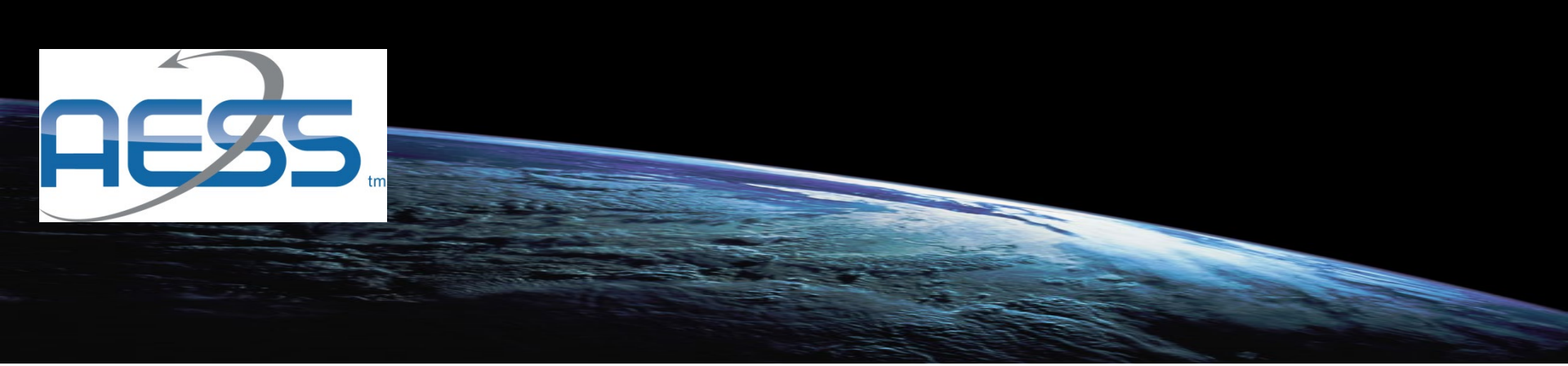


# AES Society – Education Board Meeting May, 2015

**Joe Fabrizio**

**VP Education**

# AESS Education – Mission and Vision

## Mission Statement

AESS education provides a central reference point for training resources, learning activities and continuing education programs vital for professional growth in AESS fields of interest and to develop the future generation of contributors to the Society.

## Vision Statement

AESS Education will be recognized for its leadership in creating an essential forum for professional development by providing world-class services and products that are valued by AESS members and technical communities throughout the world.

# AESS Education – Strategic Objectives

**Strengths**

- Effective and efficient DL program (high usage, low cost, fast process, positive feedback)
- Excellent core of mature & authoritative members willing to contribute to AESS education
- Exciting new initiatives aimed at younger members approved by BoG being implemented

**Weaknesses and Opportunities**

- Online education is of high quality and relevance but has not recorded significant usage
- Reaching out to countries with low membership base and local budgets (e.g. Argentina)
- Opportunity exists to apply a key strength to address these weaknesses simultaneously

**What are our long-term strategic objectives?**

**(1) Continue to improve existing products and services**

- Distinguished Lecture (DL) Program
- Online Education incl. Video Tutorials
- Young Professionals (formerly GOLD)

**(2) Provide more benefits to attract and retain members**

- Mentoring program [In Progress]
- AESS short courses [New]
- Robert Hill award [Approved by IEEE]

**(3) Raise awareness for members & potential members**

- AESS Magazine, website, QEB and IEEE-TV
- AESS promotional slide-packs & brochures

**Overarching Goals**

- Grow internationally and technically through education
- Increase AESS revenue (not only membership per se)

# Distinguished Lectures – Strategic Initiatives

### 1. Increase Activity

- Active DLs are needed to be effective ambassadors of the AESS

→ Introduce two-year term, monitor activity & review DL list annually [current]

### 2. Reduce Costs

- Reduce DL program expenses while maintaining/enhancing benefits for the AESS

→ DLs indicate planned travel dates and locations next to their website profile [new]

### 3. Enhance Accessibility

- Emerging AESS chapters do not have funds to host DL events involving long-distance travel

→ Improve geographic distribution of DLs, increase max AESS limit, short-course initiative [new]

### 4. Standardize Procedure

- Efficient process that minimizes potential for misunderstanding between DL, host, and AESS

→ Introduce a DL request form that clearly defines agreement and also provides DL guidelines [current]

### 5. Evaluate Benefit

- Measure benefit perceived by AESS members and other participants (not only the host)

→ Register attendance, provide this to VP Education, and send on-line evaluation requests [new]

### 6. Promote AESS

- Don't miss opportunity to promote AESS to members and potentially new customers

→ Continually review and improve promotional materials and ensure its use at DL events

# Activity Report – Previous Term (2013 and 2014)

## Action item (suggested by Teresa Pace) - Publish DL activity report in AES magazine

**AESS Distinguished Lecture and Tutorial Program**

**Activity Report for 2013 and 2014 term**

*Dr Joe Fabrizio, Vice President for Education*

### Prof Hugh Griffiths

2013

The Challenge of Waveform diversity

- Crowsnest, Ottawa, AES Chapter, May 7
- San Diego, IEEE Section and AES Chapter, June 27

Bistatic and Multistatic Radar

- Joint AES/GRS Singapore Chapter, September 6
- ETH, Zurich, IEEE Swiss Section, November 7

2014

Where has all the spectrum gone?

- Hong Kong University of Science and Technology, August 8

### Dr Mark Davis

2013

Foliage Penetration Radar

- Yildiz Technical University, Istanbul, IEEE AES Turkish Chapter, August 27
- Engineering Technical University, Ankara, IEEE AES Turkish Chapter, August 29
- Queensland University, Brisbane, Australia, IEEE Section and AES Chapter, September 13
- La Trobe University, Melbourne, Australia, Victorian IEEE Section, September 16

2014

Foliage Penetration Radar

- University Southern California, September 12, (about 22 attendees)
- ONERA/SONDRA and Supelec University, October 20-12, (about 20 attendees)

### Dr George Schmidt

2013

Inertial System and GNSS Technology Trends

- St. Petersburg International Conference on Integrated Navigation Systems, Russia, May 2

2014

Navigation Systems and Sensors in GNSS Degraded and Denied GNSS Environments

- Beijing Institute of Technology, Beijing, China, June 3
- Chinese Academy of Launch Vehicle Technology, Beijing, China, June 4
- Shanghai Jiao Tong University, Shanghai, China, June 9
- IEEE Chinese Guidance, Navigation, and Control Conference, Yantai, China August 9

Inertial System and GNSS Technology Trends

- 25 International Conference on Advanced Avionics, Hyderabad, India, August 25

### Prof Yaakov Bar-Shalom

2013

Multitarget Tracking, Low Observables and Multisensor Fusion

- Tutorial plenary at FUSION 2013 , cosponsored by IEEE, July 30

2014

Target Tracking and Data Fusion: How to Get the Most Out of Your Sensors

- IEEE Distinguished Lecture at Brigham Young Univ., Provo, UT, May 2014.

### Prof Simon Julier

2013

Distributed Multi-Target Fusion of PHD Filters via Exponential Mixture Densities

- University College London, UK, August 29
- University of Adelaide, Australia, October 1

### Dr Saj Durrani

2013

Satellite Communications Overview

- Aviation Museum, College Park, MD, AESS Chapter of the Washington, DC Section, March 27
- Auditorium of Dominion Power Co, Dominion Blvd, Richmond, VA, IEEE Section, September 5

2014

Satellite Communications Overview

- AES Chapter of Baltimore, MD., 16 December

### Prof Larry Chasteen – "National Missile Defense"

2013

- University of Missouri at Rolla, IEEE/AESS student chapter, September 11
- St Louis, Missouri, IEEE section and AESS chapter, September 12

### Dr Myron Kayton – "Back-Side Lunar Observatories"

2013

- Double Tree Hotel in Santa Ana, CA, June 12

2014

- Boulder Colorado (about 40 attendees)

### Dr Tony Ponsford – "Maritime Domain Awareness"

2013

- CRC auditorium, IEEE Ottawa Section and AESS chapter, September 10

2014

- Naval Officers' Mess of Ottawa, Canada, October 16

# Activity Report – Previous Term (2013 and 2014)

### Dr Paul Gartz

2013

- "Systems-of-Systems (SoSs) & Systems Engineering", Ottawa & Montreal, Local AES Chapters, May 21
- "Systems-of-Systems (SoSs) & Systems Engineering", Quebec City, AES Chapter, May 23
- "Systems-of-Systems (SoSs) & Systems Engineering", St. Johns, May 27
- "Systems Integration and Systems-of-Systems (SoSs)", Middletown, NJ AES Chapter, June 6
- "Flying Cars & Other Futures of Aviation", Red Bank, NJ AES Chapter, June 6

### Dr Eli Brookner

2013

- "Around the world in 60 minutes – exotic places with a twist", Lincoln Laboratory, Boston IEEE Section and AES Chapter, March 20 (93 attendees)
- "Achievement, Breakthroughs and Future Trends", Lincoln Laboratory, Boston IEEE Section and AESS Chapter, LM & MTT, April 24 (87 attendees)
- "MIMO Radar: Demystified", Lincoln Laboratory, Boston IEEE Section and AES Chapter, MTT, AP & SP Societies, May 28 (64 attendees)

2014

Breakthrough and Future Trends in Phased Arrays and Radars

- MITRE, Bedford, MA, October 2 (35 attendees) and December 15 (31 attendees)
- Raytheon, Sudbury, MA, February 28, 29 attendees
- AESS Chapter, Paris, France, 21 October, 29 attendees
- Radar 2014, Lille, France, 15 October, 19 attendees
- University of Electronic Science and Technology, Chengdu, China, 10 July, 85 attendees
- AESS Chapter, BIT, Beijing, China, 13 July, 100 attendees
- MIT Lincoln Laboratory, Lexington, MA, 10 December, 74 attendees

MIMO Demystified and Where It Makes Sense

- ICASSP, Florence, Italy, 8 May, 65 attendees
- IEEE Radar Conference, Cincinnati, OH, 21 May, 75 attendees
- University of Electronic Science and Technology, Chengdu, China, 10 July, 85 attendees
- AESS Chapter, Paris, France, 21 October, 29 attendees
- Radar 2014, Lille, France, 13 October, 80 attendees
- AESS Chapter, BIT, Beijing, China, 13 July, 100 attendees
- Xidian University, China, 6 July, 200 attendees

### Dr Erik Blasch

2013

- "Information Fusion Performance Evaluation Foundations", Rome, NY, July 18
- "High Level Information Fusion", Rochester, NY, November 5

2014

Overview of High-Level Information Fusion Theory, Models, and Representation

- Digital Avionics System Conference, Colorado Springs, Oct 6
- National Aerospace and Electronics Conference, Dayton, OH, June 26

Advances in Physics and Human-based multi-intelligence fusion

- CVPR (Columbus Ohio) 24 June, 60+ attendees

Fundamentals of Information Fusion

- Mohawk Valley Chapter, August 10, 30+ attendees

### Prof Simon Haykin

2013

- "Cognitive Radar", Bariloche, Argentina, September 16 (about 40 attendees)
- "Cognitive Control", Conference on Information and Control, Bariloche, September 20 (about 200 attendees)
- "Cognitive Dynamic Systems and Cognitive Control", University of Buenos Aires, September 24 (about 175 attendees)

### Dr Surendra Pal

2014

- "Electrical Communication: From Graham Bell to Steve Jobs ", Supreme Knowledge Foundation Group of Institutions, Mankundu (W.B), KOLKOTA-INDIA, 10 Jan, about 250 attendees
- "Lunar Mission-Chandrayan-1", Birla Institute of Technology Mesra-Ranchi, India, February 1, (about 300 attendees)
- "Modern Communication Paradigm & NAVCOM", Sagar Group of Institutions (BHOPAL), India, February 20, (about 500 attendees)
- "Satellite Communication, Mobile Communication, Spread spectrum concept, GSM and TeraHertz Communication", B.K.Birla Institute of Engineering Technology, Pilani, India, March 24-31 , (about 60 attendees)

### Dr Fred Daum

2014

Particle flow for nonlinear filters, Bayesian decisions and transport

- MIT Lincoln Lab Lexington MA, Boston IEEE AES & Signal Processing, January 21, (50 attendees)
- University of Leuven, Belgium, April 7, roughly 30 attendees
- University of Liverpool, UK, roughly 100 attendees
- Xi'an University, China, July 5
- Amboise, France, September 23

**Three-year summary:**

**2012 – 12 DLs for AESS-portion funding of $17,900 (Strategic Plan)**

**2013 – 27 DLs (17 international) for AESS-portion funding of $8,268**

**2014 – 39 DLs (26 international) for AESS-portion funding of $5,360**

IEEE

# DL Roster – Current Term (2015 and 2016)

Approved roster (18 DLs)

- Five nominations received (all accepted)
- DLs from Germany, Italy, Australia, Peru
- Two inactive DLs were rotated off the list

Desirable features:

- Improved geographic distribution
- Technical panel alignment (Walt)
- Scope to continually adapt roster

Current status:

- Communications (& certificates) sent
- New DL profiles & lectures are online
- Revised DL page for AESS Magazine

**Revised DL Page**

**2015 Distinguished Lecturers**
**Dr. Joe Fabrizio, Vice President – Education**

All AESS Chapters and IEEE Sections are encouraged to take advantage of the AESS Distinguished Lecturer and Tutorial Program for their regular or special meetings. We have selected an outstanding list of speakers who are experts in their fields. The AES Society will pay reasonable speaker's expenses for economy-class travel, lodging and meals. As a general guideline, speaker's expenses involving travel wholly within North America or within the European Union will be covered up to $1,000. Expenses involving extensive international travel will be covered up to $2,000. The Society encourages arrangements whereby more than one lecture is presented in a single trip, and costs in such situations will be considered on a case by case basis. The inviting organization is expected to cover 50% of the speaker's expenses. The procedure for obtaining a speaker is as follows: If a Chapter or Section has an interest in inviting one of the speakers, it should first contact the speaker directly in order to obtain his or her agreement to give the lecture on a particular date. After this is accomplished, the Chapter or Section must notify the AESS VP for Education, joe.fabrizio@dsto.defence.gov.au. If financial support from the AESS is required for the speaker's expenses, he or she must submit an estimate to the AESS VP for Education before actually incurring any expenses. This estimate must be provided at least 45 days before the planned meeting to provide time for feedback from the VP for Education and for changes if needed. The VP for Education must provide written authorization to proceed.

**The Challenge of Waveform Diversity**
**Bistatic & Multistatic Radar**
*Hugh D. Griffiths, University College London*
*h.griffiths@ieee.org, +44 20 76793966*

**Foliage Penetration Radar**
*Mark E. Davis, Independent Consultant*
*medavis@ieee.org, (315) 896-6373*

**MIMO Radar: Snake Oil or Good idea?**
**Never Trust a Simulation without a Simple Back-of-the-Envelope Calculation that Explains it**
**Nonlinear Filters with Particle Flow**
**Real World Data Fusion**
**Is there a Royal Road to Robustness**
*Frederick E. Daum, Raytheon Company*
*frederick_e_daum@raytheon.com*

**Inertial System and GPS Technology Trends**
**Navigation Sensors and Systems in GNSS Degraded and Denied Environments**
*George T. Schmidt*
*gt.schmidt@alum.mit.edu, (781) 863-1637*

**National Missile Defense**
*Larry Chasteen, University of Texas – Dallas*
*chasteen@utdallas.edu, (972) 234-3170*

**Satellite Communication Systems**
*Saj Durrani*
*s.durrani@ieee.org, (301) 774-4607*

**Antenna Systems for Aerospace Vehicles –**
**Global Navigation Satellite System**
*Surendra Pal, ISRO Satellite Center*
*pal_surendra@hotmail.com, +91-80-25205275*

**Target Tracking and Data Fusion: How to Get the Most out of your Sensors**
*Yaakov Bar-Shalom, University of Connecticut*
*ybs@engr.uconn.edu, (860) 486-4823*

**Achievement, Breakthroughs and Future Trends in Phased Arrays and Radars – Updated to 2014**
**MIMO Radar – Demystified and Where it Makes Sense to Use**
**Around the World in 60 Minutes- - Exotic Places With a Twist – *An Informative Entertaining, Humorous Evening for the Whole Family***
*Eli Brookner, Raytheon Company (Retired)*
*eli.brookner@gmail.com, (781) 654-5550*

**High-Level Information Fusion Theory, Models and Representations**
**Information Fusion Performance Evaluation**
**Methods of Image Fusion**
*Erik P. Blasch, US Air Force Research Lab*
*erik.blasch@gmail.com (315) 330-2395*

**Business Case for Systems Engineering – Is Systems Engineering Effective?**
*Robert C. Rassa, Raytheon Company*
*rcrassa@raytheon.com, (310) 985-4962*

**Effective Maritime Domain Awareness – A Systems of Systems Approach to Generating Actionable Intelligence**
*Tony Ponsford, Raytheon Company*
*tony_ponsford@raytheon.com, (613) 772-2997*

**Cognitive Dynamic Systems (CDS)**
**Cognitive Control**
**Cognitive Radar**
*Simon Haykin, McMaster University*
*haykin@mcmaster.ca, (905) 525-9140*

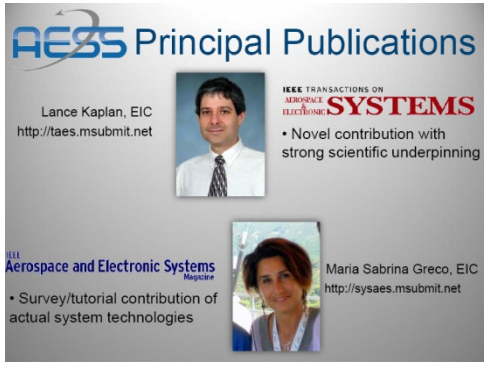
**Talk Titles for the following newly appointed DLs will be available in the March issue:**
*Giuseppe Fabrizio, Defence Science & Technology Organisation*
*joe.fabrizio@dsto.defence.gov.au*
*Alfonso Farina*
*alfonso.farina@outlook.it*
*Avid Roman Gonzalez, UPCH Perú*
*avid.roman-gonzalez@ieee.org*
*Maria Sabrina Greco, University of Pisa*
*m.greco@ieee.org*
*Wolfgang Koch, Fraunhofer FKIE*
*wolfgang.koch@fkie.fraunhofer.de*

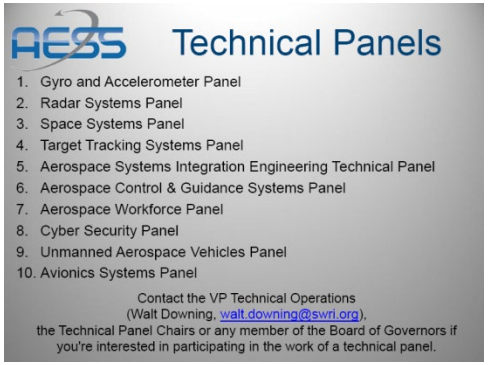
Dated: February 2015

# Promote AESS – Revised Slides (Thanks to Judy)

- Improved format
- Available online
- In DL guidelines








# Standardize Procedure – DL Request Form (Available Online)

## Page 1 (Fillable PDF)

IEEE AESS

**IEEE Aerospace and Electronic Systems Society**
**Distinguished Lecturer (DL) Request Form**

1. **Requesting POC**
   Name: Affiliation:
   Email: Telephone:
   IEEE Section/Chapter (if any):

2. **Distinguished Lecturer**
   Presenter name:
   Lecture titles:
   A)
   B)
   C)
   *Please indicate the reason for this request:*

3. **Proposed Itinerary**
   *Please indicate the date, location, lecture ID, and local POC information for each proposed DL event*

| Event | Date | Location | Lecture | POC Name | POC Email |
|---|---|---|---|---|---|
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |

4. **Cost Estimate**
   *Please indicate approximate costs for each DL event in USD (include all airfares and/or surface-travel)*

| Event | Travel (air/surface) | Accommodation | Other (e.g. meals) | Total (USD) |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

5. **Expense Apportionment**
   *Please indicate how these costs will be apportioned between the AESS and host organization(s)*

| Expense Component | Amount | AESS Portion | Host Portion | Responsible Party (Name) |
|---|---|---|---|---|
| | | | | |
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6. **Organizer Declaration**
   *I have read and understand the information provided on the back of this form and submit this request.*
   Name: Signature: Date:

## Page 2 (DL Guidelines)

**IMPORTANT INFORMATION**

### General Guidelines

All AESS Chapters and IEEE Sections are encouraged to take advantage of the AESS Distinguished Lecturer and Tutorial Program for their regular or special meetings. We have selected an outstanding list of speakers who are experts in their fields. The AES Society will pay reasonable speaker's expenses for economy-class travel, lodging and meals. As a general guideline, speaker's expenses involving travel wholly within North America or within the European Union will be covered up to $1,000. Expenses involving extensive international travel will be covered up to $2,000. The Society encourages arrangements whereby more than one lecture is presented in a single trip, and costs in such situations will be considered on a case by case basis. The inviting organization is expected to cover 50% of the speaker's expenses.

### Application Procedure

The procedure for obtaining a speaker is as follows: If a Chapter or Section has an interest in inviting one of the speakers, it should first contact the speaker directly in order to obtain his or her agreement to give the lecture on a particular date. After this is accomplished, the Chapter or Section must notify the AESS VP for Education. If financial support from the AESS is required for the speaker's expenses, he or she must submit an estimate to the AESS VP for Education before actually incurring any expenses. This estimate must be provided at least 45 days before the planned meeting to provide time for feedback from the VP for Education and for changes if needed. The VP for Education must provide written authorization to proceed.

### AESS Promotion

Distinguished Lecturers and Tutorial speakers are ambassadors of the AESS. As such, they should take advantage of the opportunity to stimulate membership in IEEE and AESS in particular. To support this goal, the Society has prepared a short presentation on the benefits of Society membership. Speakers should contact Judy Scharmann well in advance of each lecture to arrange for shipping AESS and IEEE Membership brochures and back copies of Society Publications to hand out. After giving a lecture, the speaker and/or host should prepare a short report suitable for publication in Systems Magazine and posting on the AESS web site. Pictures taken at the meeting are highly desirable. Send this report to AESS VP for education.

### DL Evaluation

In order to evaluate the level of participation and benefit of DL events to AESS members and other attendees, the host or point of contact of each DL event is requested to distribute the DL registration form (and a pen) to enable all attendees to write their details on the registration form before the start of the DL event. The host or point of contact should then scan and send the completed registration form to VP for education by email immediately after the DL event. Such information is used to assess the level of participation and to email out a DL evaluation questionnaire to all attendees shortly after the event.

### Local Arrangements

The AESS expects the host organization(s) to take care of all local arrangements and local expenses for both the DL event and speaker *directly*. This will often include accommodation, surface travel, and meals for the speaker in accordance with IEEE standards. Ideally, the speaker should not to incur any costs for local expenses in relation to the DL event. It is up to the host organizations to reimburse the speaker if such expenses occur. The AESS will pay for the airfare costs and adjustments will be made after the event to ensure that the 50-50 rule is satisfied up to the maximum limit approved by VP for Education. The hosts (and speaker) are reminded to keep receipts for all expenses related to the DL event for acquittal purposes. The host or speaker should notify VP for Education of any significant changes to the event after the approval as soon as possible.

*For more information, please contact the AESS VP for Education, Joe Fabrizio, joe.fabrizio@dsto.defence.gov.au*

# Assess Benefit – Registration & Evaluation Forms (Draft Only)

## Registration of attendance at DL event

IEEE Aerospace and Electronic Systems Society

Distinguished Lecture Registration Form

Presenter name: Date:

Lecture title: Venue:

Hosted by: Email:

Registered attendees (please complete all fields)

| Name | Affiliation | AESS Member (Y/N) | Email address |
|---|---|---|---|
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IMPORTANT INFORMATION!!!

The AESS needs to know the benefit this distinguished lecture/tutorial has provided for you. After this event, you are kindly requested to visit the AESS DL page and submit your evaluation on-line.

## Distinguished Lecture Assessment

Lecturer _____

Topic _____

Location _____

Date _____

Attendee Name _____

| | Poor | | | | Outstanding |
|---|---|---|---|---|---|
| Contents of Lecture | ☐ | ☐ | ☐ | ☐ | ☐ |
| Speaker's Delivery | ☐ | ☐ | ☐ | ☐ | ☐ |
| Currency of Material | ☐ | ☐ | ☐ | ☐ | ☐ |
| Would Recommend | ☐ | ☐ | ☐ | ☐ | ☐ |

Comments

# Metrics and Scorecard – DL program

From 2013 to 2014:

- Operating costs were reduced by 35%
- Number of DLs increased by 44 % (international increased by 52%).

General observations:

- DL program tracking well (efficient and cost-effective)
- Strongly suggests that strategic initiatives are working

Main recommendations:

- Continue with the implementation of current and new strategic initiatives
- Maintaining DL funding at ~$15K despite a trend of lower running costs

# Video Tutorials – Current Status

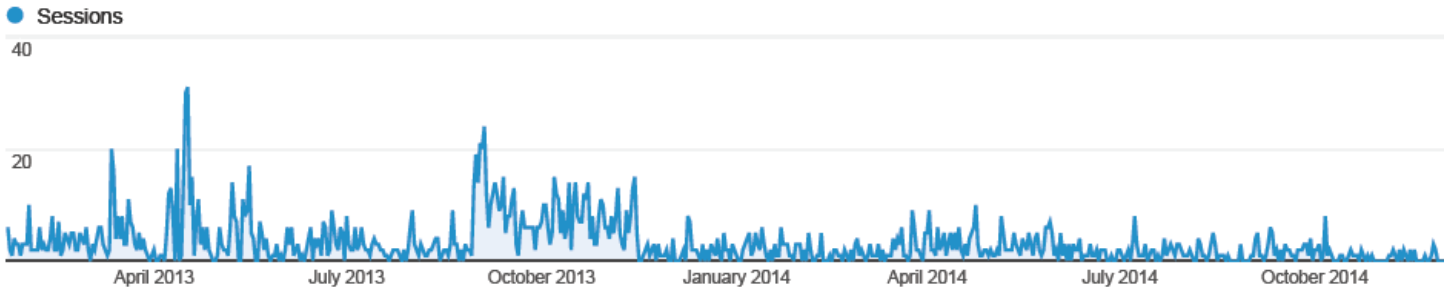
## Available Online

- Bistatic & Multistatic Radar – Hugh Griffiths
- GPS/GNSS + Inertial Navigation – James Farrell
- Radar System Performance Modeling – Dick Curry
- Sea Clutter - Simon Watts & Keith Ward
- Fundamental Concepts in Radar Signal Processing - Mark Richards
- Introduction to Stealth – Dave Lynch

## Under Discussion

- Foliage Penetration – Mark Davis
- Inertial System and GPS Technology Trends – George Schmidt
- Introduction to Image Fusion – Erik Blasch

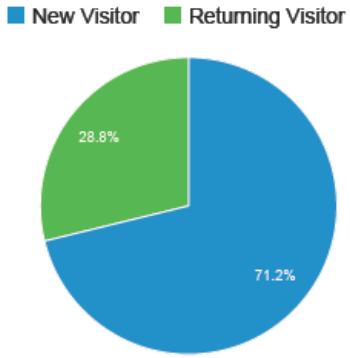
# Usage Statistics – Google Analytics




| Sessions | Users | Pageviews |
|---|---|---|
| 2,339 | 1,685 | 7,370 |

| Pages / Session | Avg. Session Duration | Bounce Rate |
|---|---|---|
| 3.15 | 00:03:22 | 55.41% |

| % New Sessions |
|---|
| 71.06% |




**Analysis of Hits** *(Two year period, 2013-2014)*

- Number of hits is much lower than desired (~100 per month)
- Most viewers take quick peek and leave ( avg. time < 4 min)
- Less than 30% of all visitors return to the site

# Way Ahead – Online Education

Despite the high quality and relevance of the products, the usage statistics indicate that general area of AESS online education is in need of attention.

**Preliminary strategic initiatives:**

- Engage a two-person committee to review and revitalize AESS online education. This requires two volunteers from the AESS Board, preferably not heavily engaged in other Society duties.

- Part of the committee's charter would be to weigh up the reward for effort and opportunity cost of pursing online education at the expense of alternative (newly proposed) initiatives.

Volunteers please see me.

# Online Education – Strategic Initiatives

## Broaden Topics

- Better representation of AESS FOIs and search for emerging topics where AESS can provide home
- Reach out to AESS technical panel chairs and request at least 5 potential topics & presenter names

## Open Access

- Allow previews or limited portions of tutorials to be viewed by non-members
- Enabled by modifying log-in on website and issuing of viewing certificates

## Expand Resources

- Develop an indexed compendium of useful links to existing open source education information
- Consult with education committee of International Radar Systems Panel to for a start design

## Feedback Page

- Implement a feedback page to better understand online education needs of AESS members
- Regularly monitor page and adapt online education services based on member suggestions

## Advertise Services

- Advertise video tutorials in the AESS magazine and QEB to raise awareness of this service

# Robert Hill Best Ph.D. Dissertation Award

IEEE TAB approved submission made by Awards Chairman

- VP Publications to advertise new IEEE award in AESS Magazine
- Provide information to members on how to nominate candidates
- Post award description & application process on AESS website

VP Education

- Solicit nominations through technical panels
- Establish a selection committee
- Announce the winner of the Robert Hill Award.

Awards Chairman to organize presentation of plaque and honorarium to winner

- Financial assessment: The prize for the winner is a plaque and $1000 honorarium.
- Measure of success: Quantity and quality of nominations.

# Best Ph.D. Dissertation Award – Nomination Form (Draft Only)

**Page 1**

**AESS Best Ph.D. Award – Nomination Form**

This form is to be completed by the nominator

*1. Nominee information*

Last Name: First Name: Initial:

Business Affiliation (if any):

Mailing Address:

City: State: Postal Code: Country:

Telephone Number: E-mail Address:

IEEE Member Number:

*2. Nominated Dissertation*

Ph.D. dissertation title:

Name of primary supervisor:

Names of co-supervisors (if any):

School: City: Country:

Ph.D. degree start date: Date awarded:

*2. Nominator information*

Last Name: First Name: Initial:

Business Affiliation: Position Held:

Mailing Address:

City: State: Postal Code: Country:

Telephone Number: E-mail Address:

**Page 2**

*2. In less than 100 words, describe your relationship to the nominee and how you personally became aware of the important accomplishments in the Ph.D. dissertation nominated for this award.*

*3. In less than 200 words, summarize the individual contribution(s) that you believe warrant this nomination.*

*4. Name two other referees that will provide letters of endorsement for this nomination.*

Referee # 1

Last Name: First Name: Initial:

Telephone Number: E-mail Address:

Relationship to nominee:

Referee # 2

Last Name: First Name: Initial:

Telephone Number: E-mail Address:

Relationship to nominee:

*5. Are you willing to serve as nominator and the point of contact for this nomination? (Yes/No)*

Date: _____ Signature: _____

**Submit to:** IEEE/AESS VP for Education, Dr Joe Fabrizio, joe.fabrizio@dsto.defence.gov.au

# AESS Mentorship Program

## Background & Motivation

- Students and young professionals are often left to their own after joining the AESS
- Structured scheme to help young members integrate quickly into AESS community
- Access to this professional mentoring program is only available to AESS members

## Strategic initiatives:

- Develop a detailed process including participant guidelines & information briefs
- Implement and promote a pilot scheme for the San Diego Chapter (K. Kramer)
- Adapt the implementation based on the received feedback
- If successful, progressively roll out to other AESS chapters
- Publicize this new service in the AESS Magazine and QEB

**Financial assessment:** Promotional costs (workshops and flyers) estimated at $2000

**Measure of success:** Level of participation (particularly young mentees) and feedback

# Program Design and Web Content

## Operations Manual

**AESS Mentorship Program**

Implementation Plan for Pilot Scheme

(Includes AESS Website Information Package)

*Submitted to AESS Board of Governors*

**DRAFT**

January 2015

Joe Fabrizio

VP Education

Executive Summary

## Major Headings

1. Background and Motivation
2. Scope and Objectives
3. Mentors and Mentees
4. Implementation and Operation
5. Guidelines and Expectations
6. Registration and Participation
7. Evaluation and Feedback
8. Adaptation and Continuation
9. Contacts and Forms
10. Pilot Scheme
11. Workshops and Advertising
12. Responsibilities and Liability
13. Risks and Pitfalls
14. Funding and Resources
15. Summary and Conclusion

# IEEE-AESS Short Courses – New Initiative

## Motivation:

- Growing chapters in locations with a low membership base can be a challenging task
- Local chapters do not have effective mechanisms to raise revenue to benefit members

## Approach:

- AESS has an excellent core of mature members willing to contribute to education activities
- Chapters can raise funds by empowering members to offer fee-paying AESS short-courses

## Participants:

- Industry, government, and academia with training budgets for staff professional development
- Stakeholders are the IEEE, the organizing local AES chapter, the Society, and the presenters

## Status:

- VP Education working with a team from the AESS BoG to develop an implementation model
- Precedents exist in other IEEE Societies, follow a model already used by Computer Society

# Action Plan – AESS Short Courses

## Develop Process:

- Chapter responsible for identifying training needs, organizing course and local arrangements
- Work with IEEE Section or AES Society for seed funding and for concentrated banking in US

## Technical Panels:

- Consult with technical panels to identify course presenters in AESS FOIs (not limited to DLs)
- Request course descriptions and presenter biographies & post these on Education webpage

## Implement Initiative:

- Guidance on how to handle financial aspects – registrations, reimbursements, use of surplus
- Carefully clarify distinction between Distinguished Lectures, Video Tutorials & Short Courses

## Advertise Program:

- Promote the short course initiative on the Education webpage and AESS Magazine, QEB
- Write letters to local chapters to run short courses matched to interests of local institutions

# First AESS Example

## Computer Society

IEEE South Australia Section
Computer Society

### *Three Day Workshop*
### *Implementing Image Processing Algorithms on FPGAs*

The IEEE South Australia Section Computer Society invites you to attend a unique three day workshop by
**Associate Professor Donald Bailey - Massey University**

**About the workshop:**
FPGAs are increasingly being used as an implementation platform for real-time image processing applications because their structure is able to exploit spatial and temporal parallelism. Unfortunately, simply porting an algorithm onto an FPGA often gives disappointing results, because most image processing algorithms have been optimised for a serial processor. Therefore it is necessary to transform the algorithm to efficiently exploit the parallelism inherent within the algorithm. This course introduces a design approach for FPGA based imaging system development, highlighting the significant differences between hardware and software based design. Through lectures and hands-on laboratories, the basic tools for FPGA based development are introduced, and used for implementing a range of image processing operations leading to a "connected components" tracking system.

**About the presenter:**
Donald Bailey has over 30 years of experience in image processing and machine vision. Over the last 12 years he has conducted extensive research in mapping image processing algorithms onto FPGAs. He is the author of many publications in this field, including the book *"Design for Embedded Image Processing on FPGAs."*

**Each participant receives a Terasic DE0-CV FPGA board and 5 mega-pixel camera, valued at $280!**

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

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

**Contact:**
*Adam Gatt*
*Chair CS IEEE SA*
Phone: (08) 7389 0052
adam.gatt@dsto.defence.gov.au

Name
Address
Phone/Email

3 Day Workshop - Image Processing on FPGAs

| Sign up for: | Early Bird | Regular |
|---|---|---|
| ☐ Non-IEEE Member | $1600 | $2000 |
| ☐ IEEE Member | $1200 | $1500 |
| ☐ Student | $800 | $1000 |
| ☐ IEEE Student Member | $600 | $750 |

IEEE Member #

Special requirements

Method of payment ☐ Cheque ☐ Visa ☐ MasterCard ☐ Direct Deposit

Commonwealth Bank Salisbury
BSB 065-122
ACC # 1032 0466

Total:

Includes GST

Credit Card # Exp. date

Signature Dated / /2015

## Aerospace and Electronic Systems Society

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.
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IEEE Member #

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# Summary

## Growing the AESS and revenue (not only membership per se)

- Important to do more than simply advertise existing services and benefits
- Growth requires the implementation of new customer-focussed strategies

## Strategy for AESS Education

- **Improve existing services**: Distinguished lecture program, online tutorial and education
- **Provide more benefits**: new short-course initiative, mentorship scheme, Bob Hill Award
- **Grow technically**: creating a professional home for alternative/emerging fields of interest

## Overarching Strategy

- Our members should be more encouraged and empowered to help grow the AESS
- Use membership resource to grow internationally (esp. under-represented regions)