Year in Review

By Pascal Nsame

It is my pleasure to announce the 2012 IEEE Green Mountain Section Awards recipients:

1. Dr. Paul Hines, is recognized with the 2012 IEEE Green Mountain Section Scientist of the Year Award for his significant contributions to the advancement of Smart Grid Technology.

2. Dr. Eric Bechhoefer is recognized with the 2012 IEEE Green Mountain Section Engineer of the Year Award for his significant contributions to the advancement of Condition Based Monitoring Technology.

3. Joe Koltz, is recognized with the 2012 IEEE Green Mountain Section Student of the Year Award for his leadership skills and significant contributions in advancing student professional activities.

About IEEE
IEEE is the world’s largest professional association advancing technology for the benefit of humanity. We publish technical journals, sponsor conferences, develop technology standards, and support the professional interests of more than 400,000 members. IEEE creates an environment where members collaborate on world-changing technologies - from computing and sustainable energy systems, to aerospace, communications, robotics and healthcare - to engineer a better tomorrow.

Class of 2013
IEEE Fellow
The IEEE Board of Directors has elevated 297 IEEE Senior members from around the world to Fellow grade effective 1 January 2013. The IEEE grade of Fellow is conferred by the Board of Directors upon a person with an extraordinary record of accomplishments in any of the IEEE fields of interest. The total number selected in any one year cannot exceed one-tenth of a percent of the total voting membership. IEEE Fellow is the highest grade of membership and is recognized by the technical community as a prestigious honor and an important career achievement. Congratulations to:

✦ John Edward Barth, Williston, VT, USA for contributions to design and development of embedded dynamic random access memory.

Nominations for Fellow Class of 2014 are now being accepted. The deadline is 1 March 2013.

Best Chapter Award Recipient
Green Mountain
Presented at the 2012 ISSCC in San Francisco on Feb. 19-23. The SSCS Chapters Program Chair Jan Van der Spiegel (left) and President Rakesh Kumar (right) with Best Chapter Chair Pascal Nsame (Center), founder & chair of SSCS-GM Chapter. With over 9,000 members around the world, the Solid-State Circuits Society focuses on fabricated integrated circuit designs -- in contrast to simulated circuits and analyzed models-- for all applications using relevant materials and interconnections. Today SSCS is a member of six Councils to leverage interdisciplinary technologies.

CONTENT
1.1 RECOGNITIONS
Awards, Class of 2013 Fellow and Senior Engineers, New IEEE Members

1.2 CONTRIBUTIONS IN IEEE JOURNALS, CONFERENCES, WORKSHOPS, & SYMPOSIUMS
ISSCC, VLSI, CICC, DAC, IRPS, BCTM, NATW, ICDT, IEDM and others...

1.3 UP COMING PROFESSIONAL ACTIVITIES
E-WEEK, Technical Seminars, and Networking Events
NEWLY ELEVATED MEMBERS

IEEE SENIOR ENGINEERS

Senior member is the highest grade for which IEEE members can apply. IEEE members can self-nominate, or be nominated, for Senior member grade. Congratulations to:

✦ Harold Pilo
✦ Colin Rehkugler

For additional information, please go to:
http://www.ieee.org/membership_services/membership/senior/index.html

NEW IEEE GM MEMBERS

Welcome


1.2 JOURNAL, CONFERENCE, WORKSHOP, SYMPOSIUM CONTRIBUTIONS FROM MEMBERS IN VERMONT

CONFERENCE


WORKSHOP

✦ Platt T., Xia, T.: Computing EVM in Real Time for Wireless Communication Test, NATW 2012

SYMPOSIUM


BEST PAPER

2012 IEEE CONFERENCE

A paper by Tian Xia, associate professor in the School of Engineering (SoE) and Bo Jiang (Ph.D. student) entitled, "ADPLL Variables Determinations based on Phase Noise, Spur and Locking Time," received Best Paper Award at The Institute of Electrical and Electronics Engineers (IEEE) International System on Chip Conference (SoCC), held September 12-14, 2012 in Niagara Falls, New York.

IEEE GREEN MOUNTAIN (GM) SECTION, CHAPTERS & BRANCHES 2012

IEEE GREEN MOUNTAIN (GM) SECTION, CHAPTERS & BRANCHES 2012

THE WORLD’S LARGEST PROFESSIONAL ASSOCIATION FOR THE ADVANCEMENT OF TECHNOLOGY www.ieee.org
IEEE GREEN MOUNTAIN (GM) SECTION, CHAPTERS & BRANCHES 2012

E-WEEK

Engineers Week festivities will close with the annual Banquet. It will be held at the Doubletree Hotel in South Burlington, Vermont on Friday, February 22, 2013.

The Reception will begin at 5:30 pm. Dinner will be served at 6:30 with awards and presentation to follow.

Please RSVP to Amanda Hanaway-Correnty by Feb. 15th at amanda.hanaway@gmaill.com or 802.656-3946.

Save The Date!
Celebrate Engineers Week!

You are cordially invited to celebrate Engineers Week 2013 at the E-Week banquet on Friday, February 22, 2013! Please invite all that may be interested in attending this event.

Mr. William J. Stenger, Chief Executive Officer (CEO) of Jay Peak Ski and Summer Resort, will be heading this year’s event. Mr. Stenger has been President and Chief Executive Officer (CEO) of Jay Peak since July 2003. Prior to this promotion, he served as President and Chief Operating Officer (COO) of Jay Peak from April 1999 to June 2003.

Mr. Stenger served as an Executive Vice President of Sales and Marketing of Most Saint Sauver International Inc., an organization for which he has been a Director from 1998 until 2008. Mr. Stenger also serves as the Chairman of Vermont Ski Areas Association and Lake Champlain Chamber of Commerce, and a Member of the Agency of Commerce and Community Development Advisory Council. Additionally, he has been appointed by the Governor of the State of Vermont to serve on the Governor’s Council of Economic Advisors.

Some of his past achievements include, Director of Central Vermont Public Service Corp. from May 2005 to June 27, 2012, recipient of the 2006 Martha H. O’Conner Award for Private Citizen Contribution to Public Education, an Associate of Science Degree from Cerrimo Community College, and a Bachelor of Science Degree from South Carolina University.

The presentation topic will be on “The Development of Vermont’s North East Kingdom.”


THE WORLD’S LARGEST PROFESSIONAL ASSOCIATION FOR THE ADVANCEMENT OF TECHNOLOGY www.ieee.org
I.3 Professional Activities

Vermont Technical College will be sending some of its engineering faculty and students into Vermont high schools in the state during Engineers Week. Called “Vermont Tech Engineers in Your Classroom,” this is a chance for students and teachers to hear from professors and current engineering students about what studying engineering in college is all about. For more information, contact Scott A. Sabol, P.E., at ssabol@vtc.edu.

Norwich University’s David Crawford School of Engineering will be conducting their annual E-week activities throughout the week. The Tau Beta Pi Honor Society is planning a number of fun competitions for students and faculty. A major event of the week will be the annual engineering Todd Lecturer on the evening of Monday, February 18. This year the speaker is Dr. Aarne Vesilind, Environmental Engineering author, Professor Emeritus at Bucknell U, and an early leader of Environmental Engineering Education. His topic (and that of his recent book) is “Engineering Peace and Justice”.

The University of Vermont’s College of Engineering and Mathematical Sciences and the Vermont Air National Guard will once again host a competition for elementary, middle and high school students asking students to create smart phone designs, edible cars, wind mills, passive helicopters and pasta bridges and bring them to the Vermont Air National Guard in South Burlington, VT on March 7, 2013. For more information and to register a team visit: http://www.cems.uvm.edu/eweek/

Order of the Engineer, this ceremony is an opportunity for an engineer to formalize his or her commitment to the engineering profession. This year’s ceremony will be held in Billings North Lounge, University of Vermont on Friday, February 22, 2013 and will begin at 4:30 p.m. If you’re interested in participating, please contact Karen Bernard at 656-3333 or Karen.Bernard@uvm.edu.


The IEEE NATW provides a forum for discussions on the latest issues relating to high quality, economical, and efficient test methodologies and designs. The 22nd NATW will feature a half day tutorial on Wednesday titled “VLSI Test and Security.” The program includes a keynote by Brian Gaucher (IBM) on Smart Power Grids and an invited address by Stephen Sunter (Mentor Graphics) on Analog/Mixed-signal Test. In addition to traditional topics, the 22nd NATW will feature a general theme of “Growing importance of Test and Hardware Security.”

Important Dates (call for papers 2013 natw):

Submission – 03/1/2013
Notification of acceptance – 03/29/2013

For general information, contact:
Paul Reuter
Mentor Graphics Corp.
Phone: (508) 303-5669
Email: paul_reuter@mentor.com

For program information, contact:
Dr. Tian Xia, Program Chair
Electrical and Computer Engineering
University of Vermont
Phone: (802) 656-8996
Email: txia@uvm.edu

Vermont Markers Community, shares an interest in the possibilities of micro controllers and open source hardware, encouraging independent projects that blend the arts and technology. If you’re interested in participating, please contact http://vermontmakers.org

FIRST AT UVM
Feb. 23, 2013, 7:00 AM - 6:30 PM
Dudley Davis Center, UCM Campus

FIRST is an organization devoted to motivating young people to pursue education and career opportunities in Science, Technology, Engineering and Math (STEM), while building knowledge, self-confidence, and collaborative life skills.

FTC is designed for those who want to compete head to head, using a sport model. Teams of up to 10 students are responsible for designing, building, and programming their robots to compete in an alliance format against other teams. The robot kit is reusable from year-to-year and is programmed using a variety of languages. Teams, including coaches, mentors and volunteers, are required to develop strategy and build based on sound engineering principles. For details about kits, components, skill requirements, scholarships, current game rules and more, go to the following URL: http://www.uvm.edu/~first/?Page=registration.php
Ronald Reagan as President of the United States proclaimed February 11, 1983 as National Inventors’ Day, Proclamation 5013, to call upon the people of the United States to observe this day with appropriate ceremonies and activities. In recognition of the enormous contribution inventors make to the nation and the world, the Congress, pursuant to Senate Joint Resolution 140 (Public Law 97-198), has designated February 11, the anniversary of the birth of the inventor Thomas Alva Edison who had over 1,000 patents, as National Inventors’ Day.

Advancing Human Condition using Bioengineering

LASIK EYE SURGERY HAS IMPROVE THE VISION OF MORE THAN 25 MILLION PEOPLE WORLDWIDE

President Obama honored a team of three IBM (NYSE: IBM) scientists -- James J. Wynne, Rangaswamy Srinivasan and Samuel Blum -- with the National Medal of Technology and Innovation, the country’s most prestigious award given to leading innovators for technological achievement on 01 Feb 2013. They are receiving this award for their discovery of a new form of laser surgery, using an excimer laser that made modern LASIK and PRK refractive eye surgery possible. “It is a huge honor to receive this award for our research more than thirty years after its initial discovery. This achievement is a reflection of IBM’s culture of innovation, to think far into the future, and a result of enabling different disciplines to come together to tackle real-world challenges with a broad domain of expertise,” said Dr. Wynne of IBM Research. IBM’s transformational work in laser technology, by this team of scientists has shaped the course of surgical care. Well suited for delicate surgeries, the excimer laser replaced mechanical instruments such as the “cold steel” scalpel, which was not very precise, could leave the cornea permanently weakened and required a long recovery time. The team of researchers, who each had different backgrounds that included laser physics, polymer photochemistry and materials science, embarked on their breakthrough adventure the day after Thanksgiving in 1981.

What began as an experiment involving an excimer laser and some turkey leftovers led to the idea that this laser could be used in health and medicine, after they successfully irradiated a piece of turkey cartilage without any collateral damage to the surrounding tissue. Using very short pulses of far ultraviolet light, the excimer laser cut a clean incision into the cartilage without any burning or charring. This ability to precisely cut into materials via ablation, rather than burning, was appealing to doctors and patients, as it left surrounding and underlying areas undamaged. As a result of publishing their research and giving a talk at a major laser conference in 1983, the IBM team caught the attention of the ophthalmology community, which helped advance this technology with further experimentation and trials.

Today, LASIK and PRK eye surgery are the most popular vision correction surgeries performed and have improved the vision of more than 25 million people worldwide. This type of modern surgery technology is one reason why the world has looked to the United States for leadership and best practices. James Wynne still works at IBM’s TJ Watson Research Center, while Srinivasan and Blum have since retired, and Blum recently passed away on January 9th, 2013. He was 92.

In addition to the National Medal of Technology & Innovation, the team will also be awarded the 2013 Russ Prize of the National Academy of Engineering later this month, a prize that recognizes outstanding bioengineering achievements in widespread use that improves the human condition.
“Job Crisis” or “Skills Crisis”?

Why unfilled positions?

“Take a close look at monthly unemployment figures - specifically the requirements for unfilled positions - and our nation’s fundamental economic challenge becomes clear. We have a “skills crisis,” not a job crisis. In New York City, for example, the January 2013 Real Time Jobs Report documents more than 300,000 unfilled jobs - nearly 1,000 at IBM, and thousands more at companies such as AT&T, JP Morgan Chase and Citigroup.” - Stanley S. Litow, IBM.

“Let’s also make sure that a high school diploma puts our kids on a path to a good job. Right now countries like Germany focus on graduating their high school students with the equivalent of a technical degree from one of our community colleges, so that they’re ready for a job. At schools like P-TECH in Brooklyn, a collaboration between New York Public Schools, the city University of New York, and IBM, student will graduate with a high school diploma and an associate degree in computers or engineering” - Barack Obama, President of the United States.

The Pathways in Technology Early College High (P-TECH) School, is an innovative collaboration between New York public schools, the City University of New York, and IBM. The 18-month-old experiment has caught not only the president’s eye but the attention of companies, politicians, and educators across the nation. The Brooklyn school takes students in the ninth grade and aims to have them graduate six years later with both a high school diploma and an associate degree in computers or engineering—not to mention a likely job at IBM. As President Obama said, “We need to give every American student opportunities like this.”

What’s unusual about P-TECH is educators’ willingness to work with private-sector partners to design an academic program that’s heavy on workplace skills. (Ten years ago, this would have been greeted with greater skepticism.) The students all have IBM mentors, who help them navigate. Because there are no academic screens or special tests to get in, no charter-school freedoms, no tuition, and no ability to dispense with core standards, the model has been widely embraced by educators as one that can be replicated.

Class of 2017

Closing the skill gap

Sam Palmisano likens it to an apprenticeship. The thought came to the former IBM chief while chatting with then-New York Schools Chancellor Joel Klein during a rain delay at the U.S. Open. As they talked about the skills gap, Palmisano said: “we’re not graduating kids with the qualifications to fill those jobs.” What was needed, he realized, was a program that gave kids those skills. “Everybody talks about the issues, but nobody does anything. We thought this will work.” The first real test of P-TECH will happen in 2017, when its first class graduates. Principal Rashid Davis says he faces the same harsh realities confronted by peers at other schools. “The biggest challenge, frankly, is that they leave every night to families who may or may not understand the value of education,” Davis says. And how would he like to fix that? By boarding students for six weeks or so over the summer so they can stay focused on doing the hard work in a nurturing environment.