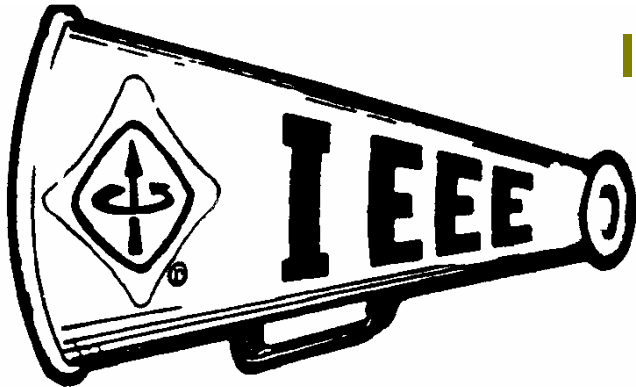


# The Valley Megaphone



Newsletter of the  
**IEEE – Institute of Electrical and  
Electronics Engineers, Inc.**  
**Phoenix Section**  
February 2005, Volume XIX, Number 2

## Executive Committee

### Past Chair

James E. Drye, 480-413-5685  
Jdrye@ieee.org

### Chairman

George Karady, 480-965-6569  
Karady@asu.edu

### Vice-chair

Shamala Chickamenahalli, 480-554-6774  
shamala@ieee.org

### Secretary

Rao Thallam, 602-236-5481  
rsthalla@srpnet.com

### Treasurer

Rao Bonda, 480-413-6121  
r.bonda@ieee.org

### Publicity

Dongming He, 480-552-0947  
dongming@ieee.org

### PACE

Mike Andrews, 480-991-1619  
m.andrews@ieee.org

### Membership

Mark Garula, 602-436-4031  
mgarula@ieee.org

### Student Activities

Keith E. Holbert, 480-965-8594  
holbert@asu.edu

### Conferences

Henning Braunisch, 480-552-0844  
braunisch@ieee.org

## *This Issue of Valley Megaphone Features: Contacts and Links*

*Executive Committee (page1)*

*Chapters and Branches (pages 1 and 2)*

*Student Branches (page 2)*

*The contacts are being updated this month: new  
conference chair and student chapter chairs and  
advisors.*

## *Contents:*

- 1. IEEE Senior Member and Fellow Grades: page 2**
- 2. Advertisement: Instructor needed**
- 3. IEEE Phoenix Section Annual Awards Banquet  
2005 and Chair's Letter: page 3 - 5**
- 4. Computer Society February Seminar: page 6**
- 5. Training Course on RF, Wireless, and Radar:  
page 8**
- 6. Antenna Calibration and Measurement  
Colloquium and Exhibition: page 9**

**IEEE Phoenix Section Executive Committee meeting  
minutes can be found at: <http://www.ieee.org/phoenix>.**

## Executive Committee contd..

### Awards

Vasu Atluri, 480-554-0360  
vpatluri@ieee.org

### Inter-Society

Mike Andrews, 480-991-1619  
m.andrews@ieee.org

### Web Master

Chandan K. Das, 480-554-1300  
cdas@ieee.org

## Chapters & Branches

### Comm & Signal Processing

Cihan Tepedelenioglu, 480-965-6623  
cihan@asu.edu

### Computer Society

Bob Bianca, 623-582-1700  
[Bob.Bianca@Computer.org](mailto:Bob.Bianca@Computer.org)

### Consultants Network (PACN)

Paul Everett, 480-706-4753  
peverett@ieee.org

### CPMT Society

Eric Palmer, 480-554-8710  
Eric.c.palmer@intel.com

### EMC Society

Harry Gaul, 480-441-5321  
Harry.gaul@ieee.org

### Power Engineering Society

Raja Ayyanar, 480-7277307  
rayyanar@asu.edu

The Valley Megaphone is the newsletter of the Phoenix Section of the Institute of Electrical and Electronics Engineers. It is published monthly, usually September through June. The publication reaches about 4000 members. Submit articles, advertisements, and announcements to Dongming He at the above email address. Deadline for announcements and advertisements is the third Friday of the month prior to publication.

Advertising Rates: Full page: \$200, 3/4page: \$125, 1/2 page: \$75, 1/3 page:\$50,1/4 page:\$25. Change of address/email? Call toll free 1-800-678-IEEE. Please allow 6-8 weeks. Section Web Page is: <http://www.ieee.org/phoenix>



Networking the World™

# IEEE ANNOUNCEMENTS

Contd.. from page 1

#### Waves & Devices Society

Chuck Weitzel, 480-413-5906  
Chuck.weitzel@freescale.com

#### GOLD

Vasu Atluri, 480-554-0360  
vpatluri@ieee.org

### Student Branches

#### ASU Main, Engineering

Chair: Rouzbeh Brumand

[Rouzbeh.Brumand@asu.edu](mailto:Rouzbeh.Brumand@asu.edu)

Advisor: Cihan Tepedelenioglu, (480) 965-6623  
Cihan@asu.edu

#### ASU Main, Computer Society

Chair: Muhammad Shaukat Lodhia

[Muhhammad.lodhia@asu.edu](mailto:Muhhammad.lodhia@asu.edu)

Advisor: Joseph Urban, 480-965-3374,  
[joseph.urban@asu.edu](mailto:joseph.urban@asu.edu)

#### ASU East, Technology

Chair: Curtis Ritter

[emceei@aol.com](mailto:emceei@aol.com)

Advisor: Dr. Raji Sundararajan, 480-727-1507  
Raji@asu.edu

#### DeVry, Phoenix

Chair: Val Shulfer

[VShulfer@cox.net](mailto:VShulfer@cox.net)

Advisor: Dion Benes

Phone: (602) 870-9222

#### DeVry, Computer Society

Chair: Mike Lewis

[Mike\\_Lewis@ieee.org](mailto:Mike_Lewis@ieee.org)

Advisors: Terri Barnes, 602-870-9222

[tbarnes@devry-phx.edu](mailto:tbarnes@devry-phx.edu), Diane Smith  
602-870-9222, [dianesmith@devry-phx.edu](mailto:dianesmith@devry-phx.edu)

#### NAU, Engineering

Chair: Cari Fischer

[cdf5@dana.ucc.nau.edu](mailto:cdf5@dana.ucc.nau.edu)

Advisor: Peter Blakey, 928-523-3493

[Peter.Blakey@nau.edu](mailto:Peter.Blakey@nau.edu)

#### NAU, Computer Society

Chair: Jamie Warnke

[jmw46@dana.ucc.nau.edu](mailto:jmw46@dana.ucc.nau.edu)

Advisor: Phil Mlsna, 928-523-2112

[Phillip.Mlsna@nau.edu](mailto:Phillip.Mlsna@nau.edu)

#### Embry-Riddle, Prescott

Advisor: Chuck Cone

[conec@erau.edu](mailto:conec@erau.edu)

#### Embry-Riddle Computer Society

Advisor: Susan Gerhart, (928) 777-3882

[gerharts@erau.edu](mailto:gerharts@erau.edu)

### IEEE Senior Member and Fellow Grades

All IEEE Phoenix Section Members interested in getting nominated to Senior Member or Fellow Grade, please contact Vasu Atluri by telephone at (480)554-0360 or by email at [vpatluri@ieee.org](mailto:vpatluri@ieee.org). Please refer to [www.ieee.org](http://www.ieee.org) for more information related to senior member and fellow grades.

### HVAC, Energy Management, Plumbing and Electrical Instructors Needed

Part-time, daytime and evening positions are available. Must be Community College certified or able and willing to become certified. Please send your resume to:

Yolanda Price, Director of Education

Fax: 602-277-9881

Email: [yprice@electricleagueofarizona.org](mailto:yprice@electricleagueofarizona.org),

Phone: 602-263-0115

### IEEE Phoenix Section Annual Awards Banquet 2005

IEEE Phoenix Section Annual Awards Banquet 2005 is scheduled for Saturday, February 5<sup>th</sup>, 2005, at Hilton Phoenix Airport located at 2435 South 47<sup>th</sup> Street, Phoenix, Arizona – 85034 (Tel: 480-894-1600). The program includes:

6:00 PM – 7:00 PM: Registration / Social Hour with Cash Bar  
7:00 PM – 8:30 PM: Dinner / Keynote Presentation  
8:30 PM – 9:30 PM: Awards Program / Keynote Presentation

Mr. Greg L. Mehall, Mission and Instrument Manager, Mars Space Flight Facility, Arizona State University, Tempe, Arizona, will be giving the keynote presentation titled “Arizona State University – Journey to the Red Planet”. IEEE members, corporations, non-IEEE Members, student scholarship winners, and faculty will be recognized at the banquet. Additional information and banquet registration (see next two pages for registration form) form can be obtained at <http://www.ieee.org/phoenix>. All members are encouraged to attend the banquet and bring along a guest with them. Registrations by Friday, January 28<sup>th</sup>, 2005, are highly encouraged.



Networking the World™

# IEEE ANNOUNCEMENTS

## IEEE Phoenix Section 2004 Chair's Letter

### Dear IEEE Phoenix Section Member:

Greetings and best wishes for 2005! This letter is being mailed to give you an update on the current and upcoming IEEE Phoenix section activities. The following are the key highlights:

- a) The IEEE Phoenix Section monthly newsletter, "Valley Megaphone" is being electronically published at [www.ieee.org/phoenix](http://www.ieee.org/phoenix) in pdf format to reduce costs. An email notification is sent every month to members informing the web release of the newsletter.
- b) Email notification is sent to all members listed on the SAMIEEE database provided by the IEEE national headquarters, Piscataway, New Jersey. To be certain that you receive notification, please be sure that your correct email address is on file with IEEE Headquarters. If it is not, please contact them by calling 1-800-678-IEEE (4333). The Phoenix Section Publicity Chair cannot correct it. You must do it yourself through IEEE national headquarters.
- c) Phoenix Section Executive Committee meets first Tuesday of every month except during summer months of July and August from 6:00 – 8:30 PM at Phoenix Airport Hilton (2435 S. 47<sup>th</sup> Street, Phoenix, Arizona 85034; Tel: 602-894-1600). IEEE Phoenix Section members are encouraged to attend these meetings. Some of these meetings will also have technical presentations in addition to the discussion of section administrative issues.
- d) Phoenix Section, six technical society chapters and two affinity groups held a total of 118 meetings during 2004. The breakdown of meetings was 56 technical, 54 administrative and 8 professional.
- e) IEEE Student Branch in ASU held two Student-Industry Mixers in 2004, one each during spring and fall semesters. These events are very well attended. The mixers in 2004 were sponsored by the local industries like IBM, Raytheon, On Semiconductors, Agilent Technologies, Analog Devices, Navy, Airforce, and Wells Fargo. In addition, student branch also conducted field tour of the SRP Kyrene Power Plant. IEEE Phoenix Section put an extra effort to make all student branches more active.
- f) IEEE Phoenix Section sponsored Future City Competition organization by providing financial support as well as judges for the section sponsored "Best Communication" award. The award winners are also recognized at the annual awards banquet.
- g) IEEE Phoenix Section CPMT Society chapter and WAD chapter jointly organized "Devices and Packaging for Wireless Communications - An All-Day Workshop" on Friday, December 3, 2004. More than 200 attendees including 17 vendors participated in the workshop making it a grand success.
- h) IEEE Phoenix Section in partnership with IEEE-CPMT Phoenix Chapter and IEEE-WAD Phoenix Chapter started a student scholarship fund about five years ago and is managed thru Arizona State University Foundation. Undergraduate students from DeVry University, Embry-Riddle Aeronautical University, Arizona State University, and Northern Arizona University are eligible to apply for this scholarship. A scholarship of \$1000.00 is awarded to two students every year. During 2002 through 2004,



Networking the World™

# IEEE ANNOUNCEMENTS

IEEE-CPMT Phoenix Chapter and IEEE-WAD Phoenix Chapter jointly organized three workshops for raising \$29,000.00 funds to be added to the scholarship bringing the total to about \$50,000.00.

i) The Section Awards Banquet is scheduled for Saturday, February 5, 2005 at the Phoenix Airport Hilton. The program includes: 6:00 PM - 7:00 PM social hour followed by dinner, keynote presentation and award ceremony from 7:00 PM – 9:30 PM. The IEEE Phoenix Section executive committee encourages all members to attend the banquet. A registration form, map and directions are included with this letter. For more details, please logon to [www.ieee.org/phoenix](http://www.ieee.org/phoenix). For reservations please contact Dr. Rao Bonda of Freescale Semiconductor, Inc. at 480-413-6121 or send an email to [r.bonda@ieee.org](mailto:r.bonda@ieee.org). Please mail the enclosed registration form to Dr. Rao Bonda by Friday, January 28<sup>th</sup>, 2005.

j) The section officers for the year 2005 are:

Past Chair: Dr. George G. Karady  
Chair: Dr. Shamala Chickamenahalli  
Vice-Chair: Dr. Rao Thallam  
Secretary: Dr. Rao Bonda  
Treasurer: Dr. Dongming He

Sincerely,  
George G. Karady, Ph.D.  
Chair - 2004  
IEEE Phoenix Section



Networking the World™

# IEEE ANNOUNCEMENTS



## IEEE PHOENIX SECTION AWARDS BANQUET Saturday, February 5<sup>th</sup>, 2005



At  
**Hilton Phoenix Airport  
Grand Ballroom**  
2435 South 47<sup>th</sup> Street  
Phoenix, Arizona 85034  
Tel: (480) 894-1600

### Registration Form

**Banquet Fees:**

IEEE Members and Guests -	\$30.00
IEEE Student Members -	\$20.00
IEEE Student Member Guests -	\$30.00
IEEE Chapter / Society Table -	\$240.00*
Corporate Sponsorship -	\$400.00**

\*Table sits 8 persons

\*\*Sponsorship includes recognition at program, table of eight for dinner, and space for display

For additional information please access [www.ieee.org/phoenix](http://www.ieee.org/phoenix)

The deadline for receiving the registration fee is **Friday, January 28<sup>th</sup>, 2005**

Please mail completed registration form along with your check, payable to: "IEEE Phoenix Section" and mail to:

**Dr. Rao Bonda**  
**IEEE Phoenix Section**  
**6190 West Shannon Street**  
**Chandler, AZ – 85226**

**Tel: (480) 413-6121**  
**Fax: (480) 413-4511**  
**Email: [r.bonda@ieee.org](mailto:r.bonda@ieee.org) (preferred)**

**Banquet Timings:**

Registration / Social Hour with Cash Bar:	6:00 PM – 7:00 PM
Dinner / Keynote Presentation:	7:00 PM – 8: 30 PM
Awards Program / Keynote Presentation:	8:30 PM – 9:30 PM

**Social Hour Hors D'Oeuvres:**

Tequila Jalapeno Poppers	Crab Stuffed Mushrooms
Teriyaki Beef Kabobs	Cheese and Cracker Tray
Vegetable Tray with Ranch Dip	

**Cash Bar:**

Sodas and Alcoholic beverages

**Dinner Menu:**

- 1) Petite Filet Mignon and Chicken Piccata Combo Dinner
- 2) Chilean Sea Bass Dinner
- 3) Vegetable Wellington with Roasted Red Pepper Sauce

Dinner Menu also includes Field Green Salad with Ranch and Vinaigrette Dressings, Garlic Mashed Potatoes, Rolls and Butter, Fresh Vegetables, Ice Tea and Water

**Dessert:**

New York Cheesecake with Strawberry Sauce  
Coffee, Decaffeinated Coffee and Tea are served with Dessert

### IEEE PHOENIX SECTION AWARDS BANQUET – 2005 Registration

(Please complete all sections of the form by typing or printing in bold and capital letters)

**Name:**

**Guest Name:**

**Address:**

**Telephone Number:**  **Email:**

**IEEE Member:** Yes  No  **Student**  **Membership #**

**Dinner Choice (please select one per person)**

- (1) \_\_\_ Petite Filet Mignon and Chicken Piccata Combo Dinner
- (2) \_\_\_ Chilean Sea Bass Dinner
- (3) \_\_\_ Vegetable Wellington with Roasted Red Pepper Sauce



Networking the World™

# IEEE ANNOUNCEMENTS



## An Introduction Steganography

**SPEAKER:** Prof.s Arunabha Sen & Huan Liu

**DATE:** 6:00 PM, Wednesday February 9, 2005

**LOCATION:** DeVry University, 2149 West Dunlap Ave, Phoenix, Az 85021 (1 mile east of I-17 on Dunlap, SE corner of 22<sup>nd</sup> Ave and Dunlap). Networking will be in the Courtyard (6-7PM with light meal), presentation at 7PM.

**Free, Everyone is welcome.** Please tell others about this meeting.

Prof.s Sen & Liu will introduce and demonstrate Steganography. Steganography literally means hiding in plain sight. Today it is practiced by hiding messages in large JPEG pictures and MP3 music files, often by altering low order bits. The talk discusses how Steganography is performed and how it can be detected.

Professors Arunabha Sen & Huan Liu are from the Computer Science Department at ASU.

See [www.ieeecs.com](http://www.ieeecs.com), for more information.

Contact Bob Bianca ([Bob.Bianca@Computer.Org](mailto:Bob.Bianca@Computer.Org))

**March 9** - Tim Barrios (IBM/Rational), Software Architecture

**April 13** - Michael Humphry (General Dynamics) Computer Security

**May 11** - Harry Koehnemann (ASU) – UML (Unified Modeling Language)

**June 8** - TBD



Networking the World™

# IEEE ANNOUNCEMENTS

## Training Courses

...for RF and wireless, and radar,  
...and SOC testing, and Zigbee, and electronic warfare  
...and EM Field Simulation, and DSP, and WiFi, and...

### Coming to Phoenix, Arizona April 25-29

#### **Applied RF Techniques I - Free Textbook!**

This essential course covers the specialized techniques that are needed to work with circuits at high frequencies, such as scattering parameters, parasitics, impedance matching and modeling. Students will come away with an understanding of the reasons why circuit elements behave in surprising manners at RF.

#### **DSP Made Simple for Engineers - Free Textbook!**

This three-day course is the beginner's best opportunity to efficiently learn DSP. Intuitive, nonmathematical explanations and well-chosen examples develop the student's fundamental understanding of DSP theory. Participants will leave with a collection of tricks-of-the-trade used by DSP professionals to make their processing algorithms more efficient.

#### **Introduction to Microwave Radar and Electronic Warfare Systems**

This two day course will explain the fundamental engineering technology and the operating characteristics of modern microwave radar and electronic warfare systems used by the world's military. It will provide the attendees with a firm grounding in the language of system performance, and the microwave equipment that makes this performance possible. All explanations convey a conceptual understanding, using simple physical descriptions without detailed mathematics.

#### **Production Testing of RF and SOC Devices for Wireless Communications - Free Textbook!**

A merger of RF and mixed-signal test is upon us with the increasing number of integrated wireless devices being developed with System-On-a-Chip (SOC) technology. A new breed of engineer, the SOC test engineer, is becoming a necessity. This course is the first of its kind to help train the already talented test engineers with the necessary SOC skill sets required for the next generation devices.

#### **RF & High-Speed Digital Design Using Field Solvers - Free Textbook!**

This three-day course applies commercial field-solver software to a variety of high-speed digital design problems. The course emphasizes the intelligent application of the right CAD package for a given job. Fully half of this course is devoted to the analysis of basic RF and digital structures as well as design case studies developed by the instructor.

#### **RF and Wireless Made Simple**

This seminar provides nontechnical professionals with a firm grounding in the language and meaning of technical RF and wireless concepts. It also conveys a conceptual understanding of wireless systems operation. All explanations use simple physical descriptions without complex mathematics.

#### **RF Transceiver Architecture, Design and Evaluation**

This four day course provides participants with the engineering tools to architect, design, and test wireless systems. Critical system requirements and specifications will be presented for many advanced wireless standards. The last part of the course will focus on techniques for designing receivers including: zero IF, low IF and superheterodyne; and concludes with a complete CAD design simulation analyzing overall performance.

#### **Short Range Wireless Networks - Free Textbook!**

This four-day course covers the fundamentals of short-range wireless network design, deployment, and operation. Participants will study indoor signal propagation characteristics, advanced modulation techniques, network connectivity options, and regulation of unlicensed bands. Next, the IEEE 802.11a/b/g WLAN, IEEE 802.15.1 Bluetooth, IEEE 802.15.3 high-rate WPAN, and IEEE 802.15.4 ZigBee specifications are examined in detail, and their operations compared. Security issues are addressed at the PHY and MAC level. Finally, interference between various wireless networks is analyzed and methods for improving their coexistence presented.

#### **Wireless Circuits, Systems and Test Fundamentals**

Short on time/money? This course combines material from three subjects into one five day course. It provides engineers with the fundamental concepts needed to work effectively with high frequency wireless circuits and systems. Participants gain analytical, graphical, and computer-aided techniques to analyze, test and optimize RF circuits and systems in practical situations. The course also addresses RF measurement techniques as they apply to today's wireless products.

\* course lengths vary from 1-5 days. Please call for exact dates

See our website for  
additional offerings coming to  
San Jose, Boston, and Dallas.



## Besser Associates

The Worldwide Leader in RF and Wireless Training

Phone: 1-650-949-3300 Fax: 1-650-949-4400 <http://www.besserassociates.com>

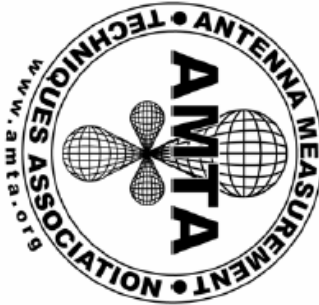
# IEEE ANNOUNCEMENTS



Networking the World™

## ADVANCE PROGRAM & REGISTRATION FORM

The Antenna Measurement Techniques Association (AMTA)  
C/o Carrie O'Shea  
Technical Marketing Specialists  
455 S. 48<sup>th</sup> Street, Ste. 108  
Tempe, AZ 85281



## The Antenna Measurement Techniques Association (AMTA)

*In Cooperation with the  
Tucson Chapter of the  
IEEE Electromagnetic Compatibility, Microwave  
Theory and Techniques, and  
Antenna and Propagation Societies*



Proudly Present

## ANTENNA CALIBRATION AND MEASUREMENTS: A Colloquium and Exhibition

Friday, March 18, 2005

The JW Marriott Starr Pass  
Resort and Spa  
3800 West Starr Pass Blvd.  
Tucson, Arizona, 85748

## Program Outline Friday, March 18, 2005

7:30	REGISTRATION & EXHIBITS CONTINENTAL BREAKFAST
8:30	1 Welcome and Program Overview Larry Mandeville Raytheon Missile Systems Company Member, AMTA Board of Directors
9:00	2 Antenna and RCS Measurements Dr. Joe Vokurka March Microwave Systems
10:15	BREAK in Exhibit Area
10:45	3 The Influence of Ground Plane Reflection on Antenna Calibration and Measurements Harry Gaul General Dynamics C4 Systems
12:00	LUNCH
1:00	4 Anechoic Chamber Design, Rectangular Antenna Ranges: A Case Study Dr. Vince Rodriguez ETS-Lindgren
2:15	BREAK in the Exhibit Area
2:45	5 Spherical Near-Field Testing of Vehicle-Mounted Antennas Over a Ground Plane: Applications and Approach Dr. Doren Hess MI-Technologies
4:00- 5:30	RECEPTION DEMONSTRATIONS AND RAFFLE IN THE EXHIBITS AREA

NOTE: Tabletop displays (exhibits) will be open during registration, lunch, all breaks, and the reception. Access to the tabletop displays is available during the technical sessions, but the displays may not be manned during those times. You must be present to win at the raffle.



Networking the World™

# IEEE ANNOUNCEMENTS

## The Program

This program was designed to bring the latest technology related to antenna measurement techniques to the local community. Experts in the industry will share practical information on various topics in an extended presentation format. This allows a thorough discussion of each topic and provides the opportunity for extended questions and answers. The "hands-on" quality of the presentation enables the registrant to learn useful information that can be used on the job – in the "real world."

## Speaker Biographies

Please see the AMTA website [www.amta.org](http://www.amta.org) for complete speaker biographies.

**Harry W. Gaul, P.E.**, is the EMC/TEMPEST Group Technical Manager for General Dynamics C4 Systems in Scottsdale, Arizona. He is also the IEEE EMC Society Chapter Chair for the greater Phoenix area. Mr. Gaul has been involved in EMC, EMP, ESD and TEMPEST test and design engineering for more than 20 years. Dr. Vince Rodriguez is a Senior Principal Engineer for ETS-Lindgren in Cedar Park, Texas. His interests are Numerical Methods in Electromagnetics, especially when applied to antenna design and analysis, as well as the use of these numerical techniques in designing EMC and RF/MW absorber. Dr. V. Joseph Volurka is the founder of March Microwave Systems B.V. located in the Netherlands. He has decades of experience in advanced antenna and radar cross-section measurements. He is the recipient of the 2000 AMTA Distinguished Achievement Award. Larry Manderville is a Senior Principal Electrical Engineer with Raytheon in Tucson, Arizona. He is also an AMTA Board of Directors member. He has published several papers concerning Radar Systems, Fuzing, RCS Testing, and Airframe Testing during his 40-year career. Dr. Doren W. Hess is currently a Senior Staff Engineer with MIT Technologies in Atlanta, GA. His work has centered on antenna and radar cross-section measurements including development of compact ranges and near-field scanning. He is the recipient of the 1997 AMTA Distinguished Achievement Award.

## The Exhibition & Reception

There will be an exhibition by vendors of antenna measurement and related products and services in a ballroom neighboring the technical presentation area. These products and services address the needs of the commercial, military, and aerospace industries. During the reception from 4:00 to 5:30 pm in the exhibit area, heavy appetizers and a hosted bar will be available. AMTA and IEEE members are welcome to attend the reception only at NO CHARGE provided a registration form is completed and sent in advance. A badge will be available for the reception only attendees upon arrival at 4:00 pm. Thus, if you can't join us for the entire day, drop by for the reception and exhibition to network with AMTA and IEEE. You can see demonstrations, meet the speakers, and you might even win a raffle prize!

## IEEE SCHEDULE

AMTA/IEEE Members, Received by February 1	\$150
AMTA/IEEE Members, Received from February 2-March 1	\$200
AMTA/IEEE Members, After March 2 or at Door**	\$275
Non Member Additional Charge:	\$50+**
Full-time Students with copy of valid Student ID, Postmark by March 2:	\$75
NOTE: Unemployed/retired attendees: Take a 50% discount off the AMTA/IEEE Member fees above.	
**Please do not mail after March 2.	
**†Includes one year membership in AMTA	

## AMTA Meeting Coordinator and Tabletop Exhibits Contact

Janet O'Neil, ETS-Lindgren  
425-868-2558, j.o.oi@ieee.org

## Registration

Carrie O'Shea

Technical Marketing Specialists

Phone: 480-929-0009

Fax: 480-929-0008

[coshea@tmssales.com](mailto:coshea@tmssales.com)

## AMTA Technical Coordinator

Randy Jost

Utah State University, rjost@eece.usu.edu

## IEEE EMC/MTT/AP Joint Chapter Chairs

Nicola Burgess and Sarah J. Spiltek

Raytheon Missile Systems

[nburgess@ieee.org](mailto:nburgess@ieee.org)

[spiltek@ieee.org](mailto:spiltek@ieee.org)

## Hotel Information

JW Marriott Starr Pass

520-792-3500

A limited number of guest rooms are being held for "AMTA" at the rate of \$199.00, plus tax, for single or double occupancy, and are available on a first come, first serve basis. Valet and limited self-parking will be available for nominal fees.

## Registration Information

Please print clearly

Name:	_____
Title:	_____
Company:	_____
Street Address:	_____
City:	_____ State: _____ Zip: _____
Daytime Phone:	_____
E-mail Address:	_____
AMTA or IEEE Member:	Y ___ N ___
IEEE #:	_____
Full-time Student:	Y ___ N ___
School:	_____
(Please attach copy of Student ID to obtain Student rate.)	

## Registration by Mail/Fax

### Registration Total per Fee Schedule

Check Enclosed in Amount of: \$ \_\_\_\_\_  
(Checks payable to: AMTA)

Or

Credit Card Payment – Please Provide:

Name on Card: \_\_\_\_\_

Credit Card No: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

Amount Charged: \$ \_\_\_\_\_

Signature: \_\_\_\_\_

Mail to: AMTA

c/o Carrie O'Shea

Technical Marketing Specialists

455 S. 48th Street, Suite 108

Tempe, Arizona 85281

Fax to: Carrie O'Shea, fax 480-929-0008

**NOTE:** The registration fee includes one copy of the colloquium record, continental breakfast, lunch, refreshment breaks, and the reception. The organizing committee reserves the right to substitute speakers, restrict size, or to cancel the colloquium and exhibition. In the event the organizing committee cancels this event, registration fees only will be fully refunded. Individuals canceling their registration prior to February 18 will receive a full refund. No refunds will be made to individuals who cancel their registration after February 18. Substitutions are allowed. Attendance is limited. Registration will be confirmed on a first come, first served basis.