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# Eastern North Carolina Section Newsletter

March 2008



## Splinters from the Chair - Section Chair's Introduction

*Thomas Jepsen*

First of all, I would like to wish all IEEE-ENCS members a happy new year, and thank

you all for being part of one of North Carolina's most dynamic professional organizations, with over 3000 members from Greensboro to the coast. One of the section chair's main responsibilities is to set goals and a direction for the section in the coming year, so I would like to take this opportunity to share some thoughts with you along this line.

As we all know, the only thing that is constant in this high-tech world we live in is change. In order to stay competitive, we need to continually re-educate ourselves to keep up with the changes in the technical fields we work in. To support this goal, IEEE-ENCS needs to provide its members with the latest information on leading-edge technologies through technical chapter meetings and professional development courses.

In addition to keeping up with our technical specialties, we also

need to stay aware of what is going on in related fields. The days when a technical specialist could work in a "silo" environment are long gone; increasingly, we need to communicate with people working in widely different areas. Health care professionals need to know about telecommunications networks; robotics engineers need to know about neural networks. You can probably think of other examples. We encourage members to attend meetings outside of their specialty areas, to learn about other disciplines. And we encourage chapter chairs to look for opportunities to hold joint meetings with other chapters to create areas of "cross-fertilization" between groups.

And lastly, we need to understand the importance of maintaining social networks as well as technical relationships. IEEE-ENCS is proud of being a

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“family-friendly” organization; our social meetings at WCHL, Morehead Planetarium, and the Museum of Life and Science in the last two years were all great opportunities to involve the entire family. We look forward to more family-inclusive activities in the year ahead.

I would like to thank our outgoing officers, past President

Roger Lawrence and past Treasurer Jai Arun Singh, for their work on behalf of the section; their volunteer efforts are greatly appreciated. And I would like to welcome our new slate of officers as well: Dev Palmer, Vice Chair; Jim Ray, Treasurer; and Paul Goodson, Secretary. If you have any suggestions or comments on

section activities, please let one of us know; let’s all work together to make 2008 another great year for IEEE-ENCS!

Best Regards,  
Tom Jepsen  
Section Chair  
IEEE Eastern North Carolina  
Section

## IEEE ENCS Members Attend Presentation on Video Game Technology

*John Powell & Darrin West*

IEEE ENCS members attended the Triangle International Game Developers Association (IGDA) meeting hosted by Emergent Game Technologies on January 24. Emergent Game Technologies packed in over 230 game developers and enthusiasts into their recently expanded office space in the Quadrangle Office Park in

Chapel Hill. "We had at least 230 in attendance last Thursday, and the energy in the room was palpable," said Dana Cowley, chapter coordinator for the NC Triangle IGDA. This is truly a testament to the rapidly expanding game development industry in the area!

Attendees came to meet with their colleagues and hear one of

two relevant talks:

TRACK A: Going Online with Emergent's Shared Entity and Simulator Framework

Darrin West, Chief Engineer, Emergent Game Technologies

Emergent's local engineering group is well known for its Gamebryo product, and Emergent's server team has been developing distributed systems technology for future products. Darrin West, Emergent's server architect, talked about a few interesting aspects of Emergent's shared entity and simulator framework.

He spent about 25 minutes sharing personal and classical development experiences from the Massively Multiplayer Online (MMO) game industry. He described amusing player exploits and their underlying causes, as well as good software engineering principles that would help avoid those issues. Underlying the information were references to the capabilities of



*Track A: Audience - Picture courtesy of Kert Henderson*

Emergent's Server Element product. The talk briefly covered the distributed multiprocessor architecture of MMO game servers, and the market forces on such a product. The conclusion was that Emergent has experienced MMO industry engineers and is building a generic MMO infrastructure that can save a game development studio a lot of time and money while avoiding serious reliability and security issues.

West, an IEEE member for almost 20 years, is Chief Engineer and Server Lead with Emergent Game Technologies, building a multi-genre, ala carte, online game server system. He received his M.Sc. degree from the University of Calgary, Canada. After 10 years of research in parallel simulation and distributed systems (including significant contributions to the DoD's HLA, and RTI), Darrin jumped into massive scale online games. He then had a 5 year stint at EA mainly on The Sims Online before joining Emergent. Darrin is passionate about making it possible to build high quality games more rapidly, less expensively, and without the pain.

TRACK B: Next-Gen Narrative Design

Rafael Chandler, Creative Director, Media Sunshine

This lecture, originally presented at the 2007 Russian Game Developers Conference in Moscow, presents the process of writing a video game. Sub-



*A social gathering for the games industry – Picture courtesy of Kert Henderson*

jects covered include story creation, character development, writing dialogue, team interaction, scheduling, documentation, asset integration, and testing.

Chandler is currently writing a number of unannounced games for Zipper Interactive and Slant Six Games. Prior to that, he worked as a writer/designer on the Tom Clancy games at Red Storm. His most recent titles include SOCOM: Confrontation, Ghost Recon: Advanced Warfighter, Rainbow Six:

Lockdown, and Ghost Recon 2. He's also the author of The Game Writing Handbook, which is a finalist for the 2007 Game Developer Front Line Awards.

Both presentations were well received by the local IGDA membership, and generated fair bit of follow up interest. The evening concluded with several competitive bouts of the video game Rock Band in the Emergent engineering department's multi media and game "testing" lab.



## About the IGDA

The International Game Developers Association is the largest non-profit membership organization serving individuals that create video games. Its nctriangle.

mission is to advance the careers and enhance the lives of game developers by connecting members with their peers, promoting professional develop-

ment, and advocating on issues that affect the developer community. Information on the North Carolina Triangle chapter of the IGDA at <http://www.igda.org/>



## About Emergent Game Technologies

Emergent Game Technologies is the single source for all the tools required to build, test, manage and expand interactive games.

Emergent was founded in 2000 and merged with NDL, the company that created the Gamebryo engine and tools, in August 2005. Gamebryo enjoys widespread adoption among game developers, and has been trusted to create instant classics such as Sid Meier's Pirates!,

Civilization IV, the Dark Age of Camelot series, Elder Scrolls IV: Oblivion, and Freedom Force. Gamebryo is designed for use with every major platform, including next-generation platforms such as PlayStation 3 and Xbox 360.

Emergent's primary goal is innovation in game development. Emergent provides game developers with all the tools they need to focus on innovation-in graphics, content, game experience,

genre, and technology. Their approach is to develop technology that is flexible enough to meet the needs of the full range of users, applications, and development pipelines.

Emergent is backed by well-known organizations such as Worldview, Jerusalem Venture Partners and Cisco Ventures.

Information on Gamebryo and Emergent Game Technologies at <http://www.Emergent.net>.

## Lone Wolf Autonomous Car Appears at Museum

The Lone Wolf, a computer-driven Lotus Elise sports car will be on display at the Museum of Life and Science in Durham, NC on Saturday, March 22. The

display will be part of a special museum event called "Robot Rumble" which starts at 9:00am. For more details on the event,

visit the Museum's web site [www.ncmls.org](http://www.ncmls.org). For more information on the Lone Wolf, visit [www.insightracing.org](http://www.insightracing.org).

## Awards and Recognition Committee

### *Available Volunteer Position*

This is a great position to help fellow members and our section by creating innovative ways to bring recognition to deserving members who have contributed to their technical field, to the community, to members, or to our section, committees, or chapters. The Awards and Recognition Committee works with the Section Executive

Committee in identifying deserving individuals and in finding ways to award and recognize them.

Members performance in engineering, service, and education are often deserving of recognition.

Recognition that demonstrates our appreciation, that can encourage others to emulate,

that is an inspiration for youth, and that is a positive influence for our organization and profession on our community.

If you are interested in this worthwhile volunteer position, please contact the Eastern NC Section Chair (contact information is on our website, <http://iee.org/encs>).

## Retiring Chairman's Letter

### *Roger Lawrence*

November 2007 through January 2008 were busy months for IEEE ENCS members with activities as diverse as helping out with the First Lego League Tournament at Greensboro Coliseum, learning about legislation surrounding guest worker permits, and receiving an invitation from Emergent Game Technologies to attend the international game developers association (IGDA) January meeting. We hosted a workshop "How to be a Successful Consultant" that drew 37 attendees.

The past two years as Chairman of Eastern North Carolina Section have been very rewarding for me. I have been fortunate to have the support of many good people who have volun-

teered of their time to make Section and Chapter Events varied and successful for the membership. It has been great to meet new members and to meet the families of members at our social events. I realize that many of you have very busy schedules and I appreciate the time you give to IEEE ENCS. A good meeting turnout means we are meeting your needs and that is what we aim to do.

I would like to thank the Executive Committee for their ideas, their actions, and their tireless energy in staying on-task. The Executive Committee comprises Officers, Chapter Chairs, and Special Interest Chairs and meets once a month. As a body it offers a wealth of



experience and technical know-how from which we all benefit.

The incoming officers for 2008 have served us well in the past and will continue to do so in their new roles. Congratulations to Tom Jepsen, Chair, Dev Palmer, Vice Chair, Jim Ray, Treasurer, and Paul Goodson, Secretary. Thank you for the support you gave to me. I look forward to supporting you and the new officers in my new role as Past Chair. Please continue to keep in touch.

## A Letter from Your New Computer Society Chair

*John Powell*

Before introducing myself, I'd like to say a few words about the incredible man I'm going to try to replace. Chris Seigl has been the Computer Society Chair for many years. Over the years he has organized a great many CS presentations, on subjects ranging from K-12 education to XML. One of his most memorable accomplishments for the section was organizing a picnic in 2003 at the New Hope Valley Railway Museum. Chris is a railroad enthusiast, actively involved in Boy Scouts and man of many talents beyond his formal academic degrees.

I've stepped up to the plate with the hope that we can revitalize the Computer society and treat ourselves to some interesting activities. My background is in 3D graphics software development, so I'd like to plan a couple of events around this general area because I find it interesting and I hope that you will too. If you aren't interested in this kind of stuff, I need your help:

### **The Challenge**

I challenge you all to come up with event ideas that fulfill your interests. We can work together to make them happen. It's really not difficult, but gets easier when more people are actively involved. You may be surprised to find out how many fellow members share your interests.

If you've been involved in some cool technology and are allowed to talk about it publicly, we'd love to hear about it! If you are presenting at a conference and need a practice audience, why not practice with your peers here in the triangle.

If you are a student doing a presentation – ask if you can invite some friends from the IEEE – The contacts you make as a student can be really helpful to your future. Don't be afraid to use the Computer Society as a networking mechanism – what good is a society if we can't help each other succeed?

### **What are we setting out to do this year?**

First off, I've been planning a speaker to talk about video game technology research. Secondly, I recently read about IEEE groups who have held Video Game Tournaments at <http://bmsmail3.ieee.org:80/u/10672/08296311>. I think it would be awesome to hold a similar tournament here in the Triangle area. I'm looking for volunteers to help plan this event.

### **Why you should get more involved.**

For many years, my involvement in the IEEE was limited to reading IEEE magazines. They're really great, but I've learned that there's a lot to be gained by just getting together with peers every now and then.

It's been great to meet some of the people behind the articles in those magazines and several of them are right here in the triangle area. I felt the pride and passion that many speakers have when they speak of their craft and laughed at some of their anecdotal stories – something you rarely hear except in the settings like IEEE meetings.

So keep an eye on the events calendar, participate and help plan events where we will all be enlightened and have some time to learn something about each other. You never know when the contacts you make will come in handy.

It's an honor to serve you as Computer Society Chair as Chris Seigl has done for so many years. I'm looking forward to meeting you and hearing what you would like to see happen in the Computer Society.

*Sincerely,*

*John Powell*

### **About Chris:**

Education: BSEE Drexel University; Graduate Studies in Systems Engineering University of Pa. Moore School; Masters in Engineering Management Old Dominion University

Founder and current Chair IEEE Eastern NC Engineering Management Chapter

Outgoing Chair IEEE Eastern NC Computer Chapter

Former Section Chair IEEE Eastern NC Section; Current

Vice-Chair IEEE North Carolina Council

Currently Member of Technical Staff in Field Applications Engineering at Fairchild Semiconductor

Involved in numerous Boy Scouting activities ; Currently Assistant District Commissioner

Currently Advisor to Crew 397 ;

Currently Advisor to Explorer Post 350 - Technology Post at Lord Corporation

### Goals:

Help Section in developing leadership ; Drive support of K-12 programs

Develop and implement financing plan collecting recyclable - ink cartridges and cell phones ;

Expand technical programs in Boy Scouting activities

Expand activities to serve a greater number of members; Support development of new chapters

## Mathcounts

*Ken Shaffer*

The MATHCOUNTS Competition would appreciate our help in providing volunteers on 14 March. Please read the invitation below and respond to Ken if you are able to help out. Thanks.

I am the volunteer coordinator for this year's MATHCOUNTS® State competition to be held March 14 at the North Carolina School of Science and Mathematics in

Develop leadership for Engineering management and Computer chapters

Revive interest in Engineers Week activities

Email: siegl@ieee.org

### About John:

Education: BSEE/Computer Option McGill University in Montreal, Quebec, Canada.

Memberships: IEEE for over 16 years, elevated to Senior Member in 2007, International Game Developers' Association (IGDA) Member unofficially since 2000.

John has been specializing in 2D and 3D graphics applications from on-board 3D graphics software in C and assembler at Matrox Electronics Systems, to 2D&3D artistic, technical drafting, and commercial solid modeling desktop software in C++ at Corel Corporation. At Applied Research Associates he continued to broaden his experience by developing 3D simula-

Durham. <http://www.ncssm.edu/index.php>

This is a great opportunity to support middle school students, connect with other volunteers, engineers and educators in our area, and show them that math is the key to what we do every day! If you didn't get an opportunity to help with Eweek, this is another chance to get involved with students!

MATHCOUNTS® is a

tion and visualization applications for NASA and the Defense Threat Reduction Agency using C++ and Java. He often dabbled in game development and actively promoted the use of games for training, which led to his current position at Emergent Game Technologies where he helps develop Gamebryo - an awesome game engine that runs on computers and game consoles.

John attributes his successes in cutting edge research, product development, and team management to working closely with dedicated and talented peers and supervisors.

John likes to play video games, is active in Boy Scouting, and enjoys outdoor activities of all kinds.

### Goals:

Revive the Computer Society. Do more of what members enjoyed in the past and support some new interesting activities.

Email: [j.powell@computer.org](mailto:j.powell@computer.org)

national math enrichment, coaching & competition program that promotes middle school mathematics achievement in every U.S. state & territory. Sponsored by PENC & NSPE, MATHCOUNTS® is one of the most successful education partnerships involving volunteers, educators, industry sponsors & students.

We need your help! We need about 30 volunteers as test

scorers, proctors and other activities for the morning of Friday March 14 (about 1/2 day). If you volunteered last year, we would love to have you return! Please forward this note

to engineers within your organizations to help us drum up interest. Please call or reply to me if interested.

Please check out the website at <http://www.mathcounts.org/>

Thank you for your support!

Ken Shaffer, PE  
Progress Energy  
Raleigh, NC  
(919) 362-3496

## IEEE - ENCS March Section Meeting 3/20 - Presentation by Dr. Leonardo Cervera on Data Privacy

*Thomas C. Jepsen*

The Institute of Electrical and Electronics Engineers Eastern North Carolina Section and the Eastern North Carolina chapters of the IEEE Communications Society and the Engineering in Medicine and Biology Society will sponsor a presentation on data privacy by Dr. Leonardo Cervera, European Union Fellow at Duke University.

**Date:**

Thursday, March 20, 2008

**Time:**

6:00-8:00 pm

Refreshments 6:00-6:30

Presentation 6:30-7:00

Q&A following presentation

**Place:**

MCNC Auditorium  
3021 Cornwallis Rd  
Research Triangle Park, NC  
27709-3910

**Directions:**

MCNC is located on Cornwallis Road in Research Triangle Park. From Highway 54, take T.W. Alexander Drive north to Cornwallis Road. MCNC is on the left side of Cornwallis Road going east/southeast.

From Highway 40, take the Durham Freeway (Highway

147) north. Take the Cornwallis Road exit (exit 6). MCNC is on the right side of Cornwallis Road going west/northwest.

**Cost:**

no charge - open to the public

**RSVP:**

Please RSVP for this ([tjepsen@ieee.org](mailto:tjepsen@ieee.org))

**Featured Topic:**

Data Privacy and Data Privacy Day in North Carolina

Monday, January 28, was celebrated as Data Privacy Day by 27 European countries and the United States. Governor Mike Easley proclaimed this date as Data Privacy Day in North Carolina. Some of the issues related to data privacy include consumer data protection, national security and corporate data sharing, and the impact the Internet and September 11 have had on personal privacy.

Dr. Leonardo Cervera will give a talk on the general issue of data privacy in transatlantic perspective as well as on the organisation of this inaugural data privacy day in North America with the proclamation

by Governor Easley.

**Speaker:**

Dr Leonardo Cervera Navas, European Union Fellow at Duke University

Dr. Cervera is currently European Union Fellow at Duke University in Durham, North Carolina. He has served as a member of the European Commission, where he participated in the negotiations leading to the Safe Harbor agreement between the U.S. and the EU in 2000. For five years, he was in charge of the Member States' Committee, assisting the European Commission on data protection matters. He also taught data protection law at the Universidad Carlos III in Madrid, Spain. He has a degree in law from the University of Malaga, Spain, and a Master's degree in EC law from the University of Granada, Spain.

best regards

Thomas C. Jepsen

Chair

IEEE Eastern North Carolina Section

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

Pphone: 919-933-0377

## January IEEE Section Meeting

*Roger Lawrence*

Russell T. Harrison, Senior Legislative Representative spoke at January's Section meeting about recent IEEE-USA policy position and proposals regarding guest-workers/green-card. The

meeting was well attended and it provoked questions and sustained discussion. The Section's role in facilitating the dissemination of this information is for the benefit of interested members

and in no way endorses it. Among IEEE-USA's positions on this is the desire to reach for Congressional change that is achievable. [Follow with summary table attached].

### **Permanent Citizens vs. Temporary Workers**

There are two different ways for employers to bring skilled foreign workers to the US: permanent residency (Green Cards through F-4 and EB visas) and temporary work permits (H-1B Visas). By almost any measure, permanent residency is the better option.

GREEN CARDS (YES) vs. H-1B VISAS (NO)

#### **Strengthen U.S. Economy?**

YES. The positive impact skilled immigrants have had on the American economy is well documented, especially in high-tech fields.

NO. Since H-1B workers must return home when their visas expire, their positive impact on our economy is fleeting. Only our foreign competitors permanently benefit.

#### **Improved U.S. Competitiveness?**

YES. Skilled immigrants bring intellectual and entrepreneurial skills that improve America's competitiveness in global markets.

NO. H-1B visas are a great way to train our future competitors. When temporary workers go home, they take their acquired training, experience and contacts with them.

#### **Fair to American & Foreign Workers?**

YES. Citizens and legal permanent residents have the same rights and privileges in the workplace. They compete on a level playing field for jobs, wages and benefits. With no advantage to either, the most qualified will be hired.

NO. US workers can be displaced by less expensive foreign workers. H-1B workers are beholden to sponsoring employers, not only for their jobs but for their visas. This makes them vulnerable to abuse and exploitation.

#### **Create U.S. Jobs?**

YES. By bringing the world's best and brightest to America, employers are able to create and keep more, high-wage, high value-added jobs in the United States.

NO. Exodus of temporary workers when their visas expire makes it easy for U.S. and multi-national employers to move jobs and jobs creating business units to overseas locations.

#### **Market-Based Wages?**

YES. Legal permanent residents who are paid less than citizens can quit and find better jobs, just like American workers, allowing the market to establish fair wages.

NO. Regulatory and practical restrictions make it difficult for H-1B workers to switch jobs, preventing the market from setting a fair wage. There is ample evidence that H-1B workers are routinely paid less than American workers.

*Green Cards: Better for Americans - Better for America*

## Large Turn Out for Solar Meeting in December's Freezing Weather

*Roger Lawrence*

We had bumper attendance at our Solar Energy Meeting 6 December where there was standing room only in Engineering Building 1, Room 1007. Despite the cold (and it was COLD, even by North Carolina winter standards) over 100 people turned out to hear our panelists Lyra Ruskin, Jeff Brooks, and David Del Vecchio give us an overview of Solar Energy developments in North



IEEE ENCS Members and Guests learn about Solar Power

### Notes from the Newsletter Editor

*Jim Ray*

#### In Memory of Clarence Roberts

I received some sad news from Jeff Scott back in January that Clarence Roberts had passed away. The three of us had served the NC State IEEE Student Branch as chairpersons back in the early 1980s. Clarence had chaired the specific year when we brought home the first place prize for the student design contest at

Carolina. There was a range of topics under discussion including PV basics, PV applications, and tax credits, laws, and incentives aimed at encouraging the use of solar power both for residences and commercial applications. Our RBC Center in Raleigh has plans to install PV. Lyra described the education programs available through the Solar Center at NCSU; the center offers a renewable energy technologies diploma series which it runs at different locations throughout the state. David covered the basic operation of a PV array, describing the effects of temperature and other environmental conditions on solar cells and the conversion of DC output from the solar panel to 60Hz AC. Jeff explained that when folks opt to buy green power from the utility 25% is

Southeastcon 1984. May his soul rest in peace.

#### Volunteers Needed

Having assumed position of treasurer for our section, I would like to find other volunteers to assist with my additional responsibilities as newsletter editor and membership development chairperson. The more folks that help out, the less the burden for any one person. Newsletter responsibilities entail



David Del Vecchio, Lyra Ruskin, Jeff Brooks (left to right)

used to administrate the scheme and 75% is used to fund renewable energy projects. There was a sustained question and answer session following the meeting and discussion continued in the foyer where refreshments were served. The speakers' biographies remain on our website calendar. Those of you who would like to learn more can access their organizations. We plan to offer a follow up meeting later in the year.

collecting the articles and photos that go into the newsletter and placing them where they fit best. Membership development responsibilities entail helping members become senior members and marketing IEEE membership.

Feel free to call me if you can lend a hand. Jim Ray 919-838-1672

## Membership Development

*Jim Ray*

### Instructions and Links for Senior Member Promotion

We are actively looking for another volunteer to assist our members in migrating from Member to Senior Member. Please contact Jim Ray at 838-1672 if you are interested. Below is a summary of steps involved for Members to become Senior Members.

The IEEE Eastern North Carolina Section (ENCS) will nominate you and guide you through the process. We can connect you with senior or fellow member references once you have completed your resume and submitted it to our membership chair, Jim Ray [jim@neuse.net](mailto:jim@neuse.net)

Read all descriptions and requirements. Ask for clarification if anything is unclear.

Be sure to document at least 10 years electrical engineering

experience and at least 5 years of significant performance in your resume. Senior member applicants are given "credit" for their educational years:

- 3 years for a baccalaureate degree in an IEEE-designated field
- 4 years if you hold a baccalaureate and masters degree
- 5 years if you hold a doctorate

To clarify, one cannot claim credit for working during the school years AND the school year criteria. Technical writers, managers, IT folks and many other professionals are eligible for IEEE Membership and Senior Membership.

The panel is looking for increasing levels of experience and responsibility. Be sure to clearly state timeframes on your significant and professional experience, as well as educational years.

Include the following in a clearly documented resume (use these subheadings as a guide):

- Name, title and position held
- Education school(s), dates, and degree level
- Professional affiliations
- Work history with dates and accomplishments
- IEEE volunteer responsibilities (if any)
- Technical articles, publications and/or patents (if any)

### Links

Visit our section web site for all pertinent links.

<http://www.ieee.org/enc>

### Nomination Information

- Nominator's Name: Jim Ray
- Nominator's Member#: 04609491
- Nominating Section or Society: IEEE Eastern North Carolina Section
- Nominator's Membership Grade: Senior Member
- Nominator's Email: [jim@neuse.net](mailto:jim@neuse.net)

## IEEE RTP EMC Chapter

*Eric Schumann*

The IEEE RTP EMC Chapter is for those interested in EMC and Signal Integrity. Usually, we meet the first Tuesday of each month. Please check the schedule at the our web site or <http://ewh.ieee.org/r3/enc/emcs> for more information. Chapter contact is Eric Schumann at [ericrs@us.ibm.com](mailto:ericrs@us.ibm.com).

## Attention Unemployed Members

Did you know IEEE provides a 50% reduction in dues for unemployed members? Contact IEEE for more details. Contact IEEE Member Services at:

Telephone: 800-678-4333 (USA & Canada) • 732-981-0060 (Worldwide)

Fax: 732-562-5445

Online: IEEE Jobs Page • <http://www.ieee.org/jobs>

Mail: 445 Hoes Lane • P.O. Box 1331 • Piscataway, NJ 08855-1331

## Joint EMBS/ComSoc Meeting Report

*Tom Jepsen*

A joint meeting of the Engineering in Medicine and Biology Society and the Communications Society was held at MCNC in Research Triangle Park on December 3, 2007. Thomas Jepsen, Chair of the EMBS and ComSoc chapters, gave a talk on recent progress on developing the National Health Information Network (NHIN). Executive Order 13335, issued in April 2004, called for the establishment of the Office of the National Coordinator for Health Information Technology (ONCHIT) to promote the development of a nationwide interoperable health information technology infrastructure. This infrastructure, referred to as the National Health Information Network, or NHIN, would allow medical records to be transmitted electronically, enable healthcare to be delivered at home, and allow drug prescriptions to be filled electronically. Since then, considerable progress has been made on defining the architecture of NHIN, and prototypes have been developed to demonstrate its feasibility. A strategy for implementing the NHIN has been developed in which regional Health Information Exchanges (HIEs) are first created and then merged to form a nationwide network. While much work has been done on defining the standards needed to

ensure interoperability across the network, much additional work is needed to translate the architectural vision into reality.

The U.S. Department of Health and Human Services (HHS) awarded contracts to four consortia to develop prototype NHIN architectures in November 2005. The consortia were led by Accenture, Computer Sciences Corporation, IBM, and Northrup Grumman. Each prototype architecture demonstrated the ability to share medical records, without relying on a centralized database or national patient identifier. While these prototypes did not transmit any live patient data, the next step is to set up trial implementations that will support actual electronic health records. In September 2007, HHS awarded grants to nine HIEs to set up trial implementations, including the North Carolina Health Information and Communications Alliance (NCHICA). Participants will demonstrate real time information exchange based on NHIN specifications in September 2008.

One obstacle to linking medical facilities electronically has been the lack of bandwidth required to transmit medical images as part of the electronic medical record, especially for small facilities in rural areas. To overcome this, the Federal

Communications Commission recently announced the “Initiative to Increase Access to Healthcare in Rural America through Broadband TeleHealth Services.” This initiative is intended to increase access to acute, primary, and preventive healthcare in rural America. The FCC has dedicated \$417 million to 69 statewide or regional broadband telehealth networks over a three-year period (2007-2009). Networks will be built in 42 states and 3 U.S. territories under the Rural HealthCare Pilot Program (RHCPP), which will support the connection of more than 6000 public and non-profit health care providers nationwide to broadband telehealth networks. Healthcare facilities include hospitals, clinics, universities and research centers, behavioral health sites, correctional facility clinics, and community health centers. North Carolina participants include the Albemarle Network Telemedicine Initiative, the North Carolina Telehealth Network, University Health Systems of Eastern Carolina, and Western Carolina University.

## Eastern NC Section Awards

Can you think of a colleague that deserves recognition by our section? If so, please take a few minutes to nominate that person by visiting our section nomination page <http://ewh.ieee.org/r3/enc/awards.htm>

### OUTSTANDING ENGINEER

To recognize an engineer who, through technical and professional abilities, has made an outstanding contribution to the electrotechnology profession.

### OUTSTANDING SERVICE

To recognize one who, by service, has made an outstanding contribution to the electrotechnology profession.

### OUTSTANDING ENGINEERING EDUCATOR

To recognize an educator who has shared technical and professional abilities through teaching in industry, government, or in an institution of higher learning and in so doing has made an outstanding contribution to the electrotechnology profession.

### ADDITIONAL SECTION AWARDS

Our section would also be pleased to receive nominations for the following section awards:

- Entrepreneur of the Year
- Inventor of the Year
- Author of the Year
- Star of Yesteryears
- Volunteer of the Year
- Chairman's Service

You may make a nomination for any of these awards by email to Lee Haas, [eelee@ieee.org](mailto:eelee@ieee.org). Please choose one of the above three nomination formats and provide the information you judge appropriate for the award type. Be sure to indicate the title of award for which you are making the nomination.

## Stay Connected

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