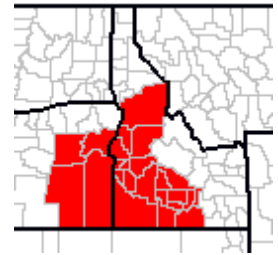




# IEEE Boise Section Newsletter April 2010



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## Upcoming Events:

### Monday, May 10<sup>th</sup> – IEEE Boise Section Social meeting

Time and location will be announced later.

IEEE Boise section PACE chair, Joe Rekiere, will be giving a talk on the topic of “Improving engineering economic outlook”. For more details about the previous Boise section social meeting, please refer to the “Section News”.

## Note from the editor:

I am glad to introduce myself, Satya Saripalli, as the newsletter editor for the rest of 2010. IEEE Boise section has a wide variety of activities from its chapters. I am excited to be involved in bringing out articles on those events. Looking back, Joe Rekiere, the previous newsletter editor, has delivered some very interesting newsletters and I hope to continue the custom. There have been several events in the last three months that are covered in this newsletter. IEEE-USA annual meeting was held in March, which was attended by Joe Rekiere. He has kindly offered to write a detailed article on this meeting. There were two EDS Boise chapter sponsored guest lectures. We had an IEEE Boise section social meeting in March, where Dr. Chandra Mouli gave a talk on the topic of ‘Opportunities to increase IEEE’s visibility & value in local community’.

As always we are continuously looking for ways to improve the newsletter as a good platform to communicate the various exciting events that happen in Boise section and also underscore the networking opportunities that arise by participating in this process. Any suggestions to help achieve this goal a better way are always welcome and highly appreciated. I would like to thank all the members that contributed to this newsletter and a special token of thanks to all the volunteers involved in the IEEE Boise section events.

## Announcements

- The following are the Region-6 Area Award nominees from Boise section for 2009-2010.

Award category	Nominee
Outstanding Engineer Award	Gary Stringham
Outstanding Leadership and Professional service award	Fernando Gonzalez
Outstanding Corporate Service to Engineering-Community Award	Boise State University

- As per IEEE requirement, the financial books of every section need verified by two of the section members outside the operational committee (OpComm). In this regard, OpComm would like to invite two volunteers to render their help in verification of the Boise section's financial books. This would take less than two hours. Pizza will be served to appreciate your help. Interested can contact section chair (Chris Gunning [cgunning@ieee.org](mailto:cgunning@ieee.org))
- The Eighth Annual Workshop on Microelectronics and Electron Devices (WMED 2010) was successfully held on April 16<sup>th</sup> 2010. A full report on this event will be published in the next newsletter.

## Section News

### Engineers Week Banquet

By Chris Gunning

The IEEE Boise Section 2010 Engineers Week Banquet was held Feb. 17th at Boise State University. About 50 people attended the banquet.

The guest speaker was Gordon Day. Dr. Day was the 2009 President of IEEE-USA, the unit of IEEE that supports the career and public policy interests of 210,000 IEEE members in the U.S. He is currently a candidate for IEEE President-Elect.

Dr. Day spoke on "Prosperity, Innovation, and Engineering Brain Power". In his talk, he spoke on the public policy aspects of maintaining a vibrant engineering workforce. He examined the following questions:

- Who thinks we need more (or fewer) engineers? He made the case for more engineers since, for a given capital, engineers create jobs. He contrasted his position with those who believe there are enough scientists and engineers. He held that from a policy perspective, engineers should be considered separately from scientists.
- What are the trends? Dr. Day discussed the cyclical nature of engineering employment. He noted that the unemployment rate among engineers is finally going down, though the number of employed engineers is also decreasing. This is because some engineers have stopped seeking employment or have switched to other professions.
- Is the flat world a threat, an opportunity, or a strategy? Dr. Day suggested that perhaps the world may be "spiky", not flat. New spikes can be created domestically: take for example "Offshore Iowa".
- If we need more engineers, should we grow them or import them? There is a competitive advantage to the countries that attract and retain the most creative engineers, regardless of their country of origin. Current US immigration policy puts us at a disadvantage. IEEE-USA has helped craft proposed legislation to help fix it; unfortunately, the chance of passage in the near future is small.
- How do we show our children that engineers change the world? Dr. Day cited Theodore Von Karman, co-founder of JPL: "Scientists discover the world that exists; engineers create a world that never was."

## **IEEE-USA annual meeting**

By Joe Rekiere

The IEEE-USA held its annual meeting in Nashville, Tennessee the first week of March 2010. This year's theme was "The Gathering Storm: Are you engineering the solutions?" The meeting highlighted the major challenges facing our nation as it deals with the globalization of the high tech sector. The challenges include K-12 education improvement in mathematics and science, professional career development and immigration reform. The U.S. needs to improve its educational pipeline so that our nation can produce and sustain more engineering talent and a better educated workforce. The U.S. also needs to improve Immigration policy to bring in and keep foreign talent to fill in for the deficit of engineers in the U.S. The "storm" refers to the U.S. being weak in these areas and not being able to compete on an international level. The underlying message shared is that where the engineering talent goes so does the innovation and the jobs for a healthy economy. If the U.S. does not improve k-12 education, career development and immigration reform, then the US will lack the engineering talent needed for a healthy economy. The theme for the week was presented by the keynote and guest speakers at the annual meeting. Each presenter posed a challenge for us to act at the local level to improve the United States competitiveness into the next decade. The videos of the keynote and guest speaker presentations are available at <http://www.ieeeusa.org/calendar/conferences/annualmeeting/2010/video/default.asp>. In addition to the keynote and guest speakers, the annual meeting offered many individual sessions to learn more about what members can do at the local level.

The annual meeting also held three days of individual sessions that included tracks for improving K-12 education, continuing career development, immigration reform, R&D innovation and volunteer training. The slides for these presentations are found at <http://www.ieeeusa.org/calendar/conferences/annualmeeting/2010/program/default.asp>, to see the slides, select the presentation link in the program. All of the sessions were summarized by various bloggers throughout the event. The session blogs are found at <http://ieee-usa.blogspot.com/>.

If you are interested in helping at the local level and would like to volunteer and join others to plan and organize events to improve K-12 education, continue career development or immigration reform contact your section PACE chair, Joe Rekiere at [jrekiere@ieee.org](mailto:jrekiere@ieee.org).

## **IEEE-EDS Boise Chapter Sponsored Event: "Resistance Change Materials: A New Development in Random Access Memory"**

By Satya Saripalli

Prof. Alex Ignatiev from the University of Houston presented an invigorating talk on Resistance Change Materials at Boise State University, on 5<sup>th</sup> March, 2010 at 4.00PM. It was organized with the help of Boise chapter of "EDS". This is a particularly interesting topic, given the speed at which memory industry is approaching the physical scaling limit of the conventional Silicon technology. Several professors and students from Electrical Engineering, Materials Science and Physics departments attended this interesting and interactive lecture. The total number of guests was 42. Sponsored by EDS chapter of Boise, the event was held at Micron Engineering Center, Room-114 at Boise State University (BSU). It was a free and an open to all event.



Prof. Alex Ignatiev giving talk at Micron Engineering Center, BSU



Faculty members and students from various departments attending Prof. Alex Ignatiev's lecture

## **IEEE Boise Section Social Meeting: March 8th, 2010**

By Satya Saripalli, Chris Gunning

A new format of IEEE Boise section monthly OpComm meetings is being practiced this year, by alternating between a business meeting and social meeting held on the second Monday of the month. As part of the social meeting in March, Dr. Chandra Mouli talked on the topic “Opportunities to increase IEEE’s visibility & value in local community”. Held at Engineering Technology Building in Boise State University, in the evening at 6:30PM, there was a good turnout of close to 15 participants. The first part of the talk was on K-12 Math/Science Education, wherein he explained the importance of educating teachers in local schools on the importance of math/science and bringing excitement of engineering. He also explained the possible voluntary work opportunities for IEEE members, and ways to obtain funding for these activities. He concluded with a couple of ideas to kickoff some action in this direction, emphasizing the importance of always starting with small key projects. The second part of the talk was on increasing Idaho and Boise’s image as a state/city of opportunity/growth in alternative energy and emerging technology areas. He explained what IEEE can do to market Idaho & Boise as a great place for research, start-up activity for innovation in emerging areas. It has been a very interesting discussion both because of the exciting thoughts offered by Dr.Mouli and interesting questions from the audience.

In the same event we also had a presentation and a demo from, the Super Smarties, this year's Idaho FIRST Lego League champions. This all girl team from Boise placed 2<sup>nd</sup> in robot design and 1<sup>st</sup> in robot performance at the Southwest Idaho First Lego League Qualifying Tournament. From this field of 180, they were one of 56 teams invited to the State Championship where they took 2<sup>nd</sup> in robot performance and won the 1<sup>st</sup> place championship award. From there, the next level is the world competition in Atlanta, GA, April 14 – 17. The Idaho Super Smarties are looking for sponsors to help send the team and coach to the event. Our Boise Computer Society chapter contributed \$150 toward their travel expenses. We are also in the process of obtaining IEEE PACE funds to help on their expenses too.



Lego League champions, Super Smarties, gave a presentation and demo



Dr.Chandra Mouli’s talk was followed by thought provoking discussions.

## **IEEE-EDS Boise Chapter Sponsored Event: “The Physics and Technology of Nanonet Electronics”**

By Satya Saripalli

Prof. Muhammad Alam from the School of Electrical and Computer Engineering at Purdue University gave two lectures on April 9<sup>th</sup> 2010, on the topic of “The Physics and Technology of Nanonet Electronics”. This event was sponsored by the IEEE-EDS Boise chapter. The talk was given once at 9.00AM in Micron Technology (Bldg 17 Rm 103, 8000 S. Federal Way, Boise) and also at 4.00PM at Room 114, Micron Engineering Center (MEC) at Boise State University. Prof.Alam talked about two broad topics: macroelectronics and energy harvesting. In the first part of the talk, he explained how the

theories of 2D percolation and fractal dynamics can be applied to understand and model the carrier transport in Nanonet transistors. He suggested some very intuitive ways of understanding these emerging areas. In the second part of the talk he talked about the processing and physics of “phase segregated materials” in the context of solar cell application. Prof. Alam also answered several questions raised by the audience both during and after the talk. The total number of attendees for the afternoon talk was close to 25, including the students and faculty of Boise State University and several local engineers.

### **Boise Computer Society technical presentation: Mobile Broadband Networking**

By Denise Korman, Chris Gunning

Miles Penrod from CradlePoint Technology gave a presentation on April 6<sup>th</sup> on CradlePoint Technology’s product line and strategy. CradlePoint is a Boise-based company that designs and manufactures hardware and software platforms which allow any Wi-Fi or Ethernet device to access Mobile Broadband services.

In his talk, Miles described how CradlePoint Technology is the global leader in a market that is seeing exponential growth: Mobile Broadband Networking. In the United States, as network operators such as Sprint, Verizon, and AT&T (and many others around the world) deploy high-speed wireless technologies, their abilities to deliver broadband experiences to mobile users for affordable prices is improving drastically. Mobile broadband availability is also driving demand for intelligent routing with Wi-Fi and Ethernet based mediums, allowing any device to securely connect to proprietary networks.

## **Notes**

### **IEEE Official LinkedIn Group**

IEEE has its own official LinkedIn group.

The following is excerpted from the main page of the IEEE LinkedIn group.

This group contains Members of the IEEE, a non-profit organization and the world's leading professional association for the advancement of technology. Managed by IEEE staff, this is the only global IEEE group on LinkedIn that is verified against the official IEEE membership database. Active IEEE membership is required. For immediate approval, an IEEE email alias should be selected and confirmed as the contact email during the group application process.

If you do not have an IEEE.org email alias please visit <http://elecomm.ieee.org/> to obtain it. Be sure to add it to your LinkedIn profile prior to applying for the group to assure an instant approval; note that Linked In will first send a verification message that must be opened to confirm the address.

FYI - If an IEEE.org email domain is not provided during the group application process you could face a significant delay as they manually review all submissions sent with a different email domain. Approval in this case is based on matching Name and Email provided during the LinkedIn groups application process to the IEEE membership database.

[http://www.linkedin.com/groups?home=&gid=23804&trk=anet\\_ug\\_hm](http://www.linkedin.com/groups?home=&gid=23804&trk=anet_ug_hm)

Also, IEEE Boise section has its own group (name: IEEE Boise Section) in Linked In now. This is intended to be a general purpose group that IEEE Boise section members can join.

### **Company Liaisons**

Do you work at a company that employs engineers within our section? We invite each company to have one 'Company Liaison' to join our section's operational committee. The main responsibility of these people is to provide a point of contact to send information from the section Operations Committee to members working at these companies and to return information as to how the needs of their engineers can be met by the section. Company Liaisons are included in email discussions from the OPCOM, and are encouraged to help advertise section events to members and non-members at their place of employment beyond the section newsletters. They are invited along with all the section members to attend OPCOM meetings and give us input. If you are interested in being a company liaison, please contact Mark Bussert ([mbussert@ieee.org](mailto:mbussert@ieee.org)).

### **Do We Have Your Correct E-mail?**

If you haven't been receiving the newsletter or event notices electronically, check what we have for your email address on your mailing label. Please notify both the IEEE ([address-changes@ieee.org](mailto:address-changes@ieee.org) or <http://services1.ieee.org/membersvc/coa/intro.htm>) and the Boise Section Chair ([mbussert@ieee.org](mailto:mbussert@ieee.org)) so we can add you to our electronic mailing list (we get address corrections only

once a month from the IEEE). Plans often come about for events between newsletters. To assure that you get timely information about IEEE Boise events, please make sure we have your correct email address in our address database.

### **How can the Boise Section better meet your needs?**

The Boise Section officers would like to make the best use of our dues to meet the needs of the engineers in the Boise section. The section currently provides for or partly subsidizes speakers, banquets and picnics through the use of your annual dues. If you have ideas on how to best meet the needs of the sections engineers, contact one of the officers.

### **Volunteering – IEEE Members Get Involved**

Getting Started:

- Contact your local IEEE section and chapters
- Learn about the IEEE Educational Activities Board
- Get Involved with the IEEE Standards Association
- Participate in a technical society or technical council
- Get involved with the IEEE Technical Activities Board
- Shape and promote USA technology policy and professional activities through IEEE-USA
- Organize an IEEE Conference

See *How to Volunteer* at [www.ieee.org/web/volunteers/home/index.html](http://www.ieee.org/web/volunteers/home/index.html)

### **Your 2010 Officers:**

#### IEEE Boise Section:

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#### Student Branch at Boise State University:

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