AESS Technical Operations

Presented to Board Officers
By Roger Oliva, VP Technical Operations
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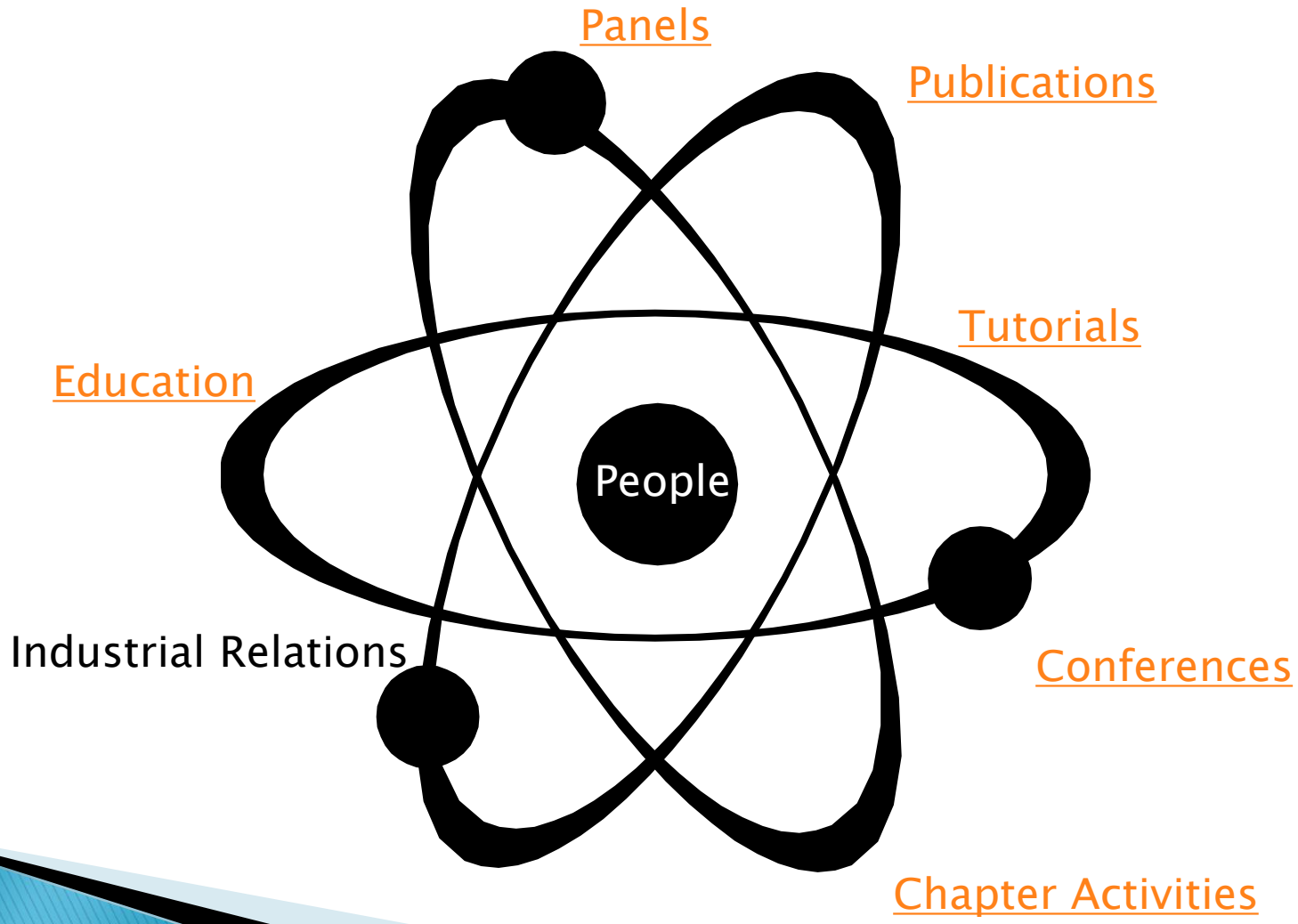
What is at the nucleus of AESS Technical Operations?



Panel Structure

1)	Gyro and Accelerometer Panel	Randall Curry
2)	Radar Systems Panel	Mark Davis
3)	Space Systems Panel	Cosimo Stallo
4)	Target Tracking Systems Panel	Hody Lambert
5)	Aerospace Systems Integration Panel	Koteswara Rao
6)	Aerospace Control & Guidance Systems	Lou Knotts
7)	Aerospace Workforce Panel	Russell Lefevre
8)	Cyber Security Panel	Fred Wright
9)	Unmanned Aerospace Vehicles Panel	George Dean
10)	Avionics Systems Panel	Paul Kostek

AESS Quad Charts – Technical Pursuits

Goals and Objectives

- Collaboration Panels and Chapters
- Develop a formal peer review
- TP 's, best practices, methods & tools
- Synergy for education activities
  Development modules

Concept Developments

- Consider Workshops Similar to
  - 2011 Chapter Summit
  - DASC:Future of Aviation Exercise
- See TP's

RDT&E Activities

- Identify need for New Standards
- See TP's

DOTLMPF

- Help floundering TP's
- Promote conference development
- Reach out to Chapters for inputs
- Engage industry for insight
- See TP's

Doctrine, organization, training, leader development, materiel, personnel, and facilities (DOTLMPF)

GYRO and ACCELEROMETER

-Develop standards and test procedures
  - promote understanding of systems to measure linear/angular motion
- Expand IMU Membership

- Identify new sensor technologies

Strategic initiatives:
- inertial sensor specification format guide
-test procedures, emerging new sensor technologies.

- Implementation?

RADAR

- Radar Conference Leadership
- Standards and terminology
- Education

- Civilian Radar
- Waveform Diversity

- Emerging capabilities
- US SAR capabilities

- Conference-centric

SPACE SYSTEMS

- Standardization
- System analysis & design
- Applications, constellations,
- Integration, dual use.
- Organizing conferences

-Exploring new concepts like weather?

- EHF technologies

-Where are the workforce
-concerns?

TARGET TRACKING SYSTEMS

- Standard terminology, specification formats, and test procedures,
- Promote understanding of algorithms and components of sensor data processing systems
- Trackipedia wiki engine as a collaboration tool, design and promote the use of standard “test-to” scenarios to improve algorithm performance

- Lack of sponsorship killing them.

SYSTEMS ENGINEERING

- Support advancement of systems engineering techniques
- Building “real” way forward to plan, program, and execute Summit Topics

AEROSPACE CONTROL and GUIDANCE

-Control/guidance systems
- NextGen air traffic control
- Single day short course
- Introduce a lecture series

- Adaptive control concept
- Integration of UAS in NAS

CYBER SECURITY

- Embedded/network systems
- Standards and regulations
- Education/public outreach

- Focus: embedded/network system exploration because vulnerability reaches across many functional areas.

- Does FCC have a suitable controls/standards/metrics/certification processes
- Should NIST be involved?

- Public can be educated to reduce fear

AEROSPACE WORKFORCE

Goals and Plans: to be reported soon

"…would like someone else to lead but I would like to contribute"

UNMANNED AEROSPACE VEHICLES

Goals and Plans: to be reported soon

"…has not done much as a panel per se but some of the members have been active with the universities and with other organizations that are active with remote piloted vehicles."

AVIONICS SYSTEMS

Goals and Plans: to be reported soon

“… is just starting off and we're still defining our interest areas, so any input thoughts would be appreciated.”

AESS Technical Operations

- What would best serve the membership?
- Is our Panel Structure right?
- How do we better collaborate between panels and between Chapters, Educational/Tutorial Options, Conferences, Chapters, Publications, Industrial Relations?

-IDEAS?

BACKUP SLIDES

What We Do?

The field of interest shall be the organization, systems engineering, **design**, development, integration, and operation of complex systems for space, air, **ocean**, or ground environments. These systems include but are not limited to navigation, avionics, **mobile electric power** and electronics, radar, **sonar**, **telemetry,** military, **law-enforcement**, **automatic test**, **simulators,** and **command and control**.

PANEL STATUS

- Gyro and Accelerometer: more robust plan recommended
- RADAR: seems on track
- Space: stronger plan needed
- Target Tracking: stronger plan needed
- Aerospace Control and Guidance: fantastic info but stronger plan needed
- Aerospace Systems Integration Engineering: stronger plan needed (not staffed at the moment)
- Aerospace Workforce: stronger plan needed (not staffed at the moment)
- Avionics: stronger plan needed
- Cyber Security: stronger plan needed (not staffed at the moment)
- UAVs: stronger plan needed (not staffed at the moment)