



IEEE Green Mountain Section Technical Community Newsletter



In this issue, Pascal Nsame, section Vice-Chair reports on the IEEE Green Mountain section activities in the first half of 2009.

Give him feedback at pnsame@us.ibm.com

IEEE Membership

The Institute of Electrical and Electronics Engineers, Inc. (IEEE) is incorporated under the New York State Not-for-Profit Corporation Law. We are incorporated as a 501(c)(3) organization, specifically to be a scientific and educational organization. Per the IEEE Constitution, its "purposes are: (a) scientific and educational, directed toward the advancement of the theory and practice of electrical, electronics, communications and computer engineering, as well as computer science, the allied branches of engineering and the related arts and sciences; ... and (b) professional, directed toward the advancement of the standing of the members of the professions it serves." The IEEE Constitution further goes on to state that "the IEEE shall strive to enhance the quality of life for all people throughout the world through the constructive application of technology in its fields of competence. It shall endeavor to promote understanding of the influence of such technology on the public welfare." The IEEE Mission Statement states that its "core purpose is to foster technological innovation and excellence for the benefit of humanity." Its vision is to "be essential to the global technical community and to technical professionals everywhere, and be universally recognized for the contributions of technology and of technical professionals in improving global conditions." IEEE members polled in February 2009 declared that the most important networking channel for them as a member was: Conferences (37%), Local Meetings (23%), Volunteering (18%), IEEE Standards (14%), memberNet (5%), Mentoring Connection (2%), Other (1%)

Green Mountain Section Recognitions

1. John Bart, Prevost Tom, J Harry Blaise, and Bill Tonti were elevated to IEEE Fellow in 2008.
2. Kerry Bernstein, David Vallett, Kiran V Chatty, Richard Q Williams, and Taikang Ning were elevated to IEEE Senior Member in 2007

Green Mountain Section Activities

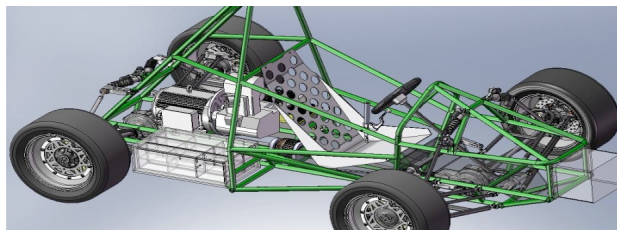
The Green Mountain section of IEEE participated in the 2009 IEEE Region 1 Board of Governors Winter Meeting held Saturday, February 7, 2009 Newark Airport Marriott, NJ. For complete information, please visit the R1 website at: <http://www.ewh.ieee.org/reg/1/209/209.htm>

The Green Mountain section of IEEE including 1,072 attendees from 89 countries representing 293 Sections celebrated volunteer achievements worldwide at the IEEE Section Congress 2008. Details at: <http://www.ieee.org/web/volunteers/sections-congress/2008/index.html>.

The Green Mountain chapter of IEEE Solid-State Circuit Society participated in the IEEE SSCS Annual meetings in 2008 and 2009 held in San Francisco. Details at: http://www.ieee.org/portal/site/sscs/menuitem.f07ee9e3b2a01d06bb9305765bac26c8/index.jsp?&pName=sscs_level1_article&TheCat=2145&path=sscs/08Spring&file=Chapter_Chair_Mtg.xml

The UVM Alternative Energy Racing Organization prepares for its second Formula Hybrid SAE competition

With continued financial and technical support from the Green Mountain Section, students at the University of Vermont are preparing to bring two vehicles to the 2009 Formula Hybrid SAE competition in Loudon, NH in May. At the competition, the students will compete against approximately 30 teams from as far away as India and Russia. In the 2008 competition the UVM team won several awards for their innovative hybrid electric race car design. With significant help from engineers in the IEEE community, the team has made substantial improvements to the energy storage (using A123 Lithium Polymer batteries) and control systems. The students have designed a heads-up display system that should provide valuable information to the driver. On the mechanical side the team has nearly completed a major redesign of the mechanical systems that will unify the drive train into a single "transaxle," allowing the team to bring a car that is lighter and handles better on the turns. The result is a vehicle that, from preliminary road tests, shows real promise to be a race-winner this year. The AERO team is particularly grateful to its financial and technical sponsors including IEEE, VELCO, the Vermont National Guard, Vermont Space Grant, Hazelett Strip Casting, Anderson Power Products, iTherm, MicroStrain, CTS Corp., and PowerStream.



2009 Spring Issue

3D modeling tools have allowed the team to test design options before fabrication



TECHNICAL VITALITY

The Green Mountain section of IEEE is organizing the **IEEE North Atlantic Test Workshop which will be held at the Hotel Le Chambord, Hopewell Junction, NY May 13-15, 09**. The 18th NATW features the theme: "Simple Solutions Revolutionize Test" and a **Panel** dedicated to Process Variation. This year NATW includes 30 papers from 6 different companies and 14 different universities, including 14 student papers competing for the **Jake Karrfalt Best Student Paper Award**. In addition, the workshop includes a **Special Session** dedicated to Solid State Circuits & Systems Test, and an **Invited Session** on Statistical Timing for Test of Process Variations. The 2009 workshop is sponsored, in part, by the IEEE Green Mountain Section, the IEEE Circuits & Systems Society, the IEEE Solid-State Circuit Society and the IEEE Women in Engineering Committee. NATW corporate/academic supporters for 2009 include Mentor Graphics and SynTest Technologies. Go to the following URL to register: <http://www.eng.auburn.edu/~strouce/NATW2009.html>

This year the GM section of IEEE will hold monthly technical vitality seminars/webcasts. Details of each event will be e-mailed and posted a few days before the event on the IEEE GM Section website at: <http://www.ewh.ieee.org/r1/vermont/>. To become an IEEE member, please register at: <http://www.ieee.org/web/membership/home/index.html>

The Green Mountain chapter of IEEE Solid-State Circuit Society in collaboration with the IEEE Montreal Section and the IRPS arrangement committee will be hosting the **47th IEEE International Reliability Physics Symposium (IRPS), which will be held at the Fairmont the Queen Elizabeth Hotel, Montreal, Quebec, Canada, April 26 – 30, 2009**. Three-day technical program including 2 keynote addresses, 15 invited talks, over 90 contributed talks, and over 80 posters. The program also includes, a two-day tutorial and year-in-review program, Evening workshops and reception and an extensive vendor exhibit. Conference attendees are encouraged to visit the various manufacturers' booths for information and demonstrations of the latest state-of-the-art laboratory equipments. The last day



for early registration is April 11. For complete information, please visit the IRPS web site at: <http://www.irps.org>.

Summary of Up Coming Events

Key Dates	Key Activities
Apr. 21, 09	Distinguish Lecture Series Topic #1: "Phase Change Memory as A Universal Memory" by Chung Lam, IBM / Macronix PCRAM Joint Project Abstract: The ultimate goal of emerging memory technology researchers and developers is to devise a universal memory to replace all memories in complex hierarchies of memory systems in modern computers. These memory hierarchies, employing different types of semiconductor memories at different levels of the hierarchies, are designed to bridge the performance gap between the central processing units and the memories while keeping the cost down. In this paper we shall examine the tasks to replace four types of memories, namely SRAM (Static), DRAM (Dynamic), NOR and NAND Flash in the memory hierarchy with Phase-change Random Access Memory (PRAM).
Apr. 09	Joint Meeting with UVM IEEE Student Branch
Apr. 26-30, 09	47th IEEE International Reliability Physics Symposium (IRPS)
May 13, 09	18 th IEEE North Atlantic Test Workshop

STEM ACTIVITIES

The Green Mountain section of IEEE will support an annual competition for middle and high school students. Teams of students with interdisciplinary strengths re invited to collaborate on: solving an engineering challenge, building a functioning and esthetically interesting kinetic sculpture, or creating a Public Service Announcement that addresses Vermont's energy future. All three events will be juried for prizes and exhibition by a panel of experts in their fields. Important dates are:

- ➔ May 1st, 2009: Registration online at: <http://www.cems.uvm.edu/TASC/2009/registertasc2009.htm>
- ➔ Oct. 15th, 2009: Deadline for submitting middle and high school team registrations for one, two or three events
- ➔ Dec. 05, 2009: UVM TASC/Aiken Challenge Exhibition

This year National Engineers Week was celebrated from February 15th to the 21st. During the week there were events, presentations, displays and competitions with many contributing engineers from all over Vermont. See details at:

http://www.ewh.ieee.org/r1/vermont/2009_E-WeekBrochure.pdf

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2009 Spring Issue



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