

AESS Officers Strategic Planning Meeting

VP Committees and Joint Initiatives

January 28, 2017

Renaissance Atlanta Midtown

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Outline

1. MOTIVATING EXAMPLE

- *Serving needs of industry*
- *Training and development*

2. JOINT INITIATIVES

- *Short Courses and Technical Workshops*
- *Test case*

3. GROUP DISCUSSION

- *Insights to improve collaboration*
- *Other ideas for joint VP initiatives*

Motivating Example – US Navy Project

12-company \$800 million Navy project seeks to share radar, EW, and communications antennas

April 26, 2016
By John Keller
Editor

<http://www.militaryaerospace.com>



ARLINGTON, Va., 26 April 2016.

Twelve U.S. technology companies are carrying out a 5-year potential \$800 million U.S. Navy research project to develop new kinds of antennas that communications, radar, and electronic warfare (EW) systems can share.

Officials of the Office of Naval Research on Monday chose the 12 companies to participate in the Electromagnetic Command and Control (EMC2) program that seeks close integration of disparate RF system electronics and antennas to

reduce costs and RF interference.

The idea is to reduce the number of RF and microwave antennas on ships, aircraft, ground vehicles, and land sites to mitigate the effects of RF interference, as well as reducing the costs of military systems that use radio waves.

- ✓ Significant investment
- ✓ Contracts for industry
- ✓ Project in AESS FOIs

AESS Opportunity

The companies selected for the (EMC2) are:

the Lockheed Martin Corp. Mission Systems and Training segment in Moorestown, N.J.;

ArgonST, a wholly owned subsidiary of the Boeing Co. in Fairfax, Va.;

the Northrop Grumman Corp. Mission Systems segment in Linthicum, Md.;

the Raytheon Co. Integrated Defense Systems Advanced Technology Programs segment in Tewksbury, Mass.;

EOIR Technologies Inc. in King George, Va.;

S12 Technologies Inc. in North Billerica, Mass.;

S2 Corp. in Bozeman, Mont.;

Sea Corp. in Middletown, R.I.;

Leidos in Arlington, Va.;

Rockwell Collins in Cedar Rapids, Iowa;

Physical Optics Corp. (POC) in Torrance, Calif.; and

TiCom Inc. in Austin, Texas.

- ✓ Know companies/locations
- ✓ Have training budget/need
- ✓ Potential AESS opportunity

- **General industry needs** – staff training, professional development, tech update.
- **Specific company needs** – who needs what, where do they need it, and when.

INDUSTRY RELATIONS

– Identify specific company needs and AESS opportunities to serve.

Void between DLs and Conferences

EDUCATION:

- Distinguished Lectures and Distinguished Tutorials
- **Short Courses** (instructor with fee-paying attendees)
 - Decouple from conferences (stand-alone events)
 - Fulfills company needs (instructor from AESS membership)
 - Raises revenue for local chapters to fund member activities
 - *Procedure and guidance not developed for AESS short courses*

CONFERENCES:

- AESS Conferences (relatively broad scope, hundreds of attendees)
- **Technical Workshops** (fee-paying mini-conference)
 - Limited scope targeting local industry needs (tens of participants)
 - Brings together industry, Government and academia (networking)
 - Benefits for AESS TP members (standing, visibility and linkages)
 - *AESS connects dots and provides best-practices, methods, tools*

Joint Initiatives – AESS Courses and Workshops

Industry Relations

- Identifies specific company needs and AESS opportunities

Education & Conferences

- Develop suite of agile training initiatives that fulfil the need

Membership & Technical Operations

- Find instructors and organizers (make volunteer data base)

Publications

- Promote new initiatives, tech. workshops → special issues

Finance

- Provide seed funding and ensure IEEE compliance


Test Case – AESS Short Course (Nov. 2015)

A one-day fee-paying IEEE AESS short course on OTH radar generated \$15,600 for the local chapter in South Australia (about half was surplus).

Surplus comparable to that raised *by the local chapter* for large-scale conferences that involve significant seed funding and financial risk.

Shows it can be very effective, but requires a tailored initiative, targeted at specific companies, held in the right location and at the right time, by an appropriately qualified instructor.

Requires small seed funding, has low financial risk, and all parties win!




IEEE IEEE South Australia Section
Aerospace and Electronic Systems Society

One Day Workshop
Introduction to HF Over-the-Horizon Radar

The IEEE South Australia Section AES Society invites you to attend a unique one day workshop by
AESS Distinguished Lecturer Dr Joe Fabrizio - Defence Science and Technology Organization

About the workshop:
This workshop introduces the fundamental principles of OTH radar design and operation in the challenging HF environment to motivate and explain the architecture and capabilities of modern OTH radar systems. It describes conventional and adaptive processing techniques for clutter and interference mitigation and some emerging applications, including HF passive radar, blind signal separation and multipath-driven geolocation. A highlight of the tutorial is the prolific inclusion of experimental results to illustrate the practical application of advanced techniques in real-world OTH radar systems. The workshop is expected to benefit students, researchers/engineers and practitioners interested in HF radar principles, systems & techniques.



About the presenter:
Dr Fabrizio leads the EW and signal processing section of the HF radar branch in Australia's Defence Science and Technology Organization (DSTO). He has been working in the area of HF OTH radar for over 20 years, and is

Each participant receives the text "High Frequency Over-the Horizon Radar", McGraw-Hill, NY, 2013

Time: 9:00 am - 5:00 pm
Date: Monday 13th April to Wednesday 15th April
Venue: Building F University of South Australia Mawson Lakes

Registration: Remove the slip below and return completed to Computer Society, IEEE SA Section. Early bird registration closes 5pm 1 March 2015

ABN: 96 817 212 761

Name _____ 3 Day Workshop - Image Processing on FPGAs

Email to: **Ross Smith**
Treasurer CS IEEE SA
ross.smith@unisa.edu.au

Address _____

Phone/Email _____

Special requirements _____

Method of payment Cheque Visa MasterCard

Credit Card # _____ Exp. date _____ / / 2015

Signature _____

Sign up for: **Early Bird** **Regular**

<input type="checkbox"/> Non-IEEE Member	\$1600	\$2000
<input type="checkbox"/> IEEE Member	\$1200	\$1500
<input type="checkbox"/> Student	\$800	\$1000
<input type="checkbox"/> IEEE Student Member	\$600	\$750

IEEE Member # _____

Direct Deposit
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Total: _____

Includes GST

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Why did it work ? – AESS Short Course (Nov 2015)

Lockheed Martin and BAE Systems Australia compete for the \$1 billion Jindalee Operational Radar Network (JORN) upgrade program (Phase 6).

Both companies have a major presence in Adelaide. They value staff training and allocate significant budget to professional development activities.

There is an AESS member in Adelaide who has written a book on OTH radar and has presented tutorials on this subject at IEEE radar conferences.

Industry need exists, company funding is available, the training material is ready, the instructor is willing and the local chapter is keen to organize.

Many such opportunities exist for AESS around the world, but to capitalize, we need to work as team of leaders to develop a process and guidance.

