

**IEEE – Aerospace and Electronic  
Systems Society (AESS)**

**REPORT OF THE EDUCATION COMMITTEE  
TO THE BOARD OF GOVERNORS**

**BY  
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# **EDUCATION COMMITTEE**

## **MISSION**

**To assist in the professional development of IEEE-AESS Members**

## **OBJECTIVES**

- **To prepare educational material on relevant topics**
- **To cooperate with other entities in similar projects**
- **To make such material available to Members at low cost**

## **CUSTOMERS OR CLIENTS**

- **AES Society Members**
- **IEEE Members as a whole**

## **RESOURCES**

- **Education Committee Members**
- **Other AESS Committees**
- **AESS BoG Members, especially “AESS Operations Directors” abroad**
- **AESS Sector Experts**
- **IEEE Educational Activities Department (EAD)**
- **IEEE Technical Activities Department (TAD)**

# **EDUCATION COMMITTEE**

## **OVERALL PLAN**

- **Participate in the IEEE “Expert Now” Program**
- **Participate in the IEEE “Online Reprints Products” Program**
- **Obtain permission for access to courses developed by leading R&D organizations**
- **Solicit advice and support from technical leaders and experts around the globe**
- **Assist in preparing Special Sections on Space Education in the Systems Magazine**
- **Publicize the available resources to Chapter Chairs and Members at large**
- **Encourage Chapters to organize Face-to-Face (FTF) meetings on special topics, using:**
  - **Experts who have given Conference Tutorials**
  - **Other Experts who are willing to offer Tutorials at Chapter meetings**
  - **Speakers from the Distinguished Lecturers Program**
- **Explore possibilities of obtaining Continuing Education Units for our courses**

## **EDUCATION COMMITTEE**

<b><u>Member</u></b>	<b><u>Responsibility</u></b>
<b>Sajjad Durrani (VP)</b>	<b>Chair; Coordinate activities of Committee Members</b>
<b>Robert O'Donnell (Associate VP)</b>	<b>Liaison with Lincoln Lab: Develop MoU for free access by our members to their online courses</b>
<b>Jose Bolanos</b>	<b>Liaison with Industry: Develop MoUs for collaboration, similar to the one developed by Jim Leonard with Boeing</b>
<b>Robert Trebits</b>	<b>Liaison with Universities: Support EAB's Educational Partners Program, for access by our members to university products at reduced rates</b>
<b>Zafar Taqvi</b>	<b>Liaison with Experts and Chapter Chairs in Regions 1-6: "Recruit" Experts, and publicize our Program and Products</b>
<b>Myron Kayton</b>	<b>Ditto, for Regions 7 and 8, and Region 9 when it has Chapters</b>
<b>Ram Gopal Gupta</b>	<b>Ditto, for Region 10</b>

## **EDUCATION COMMITTEE**

### **ACCOMPLISHMENTS TO DATE**

#### **IEEE EXPERT NOW PROGRAM (RUN BY THE EDUCATIONAL ACTIVITIES DEPT.)**

- Prepared two Expert Now Modules (Efforts initiated by Paul Gartz in 2004):
  - Real Time Embedded Computing for Signal and Image Processing  
by Dr. David Martinez, Lincoln Labs (based on a Tutorial at Radar 2004 Conference)
  - System Safety for Software Intensive Systems  
by Alan Tribble, Rockwell Collins (based on a Tutorial at several DASCs)
- Invited additional Experts to prepare new Modules on Navigation and other AESS-related topics
  - No success so far. Help from Board Members would be greatly appreciated!

#### **ONLINE REPRINT PRODUCTS PROGRAM (RUN BY THE TECHNICAL ACTIVITIES DEPT.)**

- Agreed to participate in the Program
- Offered a paper by Bruno Pattan of FCC on Millimeter Wave Propagation, as part of the Program

#### **NEW ONLINE COURSES – LEVERAGING ON EXISTING RESOURCES**

- Bob O'Donnell is developing an MoU with Lincoln Labs, for use of their courses free of charge
- Will explore possibility of similar arrangements with other FFRDCs (e.g., Mitre Corp.)

#### **PUBLICITY**

- Sent e-mails to Chapter Chairs (February and August, 2005) about our activities
- Wrote articles in the Systems Magazine (August and October, 2005)
- Unfortunately, there has been very little feedback to date (only three responses!)

## **EDUCATION COMMITTEE**

### **ONGOING ACTIVITIES**

- **Persuade additional Experts to participate in our Programs:**
  - **Prepare Expert Now Modules on Avionics, Space Communications, Navigation, etc.**
- **Contact the IEEE-GRS Society to jointly prepare Modules on topics of mutual interest**
- **Invite papers for a Special Section on Space Education, in the Systems Magazine (idea was initiated by Profs. Kaynak and Kurnaz from Turkey, and is being actively promoted by them)**
- **Identify additional Online and Face-to-Face Courses that could be made available to Chapters**
- **Inform Chapter Chairs of the available resources and encourage their use**

### **HELP NEEDED FROM BOARD OF GOVERNORS AND OTHER COMMITTEES**

- **Promote the use of our resources by Chapters and individual Members**
- **Encourage Members to seek corporate support of their professional development, by subsidizing the fees for access to Expert Now Modules, Tutorials, and other educational activities**

### **CONTACTS FOR ADDITIONAL INFORMATION**

- **AESS EDUCATION COMMITTEE: Saj Durrani ([s.durrani@ieee.org](mailto:s.durrani@ieee.org)) and Committee Members: O'Donnell, Bolanos, Gupta, Kayton, Taqvi, Trebits**
- **IEEE EXPERT NOW PROGRAM: Marilyn G. Catis ([mg.catis@ieee.org](mailto:mg.catis@ieee.org))**
- **EDUCATIONAL PRODUCTS OF CERTAIN UNIVERSITIES: C. Torres ([c.torres@ieee.org](mailto:c.torres@ieee.org))**
- **ONLINE REPRINT PRODUCTS: Dr. Giovanni DeMichele ([Giovanni.demichele@epfl.ch](mailto:Giovanni.demichele@epfl.ch))**

# **EDUCATION COMMITTEE**

## **APPENDIX**

### **EXPERT NOW PROGRAM**

- **Previously called XELL Program; run by Educational Activities Department**
- **One-hour Modules, developed by Subject Matter Experts (SMEs), and put on-line**
- **Many (14) Societies participate: AESS, A&P, Communications, Computer, MTT, etc.**
- **About 25 Modules are (or will soon be) available; 50 expected next year**
- **A firm (Thomson) is assisting in production of Modules, at a cost of \$ 20K per Module**
- **Sales/ marketing is also done by Thomson**
- **Modules are currently offered only to Organizations, as a single Package containing all Modules**
- **Pricing structure depends on number of users in the Organization**
- **EAB is considering “unbundling” the Package, and making individual Modules available to Members**

### **ON-LINE REPRINT PRODUCTS (ORP) PROGRAM**

- **Run by Technical Activities Department**
- **Tutorial Papers are produced by Experts chosen by Societies, and are placed on-line**
- **Each Paper is about 20 pages long, with references to 10-15 other papers on the topic**
- **Pricing and other details are still being worked out**

### **ACKNOWLEDGMENTS**

- **Paul Gartz, for funding the Expert Now Modules, and for general guidance and support**
- **Jim Leonard, for providing a sample MoU with industry (Boeing)**
- **Bob O’Donnell for obtaining licensing agreement with Lincoln Labs**
- **Evelyn Hirt and Peter Willett, for supporting a Special Section on Space Education in the Systems Magazine – to be published in 2006 and later years**
- **Ron Ogan, for promoting Educational Programs at the Chapter level**