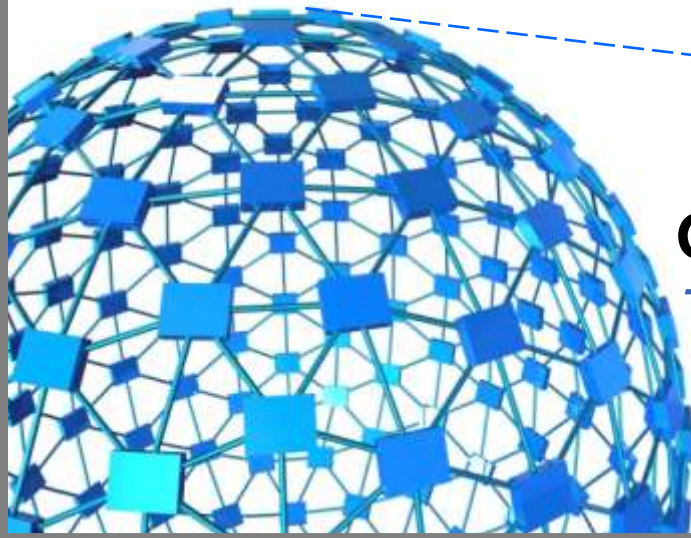


Welcome to the Seventh INCOSE Great Lakes Regional Conference on Systems Engineering!

October 5-6, 2013

Stewart Center, Purdue University, W. Lafayette, Indiana

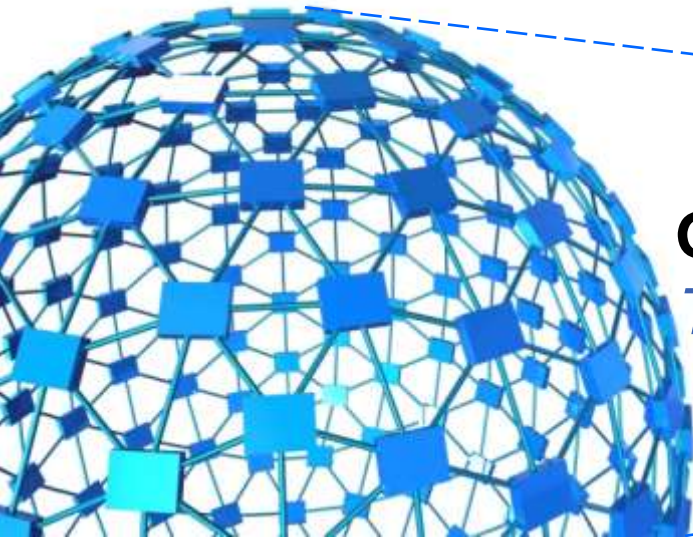


GLRC 2013: *Leadership
Through Systems Engineering*



Contents

- Welcome and conference theme
- Conference site overview
- Conference schedule overview
- Conference sponsors and planning committee
- Host chapter

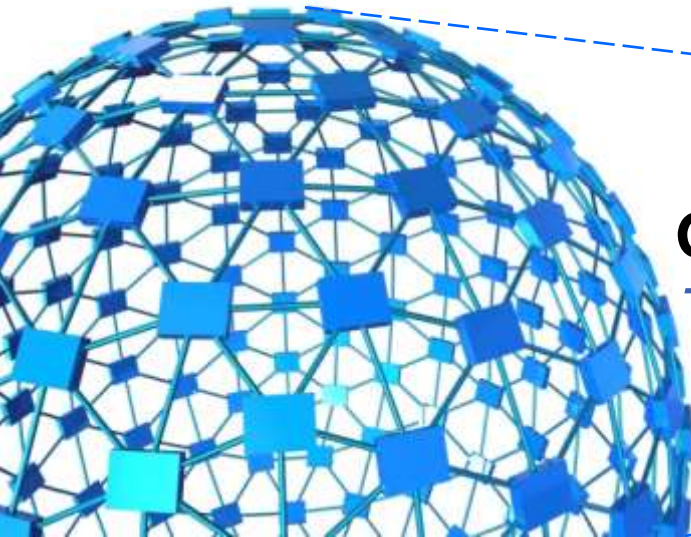


GLRC 2013: *Leadership
Through Systems Engineering*



Welcome!

- Along with its traditional technical sessions, this year's conference will also explore the connections between Leadership and Systems Engineering.
- Make your time here most effective by actively engaging with others, inside and outside these sessions – conference registrants are from 15 states!



GLRC 2013: *Leadership
Through Systems Engineering*



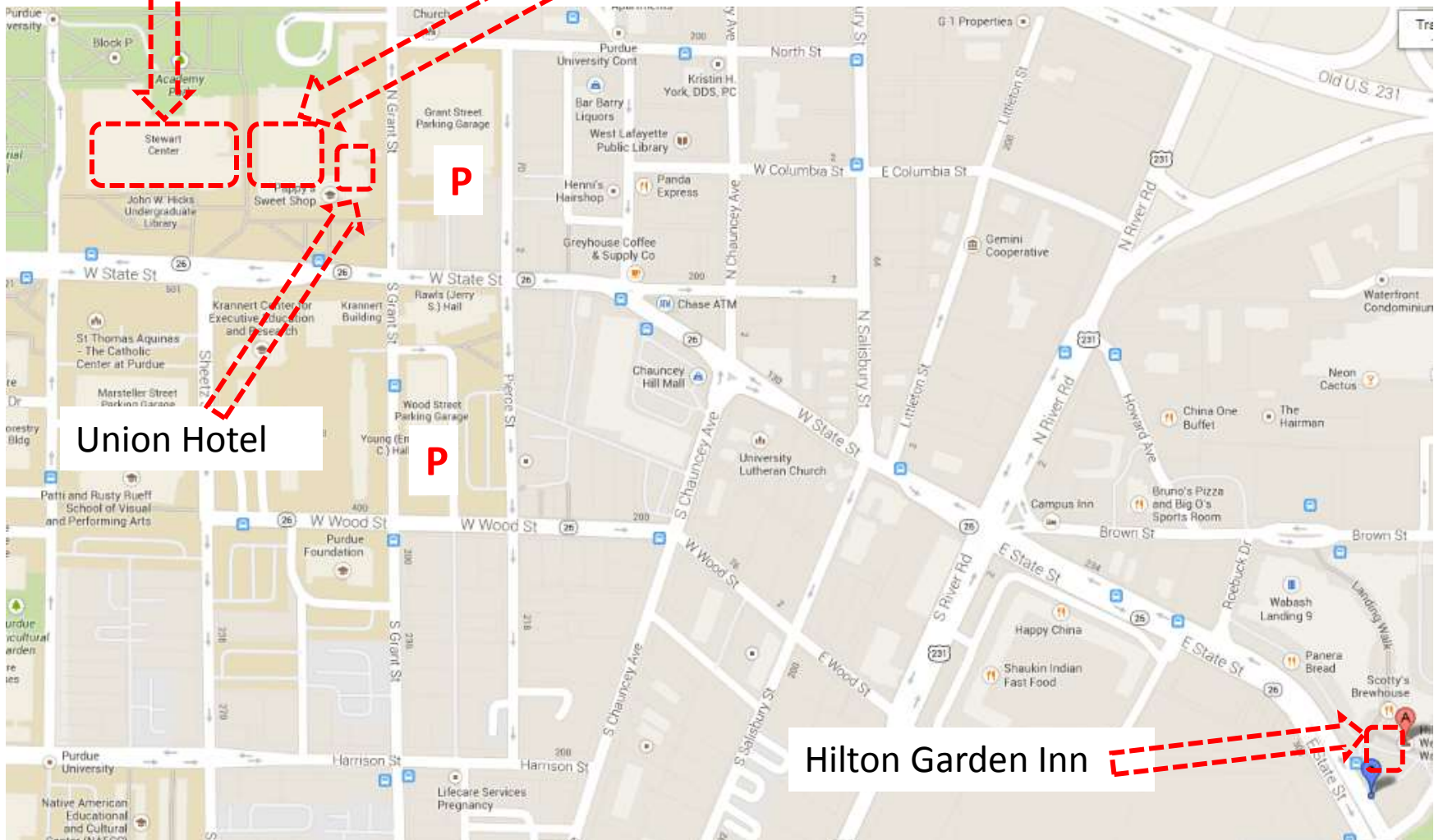
Site overview

Stewart Center:

- Second Floor
- Session Tracks, Sat-Sun

Purdue Union:

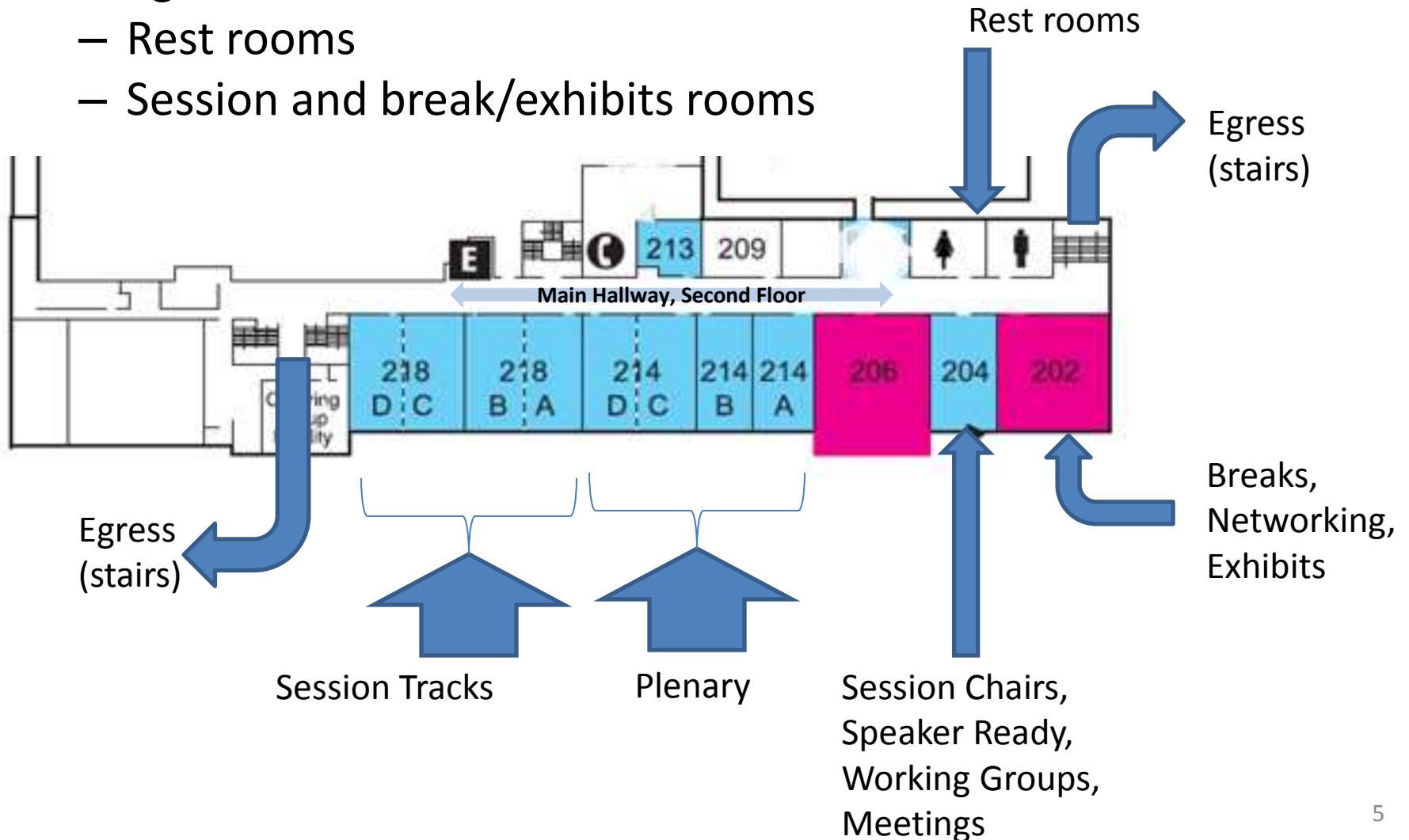
- West Faculty Lounge
- Saturday lunch and banquet



Site overview

- Stewart Center, second floor:

- All conference events except Saturday lunch & banquet
- Egress routes
- Rest rooms
- Session and break/exhibits rooms



Conference Schedule Overview

- Saturday, October 5:
 - 7:30 – 8:15 Registration, continental breakfast
 - 8:15 – 8:30 Conference opening plenary
 - 8:30 – 10:15 Conference meeting tracks (see program)
 - 10:15 – 10:30 Morning break, refreshments, networking, mentor links
 - 10:30 – 11:40 Conference meeting tracks (see program)
 - 11:40 – 1:00 Luncheon (**Union West Faculty Lounge**), SD Briefing, Luncheon Keynote
 - 1:00 – 2:45 Conference meeting tracks (see program)
 - 2:45 – 3:15 Afternoon break , refreshments, networking, mentor links
 - 3:15 – 5:00 Conference meeting tracks (see program)
 - 5:00 – 5:45 Evening break, regional biomedical WG, networking, mentor links
 - 5:45 – 6:30 Reception, cash bar (**Union West Faculty Lounge**)
 - 6:30 – 7:30 Banquet (**Union West Faculty Lounge**)
 - 7:30 – 8:10 Evening Keynote
- Sunday, October 6:
 - 7:45 – 8:15 Continental breakfast
 - 8:15 – 10:00 Half-day tutorials
 - 10:00 – 10:15 Morning break, refreshments, networking, mentor links
 - 10:15 – 12:00 Half-day tutorials, continued
 - 12:00 – 1:00 Closing box luncheon (Stewart Center)
 - 1:00 – 1:45 Conference & exhibit teardown

Detail Program, Schedule, Room Assignments (In Conference Attendee Packet)

Conference Summary

7th Annual INCOSE Great Lakes Regional Conference Leadership Through Systems Engineering

Aerospace | Commercial | Defense | Health Care | Manufacturing | Academia

- The International Council on Systems Engineering—INCOSE www.incose.org—is a not-for-profit membership organization founded to develop and disseminate interdisciplinary principles and practices that enable the realization of successful systems.
- The 7th Annual INCOSE Great Lakes Regional Conference on Systems Engineering will be held at the Purdue University Stewart Center, W. Lafayette, IN, Oct 5-6, 2013.
- Join the premier systems-focused networking and educational Great Lakes Regional event for engineering practitioners, technologists, business leaders, educators, and students you need not be a member of INCOSE to participate.
- Attend Systems Engineering (SE) presentations from its practitioners, including state-of-the-art descriptions across a diverse range of systems subjects, naming INCOSE CSEF POLs for Conference and Tutorial attendance.
- Choose from multiple technical presentation tracks on systems engineering in industry, academia.
- Attend half-day tutorials on Pattern-Based Systems Engineering and Model-Based Systems Engineering.
- Hear from and talk with experts in two panel discussions on Systems Engineering Education and Systems Engineering Certification.
- Participate in formation of regional and global Working Groups and Challenge Teams for Biomed/Healthcare, Leaders and Systems, and Pattern-Based Systems Engineering.
- Who should attend?
 - Practitioners, leaders, and decision makers from the regional systems community, focused on systems processes, products, services, partnerships
 - Student and educators, preparing for or extending careers in a systems-oriented world
 - Last year's GLRC 2012 was attended by systems community members from 13 states, 58 companies and organizations, and 4 INCOSE chapters



Keynote Speakers, Registration, Sponsors

7th Annual INCOSE Great Lakes Regional Conference Leadership Through Systems Engineering

Leadership and Systems--Keynote Speakers:



**Leadership Keynote:
Donald Byrne**



**Keynote Keynote:
David Long**

- Rob Royce, Head of Innovative Systems Engineering, **Donald Byrne**, will speak to the conference theme at the Saturday luncheon keynote address.
- INCOSE global President Greg **David Long** will speak to the conference theme at the Saturday banquet keynote address.

Leadership and Systems--Organizing a Regional Working Group:

- Attend a working group organizing session on advancing the capabilities of leaders of regional business and institutional organizations facing growing systems-related challenges and opportunities.

Conference Registration, Meaks, Hotel Accommodations:

- Conference registration:** www.glrc2013.asentive.com
- One conference registration fee** covers Saturday continental breakfast, lunch, evening banquet meal (cash bar), Sunday continental breakfast, lunch, refreshments at break, all technical sessions, tutorial, and guest bar.
- Hotel accommodations:** For INCOSE Conference Hotels at two nearby hotels: see www.glrc2013.asentive.com
- Information:** www.glrc2013.asentive.com or General Conference Chair, Bill Schmidt@incose.org

Conference Sponsors:

















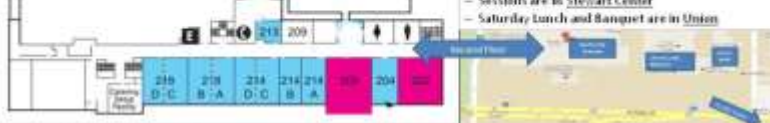
Conference Program

Activity	Day	Time	Event/Topic	Event/Topic	Event/Topic
Registration	Oct 5	7:00 - 8:00	Registration	Registration	Registration
Arrivals and Previews	Oct 5	8:00 - 8:30	Arrivals and Previews	Arrivals and Previews	Arrivals and Previews
	Oct 5	8:30 - 9:00	Arrivals and Previews	Arrivals and Previews	Arrivals and Previews
	Oct 5	9:00 - 10:00	Arrivals and Previews	Arrivals and Previews	Arrivals and Previews
	Oct 5	10:00 - 10:30	Arrivals and Previews	Arrivals and Previews	Arrivals and Previews
Keynote and Technical Sessions	Oct 5	10:30 - 11:00	Keynote: Donald Byrne	Keynote: David Long	Keynote: David Long
	Oct 5	11:00 - 11:30	Technical Session: Systems Engineering Education	Technical Session: Systems Engineering Certification	Technical Session: Systems Engineering Certification
	Oct 5	11:30 - 12:00	Technical Session: Systems Engineering Education	Technical Session: Systems Engineering Certification	Technical Session: Systems Engineering Certification
	Oct 5	12:00 - 12:30	Technical Session: Systems Engineering Education	Technical Session: Systems Engineering Certification	Technical Session: Systems Engineering Certification
	Oct 5	12:30 - 1:00	Technical Session: Systems Engineering Education	Technical Session: Systems Engineering Certification	Technical Session: Systems Engineering Certification
	Oct 5	1:00 - 1:30	Technical Session: Systems Engineering Education	Technical Session: Systems Engineering Certification	Technical Session: Systems Engineering Certification
	Oct 5	1:30 - 2:00	Technical Session: Systems Engineering Education	Technical Session: Systems Engineering Certification	Technical Session: Systems Engineering Certification
	Oct 5	2:00 - 2:30	Technical Session: Systems Engineering Education	Technical Session: Systems Engineering Certification	Technical Session: Systems Engineering Certification
	Oct 5	2:30 - 3:00	Technical Session: Systems Engineering Education	Technical Session: Systems Engineering Certification	Technical Session: Systems Engineering Certification
	Oct 5	3:00 - 3:30	Technical Session: Systems Engineering Education	Technical Session: Systems Engineering Certification	Technical Session: Systems Engineering Certification

Keynote Speakers, Registration, Sponsors

Activity	Day	Time	Event/Topic	Event/Topic	Event/Topic
Registration	Oct 5	7:00 - 8:00	Registration	Registration	Registration
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	Oct 5	2:30 - 3:00	Technical Session: Systems Engineering Education	Technical Session: Systems Engineering Certification	Technical Session: Systems Engineering Certification
	Oct 5	3:00 - 3:30	Technical Session: Systems Engineering Education	Technical Session: Systems Engineering Certification	Technical Session: Systems Engineering Certification

Room Assignments:



Stewart Center Room Assignments:

- 219: 8-C
- 218: 8-B
- 217: 8-A
- 216: 8-D
- 215: 8-C
- 214: 8-B
- 213: 8-A
- 212: 8-D
- 211: 8-C
- 210: 8-B
- 209: 8-A
- 208: 8-D
- 207: 8-C
- 206: 8-B
- 205: 8-A
- 204: 8-D
- 203: 8-C
- 202: 8-B
- 201: 8-A
- 200: 8-D

Registration: Sessions are in Stewart Center. Saturday Lunch and Banquet are in Union.

While Attending the Great Lakes Conference – Check Out the New Working Groups

Regional INCOSE Working Group: Leaders and Systems

- Working together to raise the systems competencies relevant to leaders at every level, across our region
 - Attend Session # 6 Saturday briefing and discussion of this local working group – or see GLRC2013 flash drive
 - If you are interested but cannot attend, drop a note of interest to schindel@icct.com
-

Regional INCOSE Working Group: Biomed/Healthcare Working Group & MBSE Challenge Team

- Working together to advance regional biomed/health care systems community, using Systems Engineering
 - Attend organizing session 5:00 – 5:45 PM Saturday, in Stewart Center Room 204
 - If you are interested but cannot attend, drop a note of interest to ajay.thukral@cientivegroup.com
-

Global INCOSE Working Group: Pattern-Based Systems Engineering MBSE Challenge Team

- Advance the re-use of configurable MBSE models for families of systems, product lines, platforms, and similar systems
 - Attend Sunday 8-12 PBSE Tutorial and discussion of this global working group and challenge team – or see GLRC2013 flash drive
 - If you are interested but cannot attend, drop a note of interest to schindel@icct.com
-

- We are a Regional Systems Community!
- Make friends while you are at the Conference!
- Whether you are a “Newbie” or “Old Hand” . . .



Break Room (202) & Meetings Room (204):

- Please fill out a Mentoring Interest Card from your conference packet, and post it in the Break Room.
- During Morning, Afternoon, and Evening Breaks, this networking is a way to form an acquaintance and continue it later.

Thank you to our Twenty Conference Sponsors



Underwriters, Exhibitors:



Partners, Supporters:

CROSSROADS OF AMERICA CHAPTER

WRIGHT BROTHERS CHAPTER

CHICAGOLAND CHAPTER

MICHIGAN CHAPTER

STUDENT DIVISION



Engineering Management

Thank you to our Conference Planning Committee, from Three INCOSE Chapters:

Name	Sub-Committees				INCOSE Chapter
	Program	Sponsor	Outreach	Operations	
Bill Schindel (Chair)	x	x			Crossroads of America
Tom McKinley	Chr			x	Crossroads of America
Dan Surber		x		x	Crossroads of America
Mike Celentano	x	x			Crossroads of America
Ryan Jackson		x	Chr		Crossroads of America
Paul DeMond	x			x	Crossroads of America
Paul White			x	x	Chicago Land
Mike Vinarcik		x	x		Michigan
Jitu Shah		x	x		Michigan
Stephen Lewis			x	Chr	Crossroads of America
David Rogers	x	x			Crossroads of America
Satwik Deshmukh	x			x	Crossroads of America
Dale Brown	x		x		Chicago Land
Andy Pickard	x	Chr			Crossroads of America

Thank You to GRLC 2013 Host Chapter



**CROSSROADS OF AMERICA
CHAPTER**

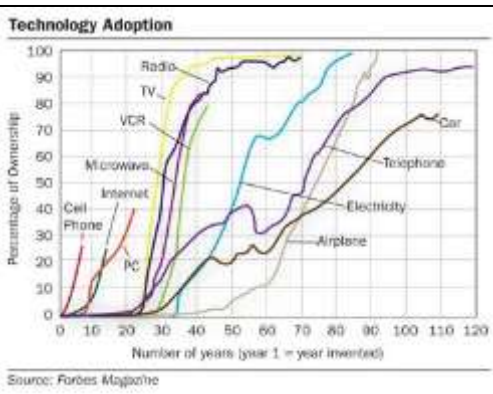
Crossroads of America Chapter Overview

- Systems: Opportunities and Challenges
- Systems Engineering and Systems Engineers
- International Council on Systems Engineering
- INCOSE Membership Value Proposition, Benefits
- Open Chapter Meetings
- Chapter Composition

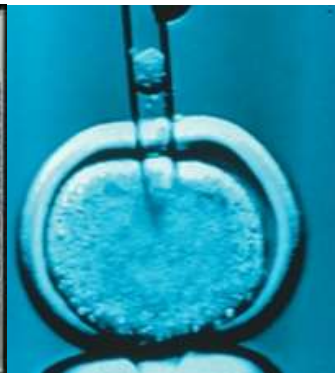
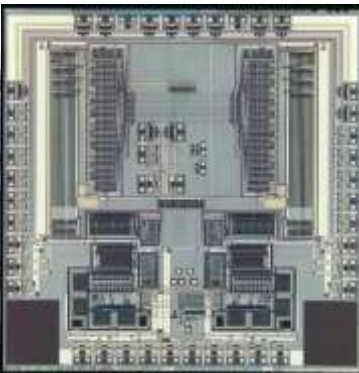




Systems: Opportunities and Challenges



Systems—human-engineered, natural, hybrid, high-tech and low-tech—are proliferating, evolving faster, growing in complexity, and increasingly critical to humankind—and to our region’s competitiveness.



Systems Engineering

- Focuses on defining customer needs and required functionality early in the development cycle, documenting requirements, then proceeding with design synthesis and system validation while considering the complete problem:

Cost & Schedule

Performance

Test

Manufacturing

Training & Support

Operations

Disposal

- Integrates all the disciplines and specialty groups into a team effort forming a structured development process that proceeds from concept to production to operation. Systems Engineering considers both the business and the technical needs of all customers with the goal of providing a quality product that meets the user needs.

-- *International Council on Systems Engineering (INCOSE)*

Systems Engineers

Elicit and document customer, user, and business needs of the system to increase likelihood of acceptance of the system		Estimate technical risk, estimate effort and duration of work
Develop and document use cases, operational concepts, and other dynamic behavior of the system		Allocate system functionality to sub-contractors and manage their work
Define system requirements, testing scenarios and environments		Investigate and resolve reported problems
Architect, design, and allocate system behavior to components of the system while simultaneously considering reliability, human factors, safety, cost, quality, manufacturability and many other fundamental attributes of the system		Manage product line variants to ensure consistency and maximize flexibility
Ensure technical feasibility, balance engineering trade-offs, enhance time-to-market		Understand and enforce standards applicable to the system
Define and manage system interfaces, both internal and external		Coordinate supply chains for manufacturing and other launch readiness activities
Lead technical and milestone reviews		Interview, hire, and train other systems engineers
Analyze, design, document, and coordinate requested changes to the system		Manage other engineers, not always just systems engineers



International Council on Systems Engineering (INCOSE)

- INCOSE Mission:
 - Share, promote and advance the best of systems engineering from across the globe for the benefit of humanity and the planet
- INCOSE Vision:
 - To be the world's authority on Systems Engineering



INCOSE Membership Value Proposition, Benefits

- Download INCOSE products and resources free from web (www.incose.org), such as:
 - SE Practitioner Body of Knowledge
 - INCOSE SE Handbook
 - Tools Database
 - Writing Good Requirements Guidebook
 - Metrics Guidebook
 - SE Leading Indicators Guide
- Outstanding webinar education series, archived and on-line



INCOSE Membership Value Proposition, Benefits

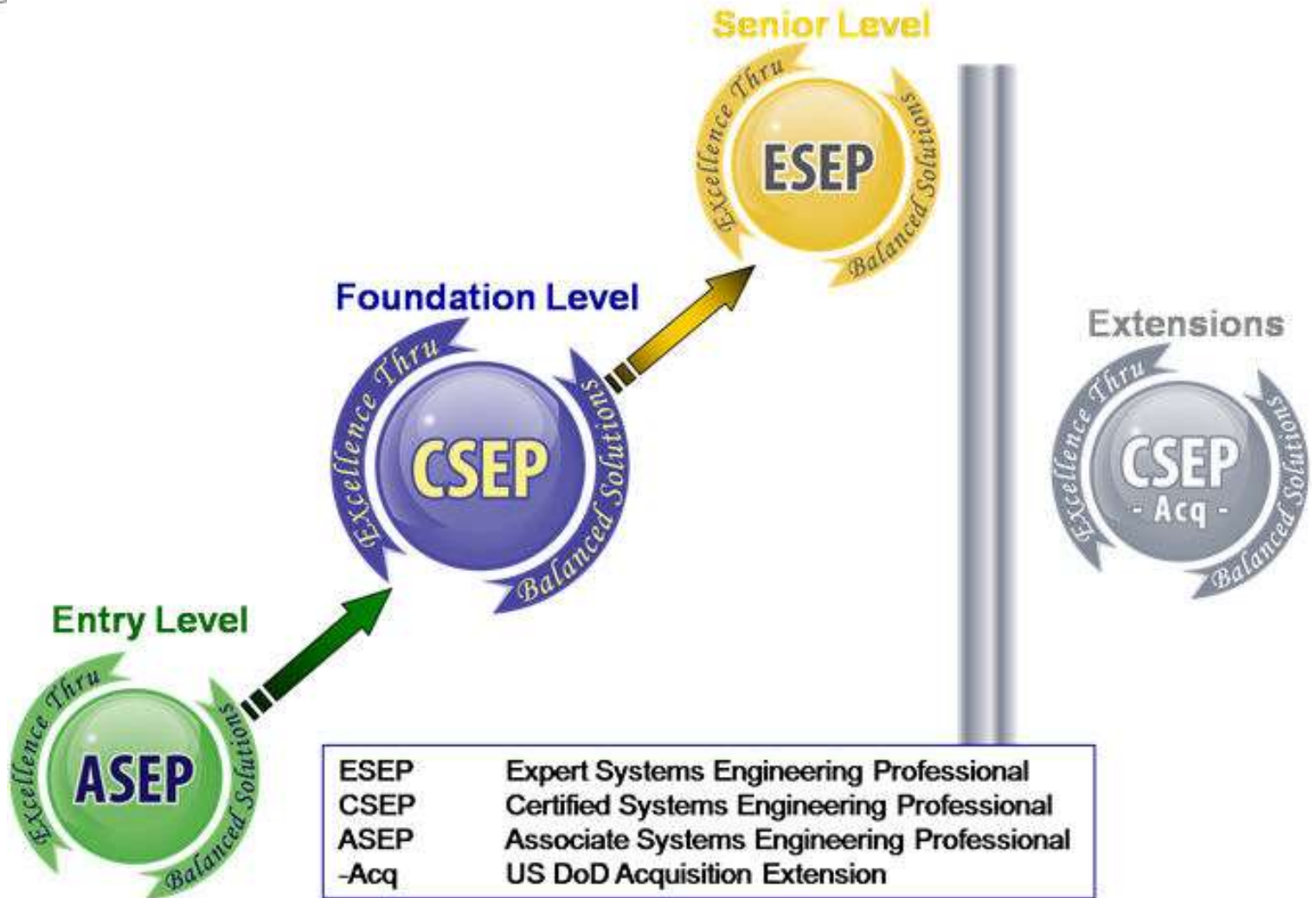
- Network with 8000+ multi-national systems engineering professionals, individually, in a local chapter or in Working Groups
- Quality presentations on SE topics of interest in chapter meetings, regional meetings, annual international workshops and annual international symposia
- Receive *Insight*, quarterly publication
- Receive *Systems Engineering*, the refereed Journal of INCOSE
- Leverage, and advance, SE state-of-the-art through INCOSE working groups
- Collaborate with experts and practitioners



INCOSE Annual Events

- **International Workshop (approximately four days, winter):**
 - Working sessions for technical working groups and administrative committees
 - Annual report to membership on results and plans for coming year
 - Opportunities for networking between active INCOSE volunteers
 - 2012, 2013: Jacksonville, FL
- **International Symposium (approximately six days, summer):**
 - Technical papers, panels, tutorials, exhibits, plus many opportunities to collaborate with experts and practitioners from diverse domains
 - Extensive opportunities for networking
 - 2012: Rome, Italy ; 2013: Philadelphia, PA

INCOSE Certification



Open Chapter Meetings

- Our chapter holds evening meetings, focused on technical programs
- 6:00 – 8:00 PM, with light dinner, program
- Remote attendance option: We stream our meetings over the web, to our members spread across Indiana and downstate Illinois
- Chapter web site: www.incose-coa.org for meeting information
- You are invited to visit—membership is not required to attend.

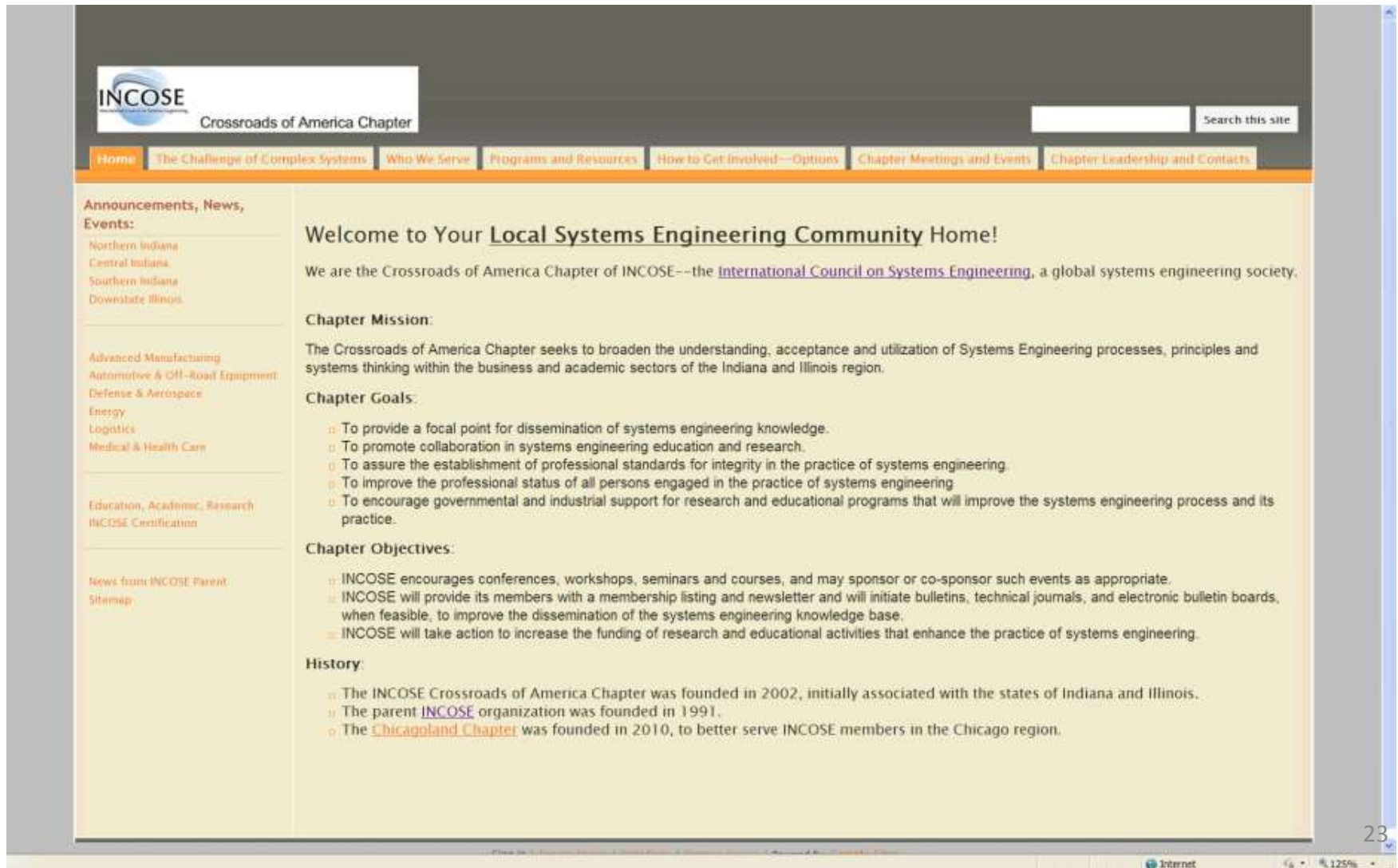


Diverse chapter membership:

- Medical / Health Care
- Advanced Manufacturing
- Communications
- Mil/Aerospace
- Education, Academia
- Commercial and Defense

Chapter web site

www.incose-coa.org



The screenshot shows the homepage of the INCOSE Crossroads of America Chapter website. The page features a navigation menu with links to Home, The Challenge of Complex Systems, Who We Serve, Programs and Resources, How to Get Involved—Options, Chapter Meetings and Events, and Chapter Leadership and Contacts. A search bar is located in the top right corner. The main content area is titled "Welcome to Your Local Systems Engineering Community Home!" and includes a brief introduction to the chapter, its mission, goals, objectives, and history. The left sidebar contains links to various sections such as Announcements, News, Events, and industry sectors like Advanced Manufacturing and Defense & Aerospace.

INCOSE
International Council on Systems Engineering

Crossroads of America Chapter

Home | The Challenge of Complex Systems | Who We Serve | Programs and Resources | How to Get Involved—Options | Chapter Meetings and Events | Chapter Leadership and Contacts

Announcements, News, Events:
Northern Indiana
Central Indiana
Southern Indiana
Downstate Illinois

Advanced Manufacturing
Automotive & Off-Road Equipment
Defense & Aerospace
Energy
Logistics
Medical & Health Care

Education, Academic, Research
INCOSE Certification

News from INCOSE Parent
Sitemap

Welcome to Your Local Systems Engineering Community Home!

We are the Crossroads of America Chapter of INCOSE--the [International Council on Systems Engineering](http://www.incose.org), a global systems engineering society.

Chapter Mission:

The Crossroads of America Chapter seeks to broaden the understanding, acceptance and utilization of Systems Engineering processes, principles and systems thinking within the business and academic sectors of the Indiana and Illinois region.

Chapter Goals:

- To provide a focal point for dissemination of systems engineering knowledge.
- To promote collaboration in systems engineering education and research.
- To assure the establishment of professional standards for integrity in the practice of systems engineering.
- To improve the professional status of all persons engaged in the practice of systems engineering.
- To encourage governmental and industrial support for research and educational programs that will improve the systems engineering process and its practice.

Chapter Objectives:

- INCOSE encourages conferences, workshops, seminars and courses, and may sponsor or co-sponsor such events as appropriate.
- INCOSE will provide its members with a membership listing and newsletter and will initiate bulletins, technical journals, and electronic bulletin boards, when feasible, to improve the dissemination of the systems engineering knowledge base.
- INCOSE will take action to increase the funding of research and educational activities that enhance the practice of systems engineering.

History:

- The INCOSE Crossroads of America Chapter was founded in 2002, initially associated with the states of Indiana and Illinois.
- The parent [INCOSE](http://www.incose.org) organization was founded in 1991.
- The [Chicagoland Chapter](#) was founded in 2010, to better serve INCOSE members in the Chicago region.

Internet 125%