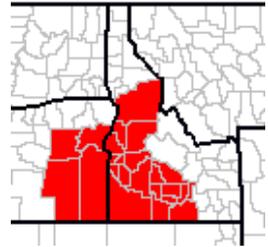




IEEE Boise Section Newsletter April 2012



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Upcoming Events

Thursday, April 17th – Boise Computer Society Announces a Technical Presentation

Topic: **Extending the Dorsch Decoder for Efficient Soft Decision Decoding of Linear Block Codes**

Speaker: **Sean Collison**

The research presented builds upon a method of decoding linear block codes presented by Dorsch in 1974. An algorithm is presented that details how to extend the Dorsch Decoding method to check error patterns in the most likely order that they occur. Furthermore, another method is described that increases decoding speed by using various stopping criteria to limit the depth of the error pattern search. Multiple codes of various rates are investigated to find the best performing code subject to a decoding complexity constraint.

Sean Collison is an IEEE Member and the current Treasurer for the Boise Section. Sean has been a Firmware Design Engineer at Hewlett Packard from June 2010 to present. He currently works in HP's Value Enterprise Products group on enterprise LaserJet printers and copiers. Prior to joining HP, he was a Sr. Graduate Intern at Comtech AHA, in Moscow, ID where he worked in their research department investigating the latest forward error correction technologies. Sean graduated from Washington State University with a Master's of Science in Computer Engineering in 2009 and Bachelors of Science in Computer Engineering in 2007.

When : Tuesday, April 17, 2012
Time : 7:00 – 8:00 PM
Location : Boise State University, Micron Engineering Center (MEC) 106
1020 Manitou Avenue, Boise.

Thursday, April 19th – Boise Section Social Hour

Time: 5:00pm – 7:00pm
Location: Falcon Tavern, 705 W. Bannock St.
URL: <http://www.falcontavern.com/>

Event description: The Boise Section will provide food and non-alcoholic drinks for the social hour. Come enjoy free food and meet fellow IEEE members before attending the WMED workshop on Friday. Bring a friend to join the festivities.

Friday, April 20th – IEEE Workshop on Microelectronics and Electron Devices (WMED)

Time: 8:00am – 6:00pm
Location: Jordon Ball Room, Student Union Building, Boise State University
URL: <http://www.ewh.ieee.org/r6/boise/wmed2012/WMED2012.html>

The **2012 IEEE Workshop on Microelectronics and Electron Devices**, to be held on April 20th, 2012 at the Boise State University Student Union Building provides a forum for reviewing and discussing all aspects of microelectronics including semiconductor processing, electrical characterization, advanced design techniques, and new device technologies. The workshop consists of invited talks, contributed papers, tutorials, as well as a poster session in the afternoon. With its growing attendance, regional impact, and history of premier invited speakers, this year's workshop is an excellent opportunity for students and professionals to share their work with technologists and engineers from all around the region. The keynote will be given by Prof. Rahul Sarpeshkar from MIT on the topic of bioelectronics. Invited speakers from industry and academia will discuss advances in the areas of memory and silicon photonics. The WMED will also offer tutorials on Phase Change Memory and Asynchronous Pipeline Circuits. Please register for the workshop (at <http://www.ewh.ieee.org/r6/boise/wmed2012/Registration.html>) before April 6th, 2012. Please contact the Registration Chair, Sanjeev Sapra (ssapra@micron.com), for any other questions.

Wednesday, June 20th – Idaho Shakespeare Festival GOLD Event

Our next IEEE GOLD event will be held on Wednesday, June 20th.
The Idaho Shakespeare Festival has invited us to tour the scene shop and costume shop at 5PM, followed by a backstage tour!

After the tour, the Idaho Shakespeare Festival will be performing Agatha Christie's classic murder mystery "The Mousetrap." This performance is suitable for all ages. More details on the performance are online at <http://www.idahoshakespeare.org/>.

There are only 100 tickets available for this performance, and they're expected to sell quickly! Don't miss out - get your tickets ahead of time at the special IEEE member price of \$28 (\$18 students). Tickets can be purchased online after April 1. Contact GOLD coordinator Katie Dellaquila (katie.dellaquila@hp.com) for information and read below for a complete description of the event from organizer Bob Hay.

- Katie Dellaquila

Several years ago, the Idaho Shakespeare Festival arranged an event that was known as "Engineering evening at the Shakespeare Festival." There has been growing interest in a repeat of this event. A part of this event that appeals particularly to the engineering community is the tour of the scene shop and costume shop. There will also be a backstage tour and a few tours available of the control tower on the theater site. These rare and unique tours are not generally available to the public. The ISF has agreed to repeat this event in June this year for the engineering community. The details of the event planned include:

Discounted tickets will be available for \$28 + tax. Tickets will be available for either lawn (front of theater) and chair (behind the lawn) seating. Student tickets will be available for \$18 + tax. Valid student IDs will be necessary to claim these tickets. You are welcome to add up to 3 guests to your party at the regular rate or at the student rate for qualified students.

There are only 100 tickets available that will include the discount and the tours. The tours of the ISF Scene Shop and Costume Shop start at 4:45, 5:00, 5:15, and 5:30.* There will be a brief backstage tour on the site at around 6:00. Dinner can be brought with you or purchased at [Café Shakespeare By Lisa Peterson](#) and be eaten in the picnic areas at the site. The Green show begins at 7:30, followed by the Mousetrap performance beginning at 8:00.

*Due to the space constraints of the facility to accommodate tour groups, there will be a limit of 25 people per tour. Patrons arriving in time to be included in either the 4:45 or 5:00 tours will be able to depart earlier and be included in a special 6:00 tour of the Tiring House (where the actors attire themselves for the performance) and other available backstage areas, as well as possible access to the lighting and audio control tower for some intrepid folks who might enjoy ascending to the upper reaches of amphitheater technology. If you are interested in this, please wear comfortable slacks and closed shoes.

Your tickets for the performance which include the tour will be available at the beginning of your scene shop tour. If you requested a tour but are not able to attend it, your tickets will be available at the theater box office after 6:15 PM.

The offer for tickets at the discounted price expires when all 100 are sold or at the latest on April 30, 2012. If the tour space is not filled at that date, the number of available tours will be posted on this web site on or about May 1. At that time, you may request a reservation for a tour at no charge by sending an email to [Bob Hay](#) with your name and engineering affiliation.

-Bob Hay

Ticket purchase information and details on the event are located at <http://coen.boisestate.edu/bobhay/engineeringshakespeare/>.

Announcements

Section Awards and Call for Nominations

The IEEE has many awards available to recognize the talents and efforts of its members and people sharing our goals. The Boise section annually solicits nominations for some of these awards for our members. These section winners are then forwarded to compete at the Area level. Winners from our NE Area then compete for awards in our Region 6.

The Boise section plans to nominate candidates for several awards before the next NE Area meeting in late April. Award nominations are due by **Friday, April 13**. Please consider submitting nominations for the following award categories:

Outstanding Engineer Award

This award is designed to recognize IEEE members of Region 6 who through their technical abilities have made outstanding contributions to their profession. It recognizes the development of new technical concepts, significant patents, development of new devices, development of applications, new designs, significant cost reductions using known techniques, etc.

Outstanding Leadership and Professional Service Award

This award is designed to recognize IEEE members of Region 6 who through their professional and technical abilities have made outstanding and noteworthy contributions to the Institute, their communities, fellow professionals and fellow man. The award is not designed to recognize a single achievement, but rather collective contributions complemented by singular works exemplifying the objectives and attributes of IEEE.

Outstanding Corporate Service to Engineering Community Award

Organizational awards are provided to those companies, or divisions of a company that encourage volunteerism through its practices. In particular, the atmosphere created by the company to facilitate the IEEE volunteer(s) to do his or her job, or supporting the volunteers by permitting free or discounted use of company resources.

Please contact Randy Wolff (r.r.wolff@ieee.org) with your nominations.

Boise Mini Maker Faire Update

By Randy Wolff

Members of the Maker Faire planning team met with the IEEE Boise Section OpComm earlier this month. They are currently choosing a venue for either August 24-25 or September 28-29 and will have a website and Maker applications live next month. The IEEE Boise Section is currently negotiating sponsorship for the event including discounts for IEEE members.

The story told in the last newsletter about the child's "De-uckier Machine" has turned into an official part of the event, the MAKE: Dreams project. Children will be able to submit invention ideas, and five ideas will be chosen for the project. Each child will be paired with an artist and an engineer to help them build their idea over a 3-4 month period. The whole process will be documented and shared with the larger Maker community. More details of the program will be available soon, so watch for a call for volunteers. This will be a unique opportunity to volunteer in the community and help use your engineering skills to turn a child's dream into reality.

2012 Outreach Coordination Opportunities for IEEE

Lynn Olsen, Recruiting Coordinator in the College of Engineering, BSU, attended IEEE Boise Section meeting on January 12, 2012. She talked about various outreach activities that IEEE members would be interested to participate in coming months. Since 2004, Lynn has volunteered on the Idaho National Engineers Week Future City Steering Committee, promoting engineering to 6th-8th grade students and serving the last three years as the Idaho Regional Coordinator.

Event Schedule:

April

- April 14, **e-Day**, free one day camp hosted by the Society of Hispanic Professional Engineers student chapter (coen.boisestate.edu/k-12/summer-programs/)

June

- June 3-5, **e-Camp**, Grades 8-9 - Overnight camp for students currently in 8th and 9th grades. Application deadline May 1st.
- June 8-9, **e-Girls**, Grades 9-11 - Free overnight program for girls currently in 9th, 10th and 11th grade. Application deadline is May 1st, limited enrollment (coen.boisestate.edu/k-12/summer-programs/)
- June 20-22, **ISPE 2012 Annual Meeting**, Continuing Education Opportunities for Engineers (idahospespe.org/calendar.htm)

Anytime

- **Industry Panels** - Present to Boise State Engineering Students on "Collaboration for Real – Life Education" – Share experiences, work based learning, best practices, challenges, advice, benefits of internships, etc.
- **Speed/Mock Interviews** – Practice interviews of Boise State Engineering Students as they are looking for summer jobs and internships

Female Engineers

- **Boise State Alumni** – Coordinate with Lynn Olson Recruitment Coordinator on Outreach Efforts to Prospective/Applied Female Engineering Students (lynnolson1@boisestate.edu)
- **Women In Technical Careers** – (students.micron.com/women_home.html) Cathy Ammirati cammirati@micron.com, 1/24 – Hillside Jr High, 2/2 – Eagle High School, 3/1 – Capital High

Future Event

- **SMART Competition** - (www.smartcompetition.org) New educational program introduces the smart grid, sustainable technology, renewable energy and intelligent environmental design as the framework for a high school student design competition. Students participating in the SMART Competition program will gain and demonstrate life skills and a better

understanding of the smart grid, localized power generation, green building design, the environment, community, livability and sustainability related issues.

Section News

Seeking Support to Create an IEEE Solid-State Circuits Society (SSCS) Chapter in Boise

By Elisa Barney Smith

We are soliciting support to start a local chapter of the IEEE Solid-State Circuits Society (SSCS) in the Boise area. SSCS focuses on monolithic integrated circuit designs for all applications using relevant technologies and has over 9000 global members. We envision that a local chapter of SSCS will provide a platform for circuit designers to exchange ideas, socialize with peers, synergize with the regional semiconductors industry and potentially spur entrepreneurial activity in the Treasure Valley.

The SSCS chapter members will benefit from the invited talks, seminars and tutorials on circuit design related topics. The SSCS Distinguished Lecturer Program provides experts in the Society's areas of interest to speak at chapter meetings and regional seminars. Members will further benefit by an increased interaction with Boise State University which has active research programs in mixed-signal circuits, neuromorphic architectures, silicon photonics and reconfigurable hardware. This interaction can be in the form of seminars, discussions, lab tours and creation of special topics courses. The envisioned SSCS chapter can also get involved with the analog and mixed-signal track of the International Midwest Circuits and Systems conference to be held in Boise from August 5-8.

We request IEEE members in the circuit design community to subscribe to the SSCS and support us in the creation of its new Boise chapter. If you are interested in signing the petition to form this chapter, please contact Vishal Saxena.

Vishal Saxena
Assistant Professor
Department of Electrical and Computer Engineering
Boise State University
Email: vishalsaxena@boisestate.edu
URL: <http://coen.boisestate.edu/ams>

PEIS Call For Officers

The PEIS chapter is looking for officers to assist in organizing chapter activities. Upcoming events will be planned for the third and fourth quarter of this year to keep chapter active. If you are interested, please contact Mark Bussert at the email address or phone number provided below.

IEEE Boise PEIS Chapter Website:

<http://ieeeboise.org/chapters/peis/>

PEIS Boise Chapter Chair
Mark Bussert
mbussert@ieee.org
(208) 871-7424

Notes:

News Release: Boise Named in the Top 10 Cities for Signal Processing Industry

By Elisa Barney Smith

Not really, but one can dream, especially if signal processing is one's research focus. While Boise may not be in the top 10 cities for signal processing industry, there are certainly folk in town who have an interest in signal processing. Image processing is a subset of signal processing, and companies like HP, Marvell and Aptina do some of that in their scanner/printer/imagers. If I should add you or your company (large or small) to the list, please let me know. Let's reveal Boise's well kept secret.

We are looking to start a Signal Processing Society chapter here in Boise. Just like the EDS, BCS and PEIAS society chapters here in the Boise section that have been around for a while and provide their members networking opportunities, and opportunities to hear speakers talk on an assortment of topics, we want to do the same.

At BSU a group of 4 professors (me included) have been meeting biweekly with our research students to talk about signal processing topics, and do practice presentations of talks to be given at conferences. When we were fortunate last month to have 2 people from HP come to BSU to give a talk at one of our meetings on the signal processing of tape backup systems, it occurred to me that there might be other people in the Boise IEEE who would also be interested in hearing these talks (some of them anyway). Thus we want to start a SPS society chapter here in Boise.

If you think that you, or a colleague, might have an interest in this topic, please contact me. You need to be a Signal Processing Society member, meaning you need to pay an extra \$20 a year for your IEEE membership. For this you get a bimonthly magazine that has had some really great survey articles on topics such as "Color Image Processing", "Game Theory in Signal Processing and Communication", "What's on your mind! See what medical imaging is all about", "Multicore platforms in the signal processing world", "Who's watching? video analytics for surveillance", "Immersive Communication: the global role of signal processing", "Wideband sensing at sub-Nyquist rate", "Trading Up: signal processing for financial applications", "Multimedia Quality Assessment", "Conquering New Challenges: security and privacy in social networking".

We need a few more people in Boise to sign our petition. You can be a current SPS member, or join now to help us get there. Please don't let the BSU professor core deter you, we plan for the activities of the society chapter to meet the needs of all members who are willing to communicate their wishes; we will just use our agenda as a starting point until other ideas emerge.

And what would you get if we had an SPS chapter in Boise? Well if you don't attend any events, then honestly you'll get nothing from it. If you are interested in learning new applications of signal processing, learning new techniques in signal processing, or networking with other people who 'do' signal processing, and attend talks on these topics, then you'll get exactly that. Tell us what you'd like, take the steps to attend those activities and you'll get plenty.

What Would You Do If You Had \$1000 Per Year to Do Pretty Much Anything Engineering Related?

By Elisa Barney Smith

Things like inviting speakers (of your choice), supporting K-12 teachers, supporting K-16 contest teams, or even just supporting monthly (or bi monthly, or tri-monthly...) semi-technical gatherings to 'shoot the breeze' (it can even pay for your coffee)? If you are fortunate to have reached the Life Member stage of your IEEE career, the IEEE Foundation is giving money away to any group of LMs who want to ask for it. What is the catch? 6 of you need to say 'yes', put your fun ideas onto paper (3-4 sentences is all) and sign a petition to form a Life Members Affinity Group. Once the LMAG is formed the IEEE foundation will give you \$1000 per year to 'play' with. There isn't a big time commitment here, just enough time to plan and execute the spending of the money. Spending the money is key!

Let me know if you are interested (I'm not a life member but I'll collect interest until a 'leader' can be found). As Albert Engelhardt, the Region 6 LM coordinator likes to say "You should live so long!"

Interested in Becoming a Senior Member of IEEE?

By Duane Goodner

An IEEE Member Grade Elevation event will take place at WMED 2012. Current IEEE Senior Members will be present at the conference registration table to assist individuals interested in applying for Senior Membership with CV review, requesting letters of reference and the rest of the application process. Contact Duane Goodner (duane.m.goodner@gmail.com) with any questions about this event or general inquiries about elevation to Senior Member. Additional details on the Senior Membership requirements and application process are also available at: http://www.ieee.org/membership_services/membership/grade_elevation.html. In order to be eligible for Senior Membership in IEEE, an applicant should:

- Be an engineer, scientist, educator, technical executive or originator in an IEEE-designated field.
- Have experience reflecting professional maturity.
- Have been in professional practice for at least ten years.
- Show significant performance over a period of at least five of the years in professional practice.

The following guidelines are used to credit educational experience toward the professional practice time requirement:

- Three years for a baccalaureate degree in an IEEE-designated field.
- Four years for a baccalaureate and masters degree.
- Five years for a doctorate.
- Time working and attending school at the same time is counted either as work experience OR education experience.

Attention All Micron TLP Members!!

By Kristen Hopper

Reminder to members of Micron's Technical Leadership Program (TLP): the TLP member budget allots \$200 per member per year to put toward items such as professional membership dues. This \$200 covers nearly 100% of the IEEE membership dues, so be sure to renew your membership and encourage your fellow TLP members to join IEEE and take advantage of this TLP member privilege.

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 OPCOMM, 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 OPCOMM meetings and give us input. If you are interested in being a company liaison, please contact Randy Wolff (rrwolff@micron.com).

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 or <http://services1.ieee.org/membersvc/coa/intro.htm>) and the Boise Section Chair Randy Wolff (rrwolff@micron.com) so we can add you to our electronic mailing list (we get address corrections only once a month from the IEEE). To assure that you get timely information about IEEE Boise events, please make sure we have your correct email address in our address database.

Your 2012 Officers:

IEEE Boise Section:

Chair: Randy Wolff
rrwolf@micron.com

Vice-Chair: Jaydip Guha
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Secretary: Kristen Hopper
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Treasurer: Sean Collison
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Membership: Duane Goodner
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Boise Computer Society Chapter:

Chair: Joe Rekiere
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Student Branch at Boise State University:

President: Jason Archer

Vice President: Daniel Steik

Secretary: Kyle Straub

Treasurer: Nick Luong
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You make a difference when you join the IEEE.

<http://ieeeboise.org/>