

ACES

The Applied Computational Electromagnetics Society

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NEWSLETTER

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Editor's note:



Hello again,

I am sorry that there have been some more (personal) issues that have slowed down progress on the newsletter. I am keen to get this back to full speed and would like to see the newsletter as a main component in the community aspect of the Applied Computational Electromagnetics Society. So ... if you are doing some work that you think might be of interest to others in ACES please get in touch with me. Similarly, if you are giving any talks or running any events that other ACES members might be interested in, also let me know.

I hope your plans for attending the Symposium are going well. If you haven't already done so, how about submitting a paper? The deadline has been extended to November 10th.

In this issue, I want to introduce you to some notable ACESians:

two of our new Fellows and the co-chairs for the 2011 conference.

As always, please send me an email if you have anything you would like to add to the newsletter or if you have some questions.

Wishing you all well

Alistair Duffy

apd@dmu.ac.uk

2010 Class of Fellows

I am always fascinated to read about our Fellows and other ACESians. This year's Class of Fellows is no different: interesting people, interesting stories and great role models for our younger engineers. I hope to be able to complete the list in the next issue.

John (Jay) W. Rockway

I was born and raised in Tacoma Washington. I attended Washington State University (WSU) and received the B.S. and M.S. degrees in Electrical Engineering and Ph.D. in Engineering Science in 1966, 1968 and 1971, respectively. As we all know, Electrical Engineering is a challenging curriculum. I became an Electrical Engineer, because I was very busy as a student and never had time to change my major. I left WSU with three degrees and a wife.

Shortly after graduation I became a Federal employee and joined what eventually became the Space and Naval Warfare Center – Pacific in San Diego, California. The primary emphasis of my career has been on the development and evaluation of shipboard antennas, development and application of advanced computational electromagnetic and RF system design tools, and the development of advanced communication systems for the Navy. The Navy has “wonderful” technical problems. Where else could I have solved an integer mathematics problem and with this solution develop a process to identify intermodulation sources on the topsides of ships. There is a certain satisfaction in solving an equation, performing a simulation and actually seeing the result of the effort “steam into the

harbor”. I was fortunate to be able to participate in several projects that did “steam into the harbor”.

In my professional career I watched and participated in the development of computational electromagnetics. At the start of my professional career the utility of computational electromagnetics was questioned. This is one of the reasons that my colleagues and I became involved in the formation of the Applied Computational Electromagnetics Society (ACES). My colleagues and I supported developments that have served as the basis for many of today’s standards in computational electromagnetics.

Today, I probably have a unique position in electromagnetics. I have a son (John) and a daughter (Jeanne). Both have PhDs in Electrical Engineering. Both performed their academic research in electromagnetics. Both my son and daughter are also Federal employees at the Space and Naval Warfare Center – Pacific. We actually work together. I was recently at a major program review. I made a technical comment during the meeting. A voice from across the room said “Dad you’re wrong!”. In 2008 we collaborated on a paper for the IEEE International Antennas and Propagation Symposium. We all have the same first initial and so my resume is very much improving.

**Harold A. (Hal)
Sabbagh**



I was born and raised in West Lafayette, Indiana, where my father was a professor of electrical engineering at Purdue University from 1928 to 1970. I currently live in Bloomington, Indiana. With the exception of the three years that I was in the US Navy, all of my 73 years have been spent in Indiana, and no more than two hours drive from West Lafayette.

I received my BSEE, MSEE and PhD degrees in electrical engineering from Purdue. My father had a strong influence on my early intellectual development, and I knew since the fourth grade that I was going to be an electrical engineer. He brought books home for me to read, starting in junior high school, or even earlier, and friends who owned an auto junkyard gave me old Ford ‘spark coils’ for me to experiment with. Many is the time that I nearly electrocuted myself playing with them, but I managed to survive those early experiences in the basement ‘laboratory.’

My son, Elias, colleague, Kim Murphy, and I own and operate Victor Technologies, LLC, a (very) small company 'dedicated to problem solving and research in the engineering and physical sciences.' Our main product is VIC-3Dc , a volume-integral code for modeling problems in electromagnetic (eddy-current) nondestructive evaluation (NDE). I would say that VIC-3Dc is our magnum opus, but the real joy is working with my son and Kim. We are very proud of the fact that VIC-3Dc has a very good reputation in the niche NDE market, and we do sell it around the world. Forgive my commercial instincts, but let me say that for more information about VIC-3Dc, please visit <http://www.kiva.net/esabbagh>.

I enjoy bicycling very much, so if I were not doing electrical engineering I would be very interested in riding the Tour de France. Being interested in doing something, however, doesn't always easily translate into accomplishing it, so I think that if I were not an electrical engineer, I would still like to do something in science, or education that has a strong mathematical or analytical bent. (It appears that I will never escape my childhood with my father.) I very much like the idea of solving difficult problems using advanced concepts, and being paid to do it. And I think that I would always want to be my own boss. I have always believed that if God gives you a Green's function, you should use it. Not everyone gets a such a nice gift. That's why I'm such a fan of volume-integral equations. This modality seems very well suited to eddy-current NDE, and I would like to extend its capabilities to other engineering arenas.

The field of electrical engineering has many fathers, of course, and along with the usual names – Michael Faraday and James Clerk Maxwell come to mind (not to mention George Green) – I am a great admirer of Oliver Heaviside, Nicola Tesla and Charles Steinmetz. These were three 'engineer's engineers,' who knew how to apply deep concepts to solve difficult problems, and make a profit! It would be fun to converse with them, and see if they had any further ideas for VIC-3Dc.

Since I had already received my MSEE in 1958 when I entered the Navy, I was assigned to the US Naval Academy in Annapolis, MD, to teach electrical engineering in 1959. Annapolis is only 30 miles from Baltimore, which was the home of the-then National Football League champion Colts. So when my favorite NFL team, the Chicago Bears, came to play the Colts, I was in Memorial Stadium to watch. It was an exciting game, which the Bears won. I went down to the

Bears' dressing room after the game, and was greeted by the legendary owner-coach of the Bears, George Halas, himself. He took great delight when I told him that I was teaching electrical engineering at the Naval Academy (he was an engineering graduate of the University of Illinois many years earlier, and was a naval officer in charge of recreation for the Pacific Fleet during World War II), and promptly began introducing me to several players. When he introduced me to Sid Luckman, the legendary (all Chicago Bears are 'legendary') quarterback of the 'Monsters of the Midway', and one of my boyhood heroes, I thought that I was in heaven. Both Halas and Luckman are in the NFL Hall of Fame, and both are long gone, but my memory of that day in Baltimore is still with me. Not many people on this planet can say, 'George Halas introduced me to Sid Luckman,' but I am one who can. And it never would have happened if I hadn't had that advanced degree in electrical engineering.

Hal's Grandchildren:

**Kylan, Tedessa and
Samaya**

Making a grandfather
very proud!

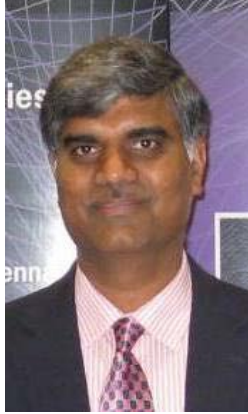


**2011
conference
chairs**

You may be planning to attend the forthcoming conference either as a speaker or delegate. If you are still thinking about this, the call for papers follows this section. Here, we give a little background to the people behind the conference.

C.J. Reddy

C. J. Reddy received B.Tech. degree in Electronics and Communications Engineering from Regional Engineering College (now National Institute of Technology), Warangal, India in 1983. He received his M.Tech. degree in Microwave and Optical Communication Engineering and Ph.D. degree in Electrical Engineering, both from Indian Institute of Technology, Kharagpur, India, in 1986 and 1988 respectively. From 1987 to 1991, he worked as a Scientific Officer at SAMEER (India) and participated in radar system design and development. In 1991, he was awarded



NSERC Visiting Fellowship to conduct research at Communications Research Center, Ottawa, Canada. Later in 1993, he was awarded a National Research Council (USA)'s Research Associateship to conduct research in computational electromagnetics at NASA Langley Research Center, Hampton, Virginia. Dr. Reddy worked as a Research Professor at Hampton University from 1995 to 2000, while conducting research at NASA Langley Research Center. During this time, he developed various FEM codes for electromagnetics. He also worked on design and simulation of antennas for automobiles and aircraft structures. Particularly development of his hybrid Finite Element Method/Method of Moments/Geometrical Theory of Diffraction code for cavity backed aperture antenna analysis received Certificate of Recognition from NASA.

Currently, Dr. Reddy is the President and Chief Technical Officer of Applied EM Inc, (www.appliedem.com) a small company specializing in computational electromagnetics, antenna design and development. At Applied EM, Dr. Reddy successfully led many Small Business Innovative Research (SBIR) projects from the US Department of Defense (DoD). Some of the technologies developed under these projects are being considered for transition to the DoD. Dr. Reddy also serves as the President of EM Software & Systems (USA) Inc. (www.emssusa.com). At EMSS (USA), he is leading the marketing and support of commercial 3D electromagnetic software, FEKO (www.feko.info) in the US, Canada, Mexico and Central America.

Dr. Reddy is a Senior Member of Institute of Electrical and Electronics Engineers (IEEE) and also a Senior Member of Antenna Measurement Techniques Association (AMTA). He is also a member of Applied Computational Electromagnetic Society (ACES) and serves as a member of Board of Directors. Dr. Reddy is the General Chair of the 27th International Review of Progress in Applied Computational Electromagnetics (ACES 2011) to be held in Williamsburg VA during March 27-31, 2011. He has published more than 75 refereed journal articles and conference papers so far.

**Erik
Vedeler**

[Photo Credit:](#)
[NASA/Sean Smith](#)

Erik Vedeler has been the head of the Electromagnetics and Sensors Branch at NASA's Langley Research Center in Hampton Virginia since 2007. The branch performs research in various areas for Aviation Safety, Fundamental Aeronautics, and NASA Science Missions. Before heading the branch, since 2007, he worked in Microwave Electromagnetic measurements at NASA developing indoor free space measurement techniques and microwave antenna technology. His research interests are compact range technologies, electromagnetic interference, and sensor swarming. He has been with NASA since 1988.

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Erik is a keen and able runner. He just missed representing the USA in the Marathon at the Los Angeles Olympic Games by 2 minutes and 4 seconds! There's a good story of the man and the runner at

http://www.nasa.gov/centers/langley/news/researchernews/snapshot_Vedeler.html



ACES

Applied Computational Electromagnetics Society

ACES Web Site: <http://aces.ee.olemiss.edu>



CALL FOR PAPERS

The 27th International Review of Progress in Applied Computational Electromagnetics March 27-31, 2011, Williamsburg, Virginia

The international ACES symposium serves as a forum for developers, analysts, and users of computational techniques applied to electromagnetic field problems for all frequency ranges. The symposium includes technical invited plenary and regular presentations, software demonstrations, vendor booths, and short courses.

Papers may address general issues in applied computational electromagnetic or focus on specific applications, techniques, codes, or computational issues of potential interest to the Applied Computational Electromagnetics Society (ACES) membership. The following is a list of suggested topics, although contributions in other areas of computational electromagnetics will be considered.

Computational Methods:

- Integral Equation
- Differential Equation
- Hybrid and Multi-Physics
- Low Frequency
- Asymptotic and High Frequency
- Fast and Efficient

EM Applications:

- RFID Systems
- Nanotechnology
- MEMS and MMIC
- Bio-Electromagnetics
- Remote Sensing
- Inverse Scattering
- Propagation Analysis

High Performance Computing:

- Parallel and GPU Computations
- Optimization Techniques

EM Modeling:

- Antenna Arrays
- Small Antennas
- TeraHertz Antennas
- Dielectric Resonator Antennas
- Printed and Conformal Antennas
- Wideband and Multiband Antennas
- Electrically Large Structures
- Guided Structures
- EBG and Frequency Selective Surfaces
- Metamaterial and Artificial Materials

Authors of accepted papers will have the option to submit an extended version of their paper or papers for review and publication in a special issue of ACES Journal.

****Photo courtesy of The Colonial Williamsburg Foundation, Williamsburg, VA.**

****Applied Computational Electromagnetics Society (ACES) is not affiliated with Colonial Williamsburg Company or The Colonial Williamsburg Foundation.**

SYMPOSIUM STRUCTURE

The international annual ACES Symposium traditionally includes: oral sessions, regular and invited, poster sessions, a student paper competition, short courses, software demonstration, an awards banquet, vendor exhibits, and social events. The ACES Symposium also includes plenary and panel sessions, where invited speakers deliver original essay-like reviews of hot topics of interest to the computational electromagnetics community.

PAPER FORMATTING REQUIREMENTS

The recommended paper length is four (4) pages, with six (6) pages as a maximum. Submitted papers should be formatted for printing on 8.5x11-inch US standard paper, and should strictly follow the conference paper template posted on ACES site.

PAPER SUBMISSION PROCEDURE

No email, fax or hard-copy paper submission will be accepted. Papers are required in Adobe Acrobat format (*.PDF) and must be submitted through the conference section on ACES web site. Successful submission will be acknowledged by email after completing the uploading procedure on ACES web site.

SUBMISSION DEADLINE AND REGISTRATION REQUIREMENT

Submission deadline is **October 15, 2010**. Upon the completion of the review process, the decision notification along with the pre-registration information will be emailed to the corresponding author on or about **December 15, 2010**. Corresponding author takes the responsibility to inform all other co-authors about the status of the paper. Each presenting author is required to complete the paid pre-registration and the execution of any required paper corrections by the firm deadline of **January 15, 2011** for final acceptance for presentation and inclusion in the symposium CD proceedings. Only two accepted papers can be associated with one conference registration.

STUDENT PAPERS CONTEST

Members of the ACES student paper competition committee selects the top ten (10) student papers submitted for presentation at a special session. Those ten students will be granted free conference registration. Additionally, the best three (3) student papers presented at the 27th ACES Annual Review will be announced at the symposium banquet. The first, second, and third winners will be awarded cash prizes of \$300, \$200, and \$100, respectively.

General Chairs	Technical Program Chair	Short Course Chair	Exhibits Chair	Publicity Chairs
<i>C. J. Reddy</i> EM Software & Systems	<i>Atef Elsherbeni</i> The University of Mississippi	<i>Kubilay Sertel</i> Ohio State University	<i>Andrew L. Drozd</i> ANDRO Computational Solutions	<i>Osama Mohammed</i> Florida International University
<i>Erik Vedeler</i> NASA Langley Research Center				<i>William Coburn</i> Army Research Laboratory

For more information, please visit ACES on-line at: <http://aces.ee.olemiss.edu>.

Committee information	If you are interested in the work of any of these committees, please contact the committee Chairs directly.	
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Newsletter information

NEWSLETTER ARTICLES AND VOLUNTEERS WELCOME	The ACES Newsletter is always looking for articles, letters and short communications of interest to ACES members. All individuals are encouraged to write, suggest or solicit articles either on a one-time or continuing basis. Please contact a Newsletter Editor.
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ADVERTISING

If you wish to place an advert in the Newsletter, please contact me at apd@dmu.ac.uk to discuss. The deadline is one month before the scheduled month of publication.

The cost is \$50 per entry (approximately ¼ printed page)

Remember, the Editor reserves the right to reject advertisements

The last word

**Intuition will tell the thinking mind where to look
next.**

Jonas Salk (1914-1995)
