systèmes/No Magic Hands-on MBSE Workshop
200	Bharani Mohan and Paul Goossens	15 Apr - Thur	11:45	45 min	A	TP	Broadening the Reach of the MBSE Process Beyond the Systems Engineer
301	Charles Krueger and Paul Clements	15 Apr - Thur	13:30	3.5 hr	A	T-WS	Nobody Builds Just One: Advances in System Family Engineering with the New ISO/IEC 26580 Standard on Feature-based Product Line Engineering

8

Detail of Peer- Reviewed Conference Content

Page 2 of 2

Spreadsheet: Final Program Schedule v2 (31Mar2021) - INCOSE NC-GLRC14

(FTP = Featured Tech Presentation, FSP = Featured Student Presentation, TP = Technical Presentation, SP= Student Presentation, T-WS = Tutorial or Workshop)

#	Presenter(s) / Author(s)	Date	Time (EDT)	Duration	Track	Type	Title
42	Jon Mooney	16 Apr - Fri	9:00	45 min	A-B	FTP	Spectacular Views of the City
31	Zane Scott	16 Apr - Fri	9:45	45 min	A-B	FTP	There is No Such Thing As Non-model-based Systems Engineering
23	David Long (Vitech)	16 Apr - Fri	11:00	45 min	A	TP	Schema and Metamodels and Ontologies, Oh My!
8	Kaylon Paterson	16 Apr - Fri	11:00	45 min	B	TP	Space Resource Management: A Study of the Impact of Space Exploration on Earth and Near-Earth Environments
300	Bharani Mohan and Paul Goossens	16 Apr - Fri	11:00	90 min	C	T-WS	Using MapleMBSE for Faster, Easier Editing of SysML Models
5	Aleczaider Jackson	16 Apr - Fri	11:45	45 min	A	TP	Model of Models Methodology
7	Curtis Potterveld	16 Apr - Fri	11:45	45 min	B	TP	Apollo 13: A Cautionary Tale
32	Matthew Hause and Teejay Momoh	16 Apr - Fri	13:30	45 min	A	TP	Integrated Product Line Engineering and the Digital Thread
50	Brian Parsons	16 Apr - Fri	13:30	45 min	B	SP	Using Chaos Engineering to Improve the Resiliency of Transportation Cyber Physical Systems: A Novel Approach to the Test and Evaluation of Complex Systems
40	Rick Hefner	16 Apr - Fri	13:30	3.5 hr	C	T-WS	Critical Soft Skills for Systems Engineers
54	Charles Krueger, Ned Troxel and Chris Tuski	16 Apr - Fri	14:15	45 min	A	TP	Towards Automotive Megaplatforms with Feature-based Product Line Engineering
39	David Gelperin	16 Apr - Fri	14:15	45 min	B	TP	How to Improve Software Reliability? - Few easy answers
43	William Bolander and Paul Clements	16 Apr - Fri	15:30	45 min	A	TP	Key Issues of Organizational Structure and Processes with Feature-based Product Line Engineering
53	Mark Vernacchia and Jesse Johnston	16 Apr - Fri	15:30	45 min	B	TP	Virtual Button and Graphical Interface System Safety Evaluation using System Theoretic Process Analysis (STPA)
10	William Bolander	16 Apr - Fri	16:15	45 min	A	TP	Automotive SPICE Level 2 & 3: The Journey to becoming a Learning Organization
17	Jace Allen	16 Apr - Fri	16:15	45 min	B	TP	Usage of ISO26262/SOTIF Processes for the Validation and Verification for ADAS/Autonomous Vehicle Systems
16	Michael Pafford	17 Apr - Sat	10:00	45 min	A	FTP	Lean Startup Method (LSM) and Agile for Mobility System Solution Initial Project Planning (IPP)
48	Daniel Menoher and Lavanya Krishna	17 Apr - Sat	10:45	45 min	A	TP	First Pass Implementing a Lean-Agile Feature Ideation Pipeline Using Model Driven-Design and DocOps in a Water-Scrum-Fall Environment
47	Paul Heininger	17 Apr - Sat	12:00	45 min	A	TP	Risk, Opportunity, or ...?
12	Michael Pafford	17 Apr - Sat	12:00	4 hr	B	T-WS	Lean Startup Method (LSM) and Agile for Mobility System Solution Initial Project Planning (IPP)
2	Sean McCoy and Francesco Dazzi	17 Apr - Sat	12:45	45 min	A	FTP	Building Trust - A Systems Engineer's Most Powerful Tool

Virtual Platform Opens for Viewing on April 2, 2021
Open for On-Demand Viewing of Recorded Sessions Through May 17, 2021

Open for On-Demand Viewing of Recorded Sessions Through May 17, 2021

10

INCOSE NC-GLRC14 Attendee Registration Fees

Up to 80+ Continuing Educations Units (PDUs): Certificates provided upon request after May 17, 2021

Registration Types	Early-Bird	After April 7
INCOSE Member	\$99	\$125
INCOSE Member (of NC-GL Chapters)	\$79	\$100
INCOSE Associate Member (CAB)	\$129	\$150
Non-Member *	\$159	\$200
INCOSE Student Member	FREE	\$10
Student Non-Member *	\$29	\$40
* Join INCOSE & Save promotional rates available (click below to view).		



**Virtual Regional
Conference and Workshop**
April 9-17, 2021
★ Systems Engineering
Capability and Competency

**Sector
Americas** ★
NC-GLRC

INCOSE Chapters
Regional Conference



REGISTRATION LINK



**Virtual Regional
Conference and Workshop**

April 9-17, 2021



Systems Engineering
Capability and Competency

Sector
Americas 
NC-GLRC

*INCOSE Chapters
Regional Conference*

