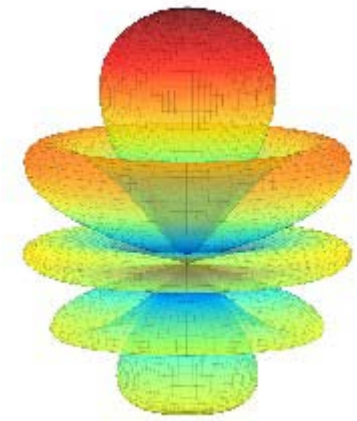

ACES

The Applied Computational Electromagnetics Society

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In this issue:

Editor's note:

What's this? Not the usual Newsletter?

Actually, over the last couple of Board of Directors' meetings, it has been decided that the Newsletter should be more directly accessible and move to more issues per year, interleaved with the Journal. So expect something from me to fall into your inboxes every odd month.

The conference in Monterey was good fun and informative. Next year we will be in Finland in late April. I hope to provide more

information about electromagnetics research in Finland over the next few issues.

I hope you enjoy reading about the new Fellows.

The second part of the article by Dr Tesche - "*SPHERE SHIELDING – Part 2*" will be presented in the next issue of the Newsletter in May. For those of you who have read the first part, the second part is just as informative. If you haven't read the first part, why not go to the ACES website and download last September's Newsletter?

Atef has written (another) book. Professor Antonio Orlandi has reviewed it. Read all about it …

As always, if you have any comments or ideas about the Newsletter, please get in touch: apd@dmu.ac.uk

Newsletter business:

If you have any articles, stories or information you wish to submit to the Newsletter, please send your file (preferably word or pdf) to me at apd@dmu.ac.uk at least a month before the scheduled month of publication in order to give me time to look at it and get back to you with any possible changes.

If you wish to place an advert in the Newsletter, please contact me directly for more information.

The publication schedule from now is January, March, May, July, September, November.

Thanks, Alistair

2009 Class of ACES Fellows

I hope you enjoy reading about the Fellows as much as I have enjoyed finding out about them. We are fortunate in the ACES Community to have such accomplished and inspiring colleagues who *all* have the time and interest to help nurture younger ACESians.

Ed. K. Miller

Where were you born and brought up, and where do you live now and what circumstances brought you there?

Born in Milwaukee, WI, I was raised in the small town (population about 1,000) of Goodman, WI in the northeastern part of the state. My wife, Pat, and I now live in Lincoln, CA at a Del Webb retirement community, having moved here in 2003. We previously have moved around the country a bit, spending our first year in Houghton, MI, followed by 9 years in Ann Arbor, MI. The next 18 years we lived in San Ramon, CA, then Lawrence, KS for about 2 years. We then spent 3 years in Simi Valley, CA, followed by 14 years in Santa Fe, NM.

Job changes were responsible for all of these moves. My first post-graduate position was as a Physics Instructor for a year at Michigan Tech, in Houghton, MI. Then I was a Graduate Research Assistant while working on a PhD for 6.5 years at the Radiation Laboratory and a Research Engineer for 2.5 years at the High Altitude Engineering Laboratory, both at the University of Michigan (UMI). The move to CA was to work at MBAssociates, for 3 years, and 15 years at Lawrence Livermore National Laboratory where my last assignments were as a Leader initially of the Engineering Research Division and later of the Nuclear Energy Systems Division. I spent about 2 years as a Regents-Distinguished Professor at Kansas University, followed by 1.5 years as Manager of electromagnetics at the Rockwell International Science Center in Thousand Oaks, CA. After another 1.5 years with the General Research Corporation in Santa Barbara, CA, I retired from Los Alamos National Laboratory as a Group Leader in the Mechanical and Electronics Engineering Division, after working there for about 4.5 years.

What did you read at university, which university(ies) and why this (these) subjects?	Math and science were favorite courses through school, and when a senior in high school, I took a one-semester correspondence course on radio engineering from the University of Wisconsin. I'd also had a short-wave radio for several years on which I was able to receive broadcasts from pretty much around the world, such as Radio Australia and the BBC. These experiences interested me in the field of radio and on doing some investigation into college possibilities, elected to apply to the Michigan College of Mining and Technology (now called Michigan Tech University) in Houghton, MI. Not only was I accepted, but I was awarded a US Scholarship to Tech, there being one awarded to each of the 47 other (at the time) states. This scholarship paid out-of-state tuition, but this wasn't as big a deal then as it would be now since it was only $20.00 per quarter! It probably increased to about $40.00 per quarter by the time I graduated in 1957. I didn't have any specific plans for graduate school early in my senior year at Tech, but was alerted to an AEC (Atomic Energy Commission) Fellowship by one of my physics' professors. I was awarded a Fellowship with the proviso that I be accepted at one of the 20 or so schools that offered graduate programs in Nuclear Engineering. I elected the UMI and began my studies there in September 1957. These were exciting times in that field with courses ranging from nuclear-reactor analysis and design, to reactor control systems and the irradiation of foods for preservation. UMI had a 1-MW swimming-pool reactor that was used for research and classes. I had the unique opportunity of bringing this reactor up to full power from a cold start. When the instructor told me that my time had ended, I casually pushed the "scram" button which dropped all of the control rods back into the reactor, not a recommended way to shut it down. In spite of that, I finished my MS degree in August, 1958 and after getting married to my wife, Patricia, whom I had met at the UMI, we arrived in Houghton where I began as an Instructor in the Physics Department. With the anticipated arrival of our first child in 1959, Pat and I decided to return to UMI for her to complete her BA in Music Education and for me to return to Electrical Engineering, specifically in some area of electromagnetics. Pat finished her degree in 1963, and I my PhD in EE in 1965.

	My PhD research dealt with the scattering of EM and EK (ElectroKinetic) plane waves from an infinite, PEC cylinder immersed in a warm plasma. Without realizing it at the time, I was involved in the very beginnings of computational electromagnetics. My dissertation required me to learn not only various aspects of numerical analysis, but also computer programming, both of which proved to be valuable tools throughout my career.
What is your current job and what does it entail? What are you most proud of achieving?	My current job is being retired, which occurred in 1993. Since that time, aside from the last few years, I've probably published as much as when working. This has been made possible by the ubiquitous personal computer (although mine is a Mac), which makes self-sponsored research feasible. Possibly at the risk of appearing conceited, or appearing to having done nothing that's worth mentioning, there's no single item that I would cite. Instead, I'll mention more than one. First, having been instrumental in forming ACES is something of which I'm proud. I organized what turned out to be the first ACES meeting at Lawrence Livermore National Laboratory, which was called "The First Annual NEC Review" and served as the first President of ACES. Also worth mentioning is my association with the development and application of NEC over the years, extending back to 1968. Another area to which I've contributed are some numerical procedures. One is an adaptive quadrature procedure based on Romberg's method. Second is the incorporation of Model-Based Parameter Estimation (MBPE) in electromagnetic modeling which has been found useful in modeling antennas near an interface, in the development of frequency transfer functions and computation of radiation and scattering patterns for large objects. Finally, is work that I've done in radiation physics leading to FARS (Farfield Analysis of Radiation Sources), and for which an analytical proof will be given at the 2009 ACES meeting, developed using an extension that I've worked out of the Induced ElectroMotive Force (IEMF) method.

If you weren't doing this job, what would your ideal occupation be? What are your abiding passions?	I think that I have an ideal occupation now, in that I can do what I like. The only things missing are the frequent hallway discussions and sharing of ideas that occur in some, not all, work environments. As for abiding passions and from an electromagnetic perspective, I have enjoyed looking for simpler ways to analyze and develop EM phenomena. This is the kind of thing embodied in MBPE. Determining quantitatively where radiation originates has been a long-standing interest. This was first motivated by encountering the inverse problem, and wondering how the physics of radiation could be usefully incorporated in such analyses. Of great interest to me has also been the development of Visual Electromagnetics (VEM) as a tool for both research and teaching. On a personal basis, I've had a life-long interest in photography, basically to record various events in our lives. I've embarked on the lengthy process of scanning about 13,000 slides into my computer, dating from 1952 to about 1995. Since then I've converted to video recording and digital photography.
Any interesting stories or anecdotes?	I've experienced some humorous events during my years of attending conferences and otherwise, a couple of which may be worth relating. Once involved Professor Sam Silver at the University of California in Berkeley, CA (UCA). Prof. Silver had been at the MIT Radiation Laboratory during World War II and is the Editor of the book "Microwave Antenna Theory and Design," a book published in the MIT Rad Lab series. I had made an appointment to see him, I guess it would have been in 1972 or so, to seek his support for a proposal that Chalmers Butler and I were considering for developing computer-animated movies to teach electromagnetics. On entering his office, and introducing myself, I remarked that " Prof. Silver, I almost feel that I should call you "grandfather"'. This rather alarmed him and I could see that he was wondering if he should try to leave his office. I hastily added that Prof. Andrejs Olte of the UMI had been my PhD advisor, and it was my understanding the Prof. Silver had been Prof. Olte's advisor at the UCA. So, in a sense, this made Prof. Silver my academic grandfather. He relaxed at this explanation, but unfortunately was not enthused about our

anticipated proposal.

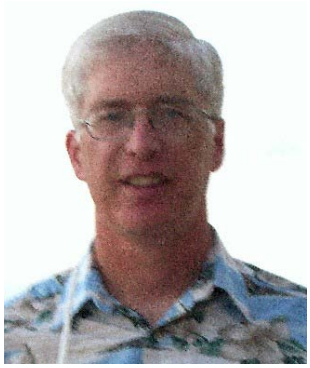
Around this same time, I attended and gave a paper at a meeting in Boulder, CO at the National Bureau of Science that was organized by James Wait. The topic of the meeting was “Environmental Effects on Antenna Performance.” This was a topic on which Dr. Wait had published extensively on its various aspects, so it was natural that almost all presenters had 1 or more references to his work. During a presentation by someone from the Naval Oceans Systems Center in San Diego, a particular slide drew Dr. Wait’s attention. So, he asked a question about an equation on this slide, and not finding the explanation satisfactory persisted in questioning the equation’s meaning and validity. The presenter endeavored to explain his understanding of the equation, but without success. Finally, plainly exasperated, the presenter said, “I don’t know what the problem with this equation is, but it’s from one of your papers, so maybe you can tell me what’s wrong with it.” That ended the discussion.

I attended a meeting of the Plasma Physics Division of the American Physical Society many years ago, in 1968 or thereabouts, For its time this was a very up-to-date meeting setup. All of the presentations were carried on live TV in a huge ballroom, with a TV for each session. It was possible to catch presentations more conveniently than having to run between widely separated rooms although it was not possible to ask questions of the speaker. Since most presentations were given only 10 minutes, this was probably not a big deal. But, in addition to the live broadcast of each presentation, it was also possible to catch any sessions that you might have missed by returning to the rooms that same evening where the presentations had been made and see them given again on tape. The schedule for these taped sessions was published to ensure that a viewer could arrive at the desired time and place. So, never having had the opportunity to see myself giving a presentation on TV, I made sure to return to my meeting room, arriving a few minutes early. There was only one other person in the room at the time, and as the presentation before mine ended. that person immediately departed. I recognized him as the presenter before me, About the time that my taped presentation was concluding and I prepared to leave someone else entered. And, of course, that turned out to the presenter who followed me! I got the

impression that most of the taped sessions worked in pretty much the same way

Finally, there is an episode that was rather personally embarrassing to me. It happened when I served as chairman of a session at some meeting whose specifics I now forget. Having chaired numerous sessions, I was particular to request that all presenters meet with me prior to the scheduled start of the session to help insure that things went smoothly and that, in the case of multi-authored papers, the presenter would identify them self. This was in the days before the presenter was indicated on the abstract as is often done now. Anyway, a young woman, mid- to late-twenties in age, was giving one of the papers. I went through my usual spiel and concluded by asking, “Do you want to be introduced as Miss, Mz. or Mrs.?” To which she replied, “Actually Dr. would be just fine.” My face turned red and I hastily apologized, ever since trying to avoid making a similar *faux pas*.

Randy Haupt



Randy Haupt was born in Johnstown, PA in 1956. He grew up in a relatively poor neighborhood and was the first generation to attend college. In 1974 he graduated from high school and was selected to attend the United States Air Force Academy. He hated electromagnetics and took all the computer and computer engineering courses that were available. After graduation and commission as a second lieutenant in 1978, he was sent to Hanscom AFB, MA as a project engineer on the Over-the-Horizon Radar. After being used to an extremely busy life at the USAF Academy, he was bored, so he started taking graduate computer engineering classes at Northeastern University. A few months later, he married a friend from high school who was a PhD student at MIT (she also graduated one place in front of him in high school). His new bride dropped out of MIT, and he dropped out of Northeastern, and they both started part time management degrees at Western New England College. Two years later they both emerged with an MS in Engineering Management (She had the higher GPA.). Before graduation, he changed jobs to the electromagnetics group at Rome Air Development Center where he was thrust into the middle of his much hated electromagnetics. It was a different and wonderful world of research compared to his previous job of project management. He went back to graduate school at

Northeastern and took microwave courses this time. Two years later, he had an MS in electrical engineering with a major in computers and a minor in microwaves. The heart of his thesis was his first article in the IEEE AP-S Trans. The Air Force selected him to serve as an instructor at the USAF Academy, but first he had to get a PhD – from the University of Michigan. He survived that ordeal and had his first daughter shortly before graduating (she even attended his PhD defense). He assumed his professorship at USAFA in 1987. His thesis concerned radar cross section reduction, and he minored in electro optics. At the USAF Academy, he won several teaching and research awards, including the Federal Engineer of the Year in 1993 and had his second daughter in 1990. In 1997, he retired from the USAF as a Lt. Col. and Professor of Electrical Engineering. At the same time, he started the "Ethically Speaking" column for the IEEE AP-S Magazine. At that point, he became Professor and Department Chair of Electrical and Computer Engineering at the University of Nevada Reno where he and his wife wrote the book Practical Genetic Algorithms. Two years later, the family moved to Utah State University where he became Dept. Head of Electrical and Computer Engineering. During that time he also became an IEEE Fellow in 2000. The last move wave back home to PA where he became a Senior Scientist and Dept. Head of Computational Electromagnetics at the Penn State Applied Research Lab. He co-authored his second book, Genetic Algorithms in Electromagnetics, with Prof. Douglas Werner. His current research interests include antenna design and radar cross section modification.

Leo Kempel

Leo Kempel is a Professor in the Department of Electrical and Computer Engineering and an Associate Dean for Research in the College of Engineering at Michigan State University. He received the Ph.D. degrees from the University of Michigan in 1994 and the BS degree from the University of Cincinnati in 1989. As a faculty member, Prof. Kempel collaborates with a number of colleagues both at MSU and at other institutions, as well as a number of talented students. His research is in the general area of applied electromagnetics with particular emphasis on conformal antennas, engineered materials, and measurement of electromagnetic properties of materials. As an associate dean, he is responsible for developing emerging

initiatives within the college and amongst other units both at MSU and elsewhere. He recently completed a second term as an IPA with the Air Force Research Laboratory at Wright-Patterson AFB. He was the inaugural director of the High Performance Computing Center at Michigan State University. In that role, he helped to deliver computing resources to the faculty, staff, and students at MSU.

He has served as an elected member of the administrative committee for the IEEE Antennas and Propagation Society and the board of directors for the Applied Computational Electromagnetics Society. He was an associate editor for the IEEE Transactions on Antennas and Propagation and is an active reviewer for many scholarly publications. He also has served on a number of committees at MSU including a year as chairperson of the University Graduate Council. He is the recipient of the NSF CAREER award, the MSU Teacher-Scholar award, and the MSU College of Engineering's Withrow Distinguished Scholar award. He is a Fellow of the Applied Computational Electromagnetics Society (ACES) and the Institute of Electrical and Electronic Engineers (IEEE).

ACES Conference 2009 – Monterey California

Don't forget that if you want to submit your conference paper to be considered for the Journal Special Issue on the 2009 Conference, it should be submitted by 15th May via

http://aces.ee.olemiss.edu/

The anticipated publication month is December 2009.

Monterey became the 'permanent' home for the ACES conference a quarter of a century ago. However, it has moved venue over recent years, including Verona, Italy, and Niagara Falls. It was fitting, then, to return there for this conference. Unfortunately, the Post-Graduate Naval School, which was the home of the ACES conference, was not available. However, the Embassy Suites was a very pleasant location and housed the conference well. I really enjoyed the sessions I went to and was delighted to be asked to be one of the judges of the student paper competition (more of that in a future edition): one thing I can be sure is that the future of computational electromagnetics is in safe hands, if the students who presented are representative of the quality of students world wide.

Andy Drozd organised a session on Validation that consisted of a set of presentations from himself, Bruce Archambeault, Colin Brench, Ed Miller and myself followed by a discussion. The premise of this is that IEEE standard 1597.1 Validation of Computational Electromagnetics for Computer Simulation and Modeling has recently been published and may impact on the work of the members of ACES. A good sized audience posed questions and made suggestions and voiced opinion,

making this a worthwhile event.

It was good to renew old acquaintances, make some new friends, have a few laughs and engage in technical discussions with some of the most respected figures in the industry.

I am hoping to have some short reports about the conference in coming issues.

I am looking forward to Finland in 2010. If you haven't been to an ACES conference in the past, come to Tampere in Finland next year. You will be pleased you did!

Alistair.

Journal Update

Full journal information can be found at

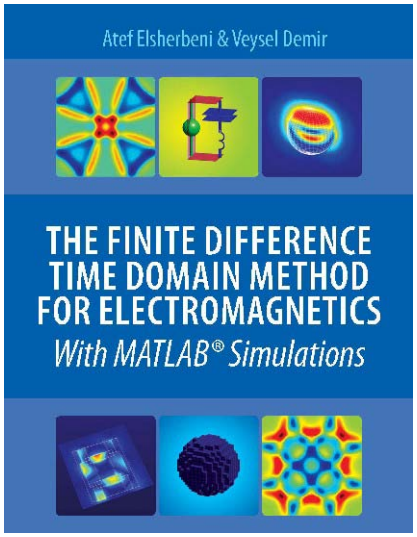
http://aces.ee.olemiss.edu/

If you visit the ACES website, you will note that the Journal has increased to six issues per year. This reflects an increase in the numbers of papers submitted (and, of course, papers of a high quality).

Special issue calls:

Computational and Experimental Techniques for RFID Systems and Applications. Deadline April 16th 2009

Conference Special Issue. Deadline May 15th 2009



THE FINITE-DIFFERENCES TIME DOMAIN METHOD FOR ELECTROMAGNETICS WITH MATLAB SIMULATIONS

A. Elsherbeni and V. Demir

Publisher: Scitech Publisching Inc., 2009
ISBN: 978-1-891-121715

The contents of this book are the product of the experience of the first author gained from many years of teaching university courses in computational electromagnetics, in general, and Finite Difference Time Domain (FDTD,) specifically; combined with the theoretical and programming experience of the second author.

The objective of the book is clear right from the beginning: to introduce the powerful FDTD method. This introduction is effectively accomplished using a very well structured step-by-step process that builds the reader's competence (and confidence) in developing complete working codes for the design and analysis of various radiating and microwave devices. The approach proposed by the Authors does not require any previous experience with finite difference (FD) methods, although a knowledge of some MATLAB programming will help.

In Chapter 1 the basis of the FDTD techniques is given with extraordinary " learning" efficiency: after a discussion of the concept of FD, the updating FDTD equations for one, two and three-dimensional problems are introduced. A clear and compact formulation is used throughout the book: this is one of the key points for offering the Reader a straight path from theory to numerical implementation of the FDTD equations.

Chapter 2 studies the numerical stability and dispersion of the FDTD equations and the Courant-Friedrichs-Lewy condition is discussed accompanied by a one-dimensional FDTD example.

Chapter 3 is one of the chapters I like the most because it deals with a real problem for those who want to use FDTD for practical simulations: the building of objects

The Reviewer – Professor Antonio Orlandi, EMC Laboratory, University of L'Aquila, Italy.

Antonio Orlandi *was born in Milan, Italy in 1963. He received the Laurea degree in Electrical Engineering from the University of Rome "La Sapienza", Italy, in 1988.*

He was with the Department of Electrical Engineering, University of Rome "La Sapienza" from 1988 to 1990. Since 1990 he has been with the Department of Electrical Engineering of the University of L'Aquila where he is currently Full Professor at the UAq EMC Laboratory. Author of more than 100 technical papers he has published in the field of electromagnetic compatibility in lightning protection systems and power drive systems. Current research interests are in the field of numerical methods and modeling techniques to approach signal/power integrity,

into the FDTD grid (specifically the Yee formulation). The definition of the objects is substantiated by a MATLAB code that allows an understanding of the link between theory and practice. An interesting data structure is also proposed and used from this Chapter on.

Active and passive lumped elements are discussed in Chapter 4 introducing, from one side, the description of sources into the FDTD code and, on the other side, the link between field and circuit theory. It is worth noting that not only linear lumped elements are considered. The updating equations for a diode are reported and this allows the Readers to easily develop, for themselves, the updating equations of more complex non linear devices given by the combination of more diodes.

Chapter 5 builds the bridge between the time and the frequency domain applied to FDTD implementation. The four most common transient source waveforms are considered (sinusoidal, Gaussian, Gaussian's derivative and cosine modulated Gaussian waveform). This chapter is not only essential for the development of the book but also helps the Reader to understand many of the settings used in commercially available numerical codes.

Chapter 6 is a small but useful introduction to Scattering Parameters and how to compute them in FDTD code.

Chapters 7 and 8 are devoted to a deep and complete discussion on the Perfectly Matched Layer (PML) and Convolutional Perfect Matched Layer (CPML) boundary conditions. Thanks to the clear notation of the updating equations (set out at the beginning) the underlying theory of these two classes of boundary conditions is easy to follow and to translate into a FDTD scheme. The Authors go further and, with some examples, offer the Readers MATLAB scripts in which the equations describing Yee's grid, the PML and CPML are numerically implemented. It is worth noting the effort of the Authors in maintaining a one-to-one

EMC/EMI issues in high speed digital systems. Dr. Orlandi received the IEEE TRANSACTIONS ON ELECTROMAGNETIC COMPATIBILITY Best Paper Award in 1997, the IEEE EMC SOCIETY TECHNICAL ACHIEVEMENT AWARD in 2003, the IBM SHARED UNIVERSITY RESEARCH AWARD (2004) and the CST UNIVERSITY AWARD in 2004. He is member of the Education, TC-9 Computational Electromagnetics and TC-10 Signal Integrity Committees of the IEEE EMC Society, Chairman of the "EMC INNOVATION" Technical Committee of the International Zurich Symposium and Technical Exhibition on EMC. From 1996 to 2000 has been Associate Editor of the IEEE TRANSACTIONS ON ELECTROMAGNETIC COMPATIBILITY and now serves as Associate Editor of the IEEE TRANSACTIONS ON MOBILE COMPUTING.

correspondence between the notation on the equations, their description in the text and, more important in my view, in the FDTD code implementation.

Of the remaining 4 chapters, the first three (Chapters 9, 10 and 11) deal with specific issues that always arise when one wishes to implement and develop an FDTD code to solve real world electromagnetic problems. Near-to-far-field transformations are introduced in Chapter 9. All the integral equations are reduced to discrete summations and then translated into the FDTD scheme. The initialization, the time-marching scheme and the postprocessing of this transformation are detailed into several MATLAB scripts and then applied to some examples.

Chapter 10 deals with thin-wire modelling, an essential issue for any em simulation. This issue is not trivial because the simplicity of the formulation usually hides the fact that a non-perfect implementation gives completely wrong results. This correct implementation is shown step-by-step in the code listing of this brief chapter.

Sources are necessary components of an FDTD simulation and their types vary, depending on the problem under consideration. They can be of two general types: near-field or far-field sources. Near field sources are discussed in Chapter 4. Far field sources (such as plane wave impinging an antenna or a structure) are discussed in Chapter 11. The Authors introduce the scattered field formulation, one of the techniques that integrates far-field sources into the FDTD method.

Chapter 12 concludes the book, analyzing the use of Graphics Processing Units as speed-up device for the computation of FDTD codes. The discussion is not limited to a theoretical discussion. Several examples of MATLAB implementation of the Brook code are reported in this Chapter making it an effective tool for the software developer.

The development of the codes in the book is based on MATLAB programming language due to its relative ease

	of use and widespread availability in the industrial and academic world. The relatively low performances of such a programming language in terms of CPU time and memory requirements for numerical calculations are fully compensated by its mathematical libraries and array manipulations so it seems to me that this choice is very well made. Three Appendices enrich the book. Appendix A contains the description of a one-dimensional FDTD code; Appendix B describes the updating equations for a CPML layer region for a three-dimensional FDTD domain and, finally, Appendix C contains a MATLAB code for plotting far-field patterns For those of us that in a way or in another work with time domain numerical methods this is a book to read and to know.

Conference 2010 call for papers.

Search for **Tampere, Finland** *on your favorite mapping software*

http://aces.ee.olemiss.edu

The 26th International Review of Progress in Applied Computational Electromagnetics

In conjunction with RFIDay 2010

April 26 to 29, 2010, Tampere, FINLAND

General Chairs ***Lauri Sydänheimo and Leena Ukkonen***, Tampere University of Technology
Technical Program Chair ***Atef Elsherbeni***, The University of Mississippi

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

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 membership. The following is a list of suggested topics, although contributions in other areas of computational electromagnetics will be considered.

Suggested Topics:
Integral Equation Methods Differential Equation Methods Fast and Efficient Methods Hybrid and Multi-Physics Modeling EM Modeling of Complex Mediums Modeling Electrically Large Structures Inverse Scattering and Imaging Techniques Optimization Techniques for EM-based Design Asymptotic and High Frequency Techniques Low Frequency Electromagnetics Computational Bio-Electromagnetics Printed and Conformal Antennas Modeling and Performance of RFID Systems Wideband and Multiband Antennas
Dielectric Resonator Antennas Phased Array Antennas Smart Antenna and Arrays EBG and Artificial Materials Nanotechnology Applications Frequency Selective Surfaces MEMS-NEMS and MMIC EMC/EMI Applications Propagation Analysis Remote Sensing Applications RFID Systems and Applications Modeling and Analysis of TeraHertz Antennas High Performance Computing Parallel and GPU Computations Modeling and Applications of Metamaterial
Modeling and Analysis of Small Antennas

All authors of accepted papers will have the option to submit an extended version of their paper or papers for review and publication in the ACES Journal.

SYMPOSIUM STRUCTURE

The international annual ACES Symposium traditionally includes: (1) oral sessions, regular and invited, (2) poster sessions, (3) a student paper competition, (4) short courses, (5) software demonstration, (6) an awards banquet, (7) vendor exhibits, and (8) 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, including text, figures, tables and references, is four (4) pages, with six (6) pages as a maximum. Submitted papers should be formatted for printing on 8.5x11-inch U.S. standard paper, with 1inch top, bottom, and side margins. On the first page, the title should be 1-1/2 inches from top with authors, affiliations, and e-mail addresses beneath the title. Use single line spacing, with 11 or 12-point font size. The entire text should be fully justified (flush left and flush right). No typed page numbers. A sample paper can be found in the conference section on ACES web site at: ***http://aces.ee.olemiss.edu.*** Each paper should be submitted in camera-ready format with good resolution and clearly readable.

PAPER SUBMISSION PROCEDURE

No email, fax or hard-copy paper submission will be accepted. Photo-ready finished papers are required, in Adobe Acrobat format (*.PDF) and must be submitted through ACES web site using the "Upload" button in the left menu, followed by the selection of the "Conference" option, and then following the on-line submission instructions. Successful submission will be acknowledged by email after completing all uploading procedure as specified on ACES web site.

SUBMISSION DEADLINE AND REGISTRATION REQUIREMENT

Submission deadline is **November 16, 2009.** A signed ACES copyright-transfer form must be

mailed to the conference technical chair immediately following the submission as instructed in the acknowledgment of submission email message. Papers without an executed copyright form will not be considered for review and possible presentation at the conference. Upon the completion of the review process by the technical program committee, the acceptance notification along with the pre-registration information will be emailed to the corresponding author on or about **January 15, 2010.** 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 31, 2010** for final acceptance for presentation and inclusion of accepted paper in the symposium proceedings.

BEST STUDENT PAPERS CONTEST

The best three (3) student papers presented at the 26th Annual Review will be announced at the symposium banquet. Members of the ACES Board of Directors will judge student papers submitted for this competition. The first, second, and third winners will be awarded cash prizes of **$300, $200**, and **$100**, respectively.

For questions please contact the conference chair ***Leena Ukkonen*** +358-44-5341507, ***aces2010@tut.fi*** or visit ACES on-line at: ***http://aces.ee.olemiss.edu***

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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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Remember, the Editor reserves the right to reject advertisements

The last word

I thought that something from John Steinbeck would be appropriate, given the location of the conference this year. Here's one attributed to John Steinbeck (although I must confess to not knowing the exact source), which I hope you will enjoy:

"Ideas are like rabbits. You get a couple and learn how to handle them, and pretty soon you have a dozen."