Socorro Systems Summit

5-6 April 2019
All Day with 8:00am Start
New Mexico Tech, Socorro, NM

Internet: unencrypted-web-login
User: (redacted for proceedings)
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Co-Sponsors:

INCOSE Enchantment Chapter

New Mexico Tech Electrical Engineering Department

Event Objectives

- **Participants have a valued experience of collaborative teaming on a mission**

- **Participant's expand personal knowledge of selected systems engineering issues**

- **Participants have the opportunity to expand personal networks**

Topics and Facilitators

Morning today

- **Full Life Cycle Attention by System Developers**   **Ann Hodges**
- **Problem Space Focus Before Solution Work**   **Ron Lyells**

- **Mixed Discipline SE Training**   **Heidi Hahn**
- **Verification & Validation of SE Models**   **Ed Carroll**

Afternoon today

- **Agile SE in Mixed Discipline Projects**   **Rick Dove**
- **Student Involvement in Chapter & WG Activities**   **John Brtis**

- **Autonomous Systems Complexity Assessment**   **Eric Smith**
- **Women as leaders in Systems Engineering**   **Ann Hodges**
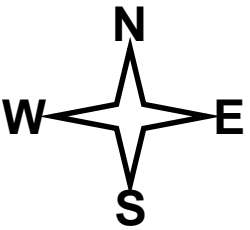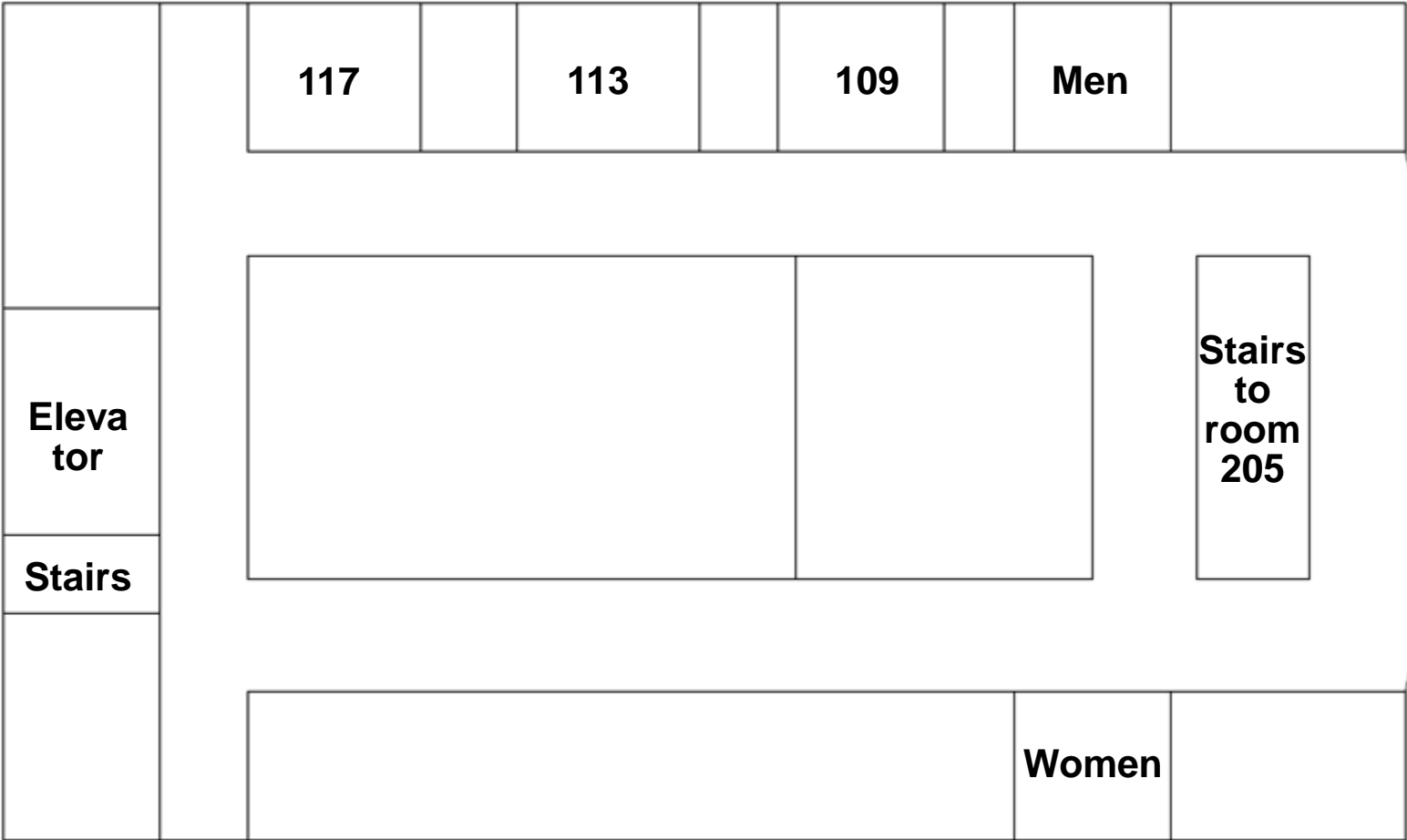
	Friday April 5, 2019 – Topic Intros and Objective Setting for Saturday Workshop	
08:00	**General Session**: Welcome and What Will Happen – Aly El-Osery and Rick Dove, Ballrooms B & C	
08:45	**Keynote:** Kerry Lunney, ESEP, INCOSE President Elect, Thales Australia Country Engineering Director/Chief Engineer	
09:15	==Back is B== Adjust Room Walls for Break-Outs – Coffee Break ==Front is C==	
09:30 10:45	**Full Life Cycle Attention by System Developers** Facilitator: Ann Hodges Ballroom B	**Problem Space Focus Before Solution Work** Facilitator: Ron Lyells Ballroom C
11:00 12:15	**Mixed Discipline SE Training** Facilitator: Heidi Hahn Ballroom B	**Verification & Validation of SE Models** Facilitator: Ed Carroll Ballroom C
12:30	**Lunch on Your Own**	
13:30 14:45	**Agile SE in Mixed Discipline Projects** Facilitator: Rick Dove Ballroom B	**Student Involvement in Chapter & WG Activities** Facilitator: John Brtis Ballroom C
15:00 16:15	**Autonomous Systems Complexity Assessment** Facilitator: Eric Smith Ballroom B	**Women as Leaders in Systems Engineering** Facilitator: Ann Hodges Ballroom C
16:30	**Break**	
17:00	**Reception with Refreshments and Saturday Workshop Posters: Objectives and Choices, Ballroom A**	
18:00	**Dinner on Your Own**	**Optional Dinner Gathering** ==TBD – announced at Summit in the morning==

	Saturday April 6, 2019 – A Focus on Impediments and Enablements – Rooms in Workman Center (WMC)			
08:00 11:15	**Full Life Cycle Attention by System Developers** Ann Hodges, WMC 109	**Verification & Validation of SE Models** Oscar Mondragon, WMC 113	**Agile SE in Mixed Discipline Projects** Rick Dove, WMC 117	**Problem Space Focus Before Solution Work** Ron Lyells, WMC 205
11:15	**Lunch on Your Own**			
12:15 15:30	**Mixed Discipline SE Training** Heidi Hahn, WMC 109	**Student Involvement in Chapter & WG Activities** John Brtis, WMC 113	**Women as Leaders in Systems Engineering** Ann Hodges, WMC 117	**Autonomous Systems Complexity Assessment** Eric Smith, WMC 205
15:45	MSEC 101 **General Session**: Eight Brief Outs of Results @ 10 Minutes Each			
17:15	MSEC 101 **General Session**: Wrap Up and Open Discussion			
18:00	(MSEC: Mineral Science & Engineering Center) **Adjourn**			

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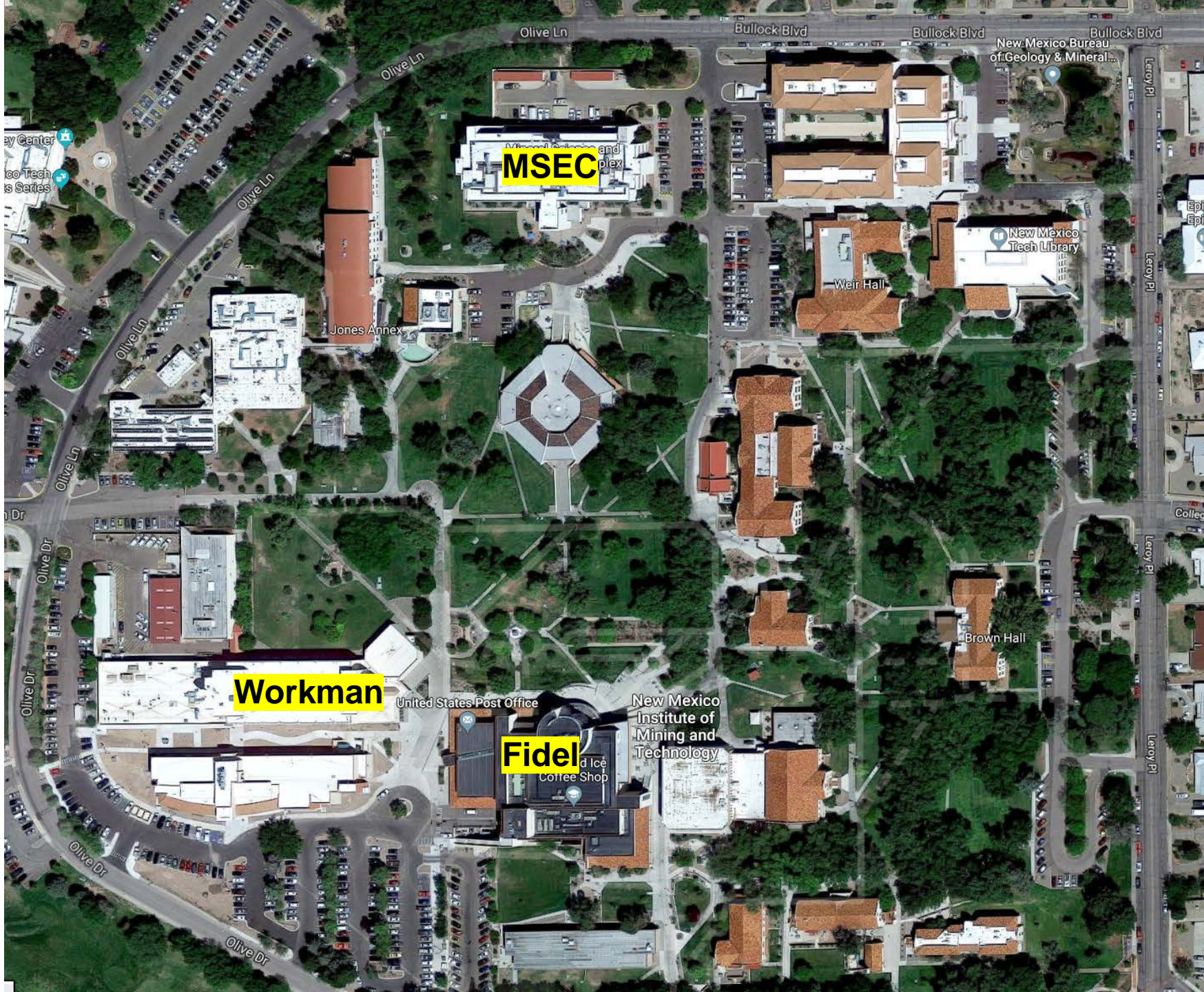
Collaborative Knowledge Development

Mission:

1: Articulate the unresolved problem concisely.

2: Identify the Customer(s) that would support a solution

3: Identify organizational/cultural impediments to a solution.

4: Converge on requirements for an embraceable solution.

Culture:

- **Everybody has a voice & perspective that is heard.**
- **Welcoming to all levels of experience – students to elders.**
- **Everybody engages as a team on a mission.**
- **Facilitator is there to guide toward mission completion.**

Workshops on Saturday can decide on coffee break time.

Working Outlines

Day 1 Session:

1. Optional: 15 minutes max, facilitator positioning of the problem space.
2. Everybody: who you are, what you know and question in the area, what topic issues you would like to see as a focus.
3. Convergence on a concise statement of topic-resolution need, and identify the target Customer(s).
4. Select a short list of topic issues for Day-2 focus.
5. One-slide poster of intended Day 2 focus, for display at reception.

Day 2 session:

1. Identify organizational and cultural impediments to recognizing the problem as one in need of attention and solution.
2. Converge on broadly acceptable requirements for an embraceable solution.
3. If appropriate, plans for subsequent solution collaborative action.
4. Develop general session brief out slides.

Facilitators manage the time for mission completion

Day-1 Brief Out Single-Slide Poster Template

<center>**<Topic Name>**</center>

1. Need (Articulate the unresolved problem-need for resolution).

2. Customers (Identify the customers for a solution – provides context).

3. Issues to Focus On (Day-2 intended focus).

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This Poster will be displayed at the reception,
with the intent of enticing participants to attend the Day-2 session.

Facilitator may suggest a concisely articulated problem statement – for modification or replacement by Day-1 participants.

Example: SE Appreciation/Adoption Across the Organization

Need:

- **We're not able to get things done to our satisfaction: reputation, cost, schedule, risk appetite, lack of beneficial outcomes, etc.**

Customers:

- **Key organizational business managers, decision makers, & political influencers.**

Issues to Focus On:

1. **Lack of knowledge and appreciation of the SE domain.**
2. **Perceived cost/value barriers.**
3. **Inertial attitude: If it ain't broke don't fix it!**
4. **Siloed mission understandings.**
5. **My ox will be gored (budget and turf competition perception).**

Feedback at the End

This Summit was an experience in collaborative exchange.

Are you glad you came (1-5)? _____ (1=No, 5=Definitely)

Should we do another (1-5)?   _____ (1=No, 5=Definitely)

Feedback on what you liked :

Feedback on what you didn't like:

Feedback to make it more effective:

Keynote Speaker Kerry Lunney

Kerry is INCOSE President Elect for 2018-2019 and will be President in 2020-2021.

She has been a member of the INCOSE Board of Directors representing Asia-Oceania, and a past-National President of the Systems Engineering Society of Australia.

In her day job, Kerry is Country Engineering Director and Chief Engineer in Thales Australia. Recent roles include Chief Systems Engineer, Solutions Architect, and Design Authority

She has extensive experience in developing and delivering large system solutions, including design, software development, infrastructure implementation, hardware deployment, integration, sell-off, training, and on-going support.

She has worked in various industries including ICT, Gaming, Financial, Transport, Aerospace and Defence, in Australia, Asia and USA.

Systems delivered include combat systems, mission systems, communication systems, road and rail ITSs, flight simulators, security systems, vehicle electronic systems, gaming systems, and ICT foundation systems.

Kerry is a member of IEEE, a Fellow Member of Engineers Australia with the status of Engineering Executive and Chartered Professional Engineer, and holds the Expert Systems Engineering Professional (ESEP) qualification from INCOSE.