IEEE NEWS FOR NOVEMBER 2014

Jacob Z. Schanker, P.E., Newsletter Chair
The Rochester section web site is at: http://rochester.ieee.org/

Rochester Section Meeting – Tuesday, November 4, at Noon

The next monthly Rochester Section business meeting is on Tuesday, November 4, at 12:00 PM, at the **Hibachi Sushi Buffet Restaurant** in South Town Plaza on Jefferson Road (Route 252) just west of West Henrietta Rd. (Route 15). Any IEEE member is invited to attend. Lunch is only $3 for IEEE members. No reservation or RSVP is needed, just show up.

Message from Section Chair Greg Gdowski

Everyone has heard the phrase "location, location, location" when looking at real estate. My message for this month is "communication, communication, communication". If you are receiving email notifications from IEEE, you will have noticed a considerable increase in the notification of upcoming events. I have always found the RES publication to be an enjoyable read that keeps me current on engineering issues important to the Rochester region. However, I must confess that my schedule limits my time to enjoy this simple pleasure to the occasional Sunday morning when the issue just happens to be sitting in the right place at the right time. Sometimes, I even find myself reading issues that are months perhaps even years old. I suspect I am not the only one in this boat. In fact, I wonder how many IEEE colleagues will even mention my writing of this at the next IEEE Excom meeting. If you are like me, you will find that email notifications of upcoming events are the one saving grace that keeps you informed. You will find that many Chapters and groups have events that are highly relevant to your expertise even though you may be a member of only one Chapter that is focused on a specific discipline. There are some truly remarkable events that occur in Rochester that are run by several IEEE Chapters and groups. If you are an IEEE member and you are not receiving emails, you are likely missing many of these opportunities because you are like me and you read year-old RES publications. Communication, communication, communication – it is a two way street! Last month at the monthly Rochester IEEE Section Excom meeting we nearly filled the conference room at the Hibachi Sushi Buffet! I had the pleasure of meeting new people spear heading local startups, including Fatima Razic (see *FotoFit* below) and Robert Handsfield. We learned that some of our upcoming events, including a tour of the Laboratory for Laser Energetics held by the Antennas & Propagation/Microwave Theory and Techniques Society was nearly at capacity a week

before the meeting. Finally, we received some spectacular reports of events held and being planned by the student IEEE group at the University of Rochester. Don't miss the next event! Please visit the IEEE website (http://www.ieee.org) and make sure your account is enabled to receive email.

Perhaps the most fantastic news this month was the awarding of the Nobel Prize in Physics to the Inventors of the Blue LED! Congratulations to Shuji Nakamura, Isamu Akasaki, and Hiroshi Amano on a remarkable innovation that has truly transformed the Globe. It is perhaps a bit ironic that it was awarded in Physics, and why did it take the Royal Swedish Academy of Sciences so long to recognize this achievement? The three lighting luminaries, all of whom are IEEE members (Akasaki is a Life Fellow), have won multiple IEEE awards including the IEEE Edison Medal and numerous IEEE Photonics Society Awards.   The announcement of the Nobel Prize was a great day for IEEE --- but the truth is we recognized the significance of their achievements well before the Nobel Prize was awarded! In fact, IEEE has also recognized many of the innovators behind the LED that preceded Nakamura, Akasaki, and Amano! If you have not heard or read about the recently awarded Nobel Prize, I encourage you to read more about it at IEEE where we have known about these individuals for some time.

http://spectrum.ieee.org/tech-talk/semiconductors/devices/inventors-of-blue-led-win-nobel-prize-in-physics

__OTHER EXCITING UPCOMING EVENTS TO GET ON YOUR CALENDAR!__

The IEEE Western New York Image and Signal Processing Workshop (WNYISPW)
Friday, November 7, 2014, at Rochester Institute of Technology in Rochester, NY.

The WNYISPW is a venue for promoting image and signal processing research in our area and for facilitating interaction between academic researchers, industry researchers, and students. The workshop builds off of 16 successful years of the Western New York Image Processing Workshop (WNYIPW). The workshop comprises both oral and poster presentations.

Topics include, but are not limited to:
- Formation, Processing, and/or Analysis of Signals, Images, or Video
- Computer Vision
- Information Retrieval
- Image and Color Science
- Applications of Image and Signal Processing, including: Medical Image and Signal Analysis, Audio Processing and Analysis, Remote Sensing, Archival Imaging, Printing, Consumer Devices, Security, Surveillance, Document Imaging, Art Restoration and Analysis, and Astronomy

We are pleased to announce that the IEEE Keynote Speaker will be Prof. Thrasyvoulos N. Pappas of Northwestern University, who will deliver the lecture: "Visual Signal Analysis and Compression: Focus on Texture Similarity."

ARE YOU A NEW STUDENT OR ARE YOU NEW TO THE AREA?

If you are a new student (graduate or undergraduate) in the Rochester area, there really is no reason why you should not join the IEEE Society. The engineering community extends well outside your campus, and IEEE is by far the best way to get to know them. Joining is easy and the dues for students are remarkably low ($32/yr)! If you are an undergraduate or a graduate student and would like to become an IEEE member, I can help. Undergraduate and Graduate Student members must carry at least 50% of a normal full-time academic program as a _registered_ graduate student in a regular course of study in IEEE- designated fields. The designated fields are: Engineering, Computer Sciences and Information Technology, Physical Sciences, Biological and Medical Sciences, Mathematics, Technical Communications, Education, Management, and Law and Policy. Please join today and let us help you get connected!

HOST A MEETING!
As Section Chair, I am putting out a challenge to our entire Rochester engineering community. If you find that you cannot attend many of the IEEE meetings because they are offered at inopportune times or are located too far away, **why not consider hosting an IEEE event at your company**? Or, if you are a member of another professional society and have wondered why more IEEE members don't come to your events, **why not consider having a joint event**? I am more than happy to facilitate networking events at your company or in conjunction with other engineering societies. Let's collaborate and make Rochester a better place for engineers to live and work.

IEEE BENEFITS CHALLENGE!
I am often asked about the value that is returned for being an IEEE member. In many cases, we measure this value in terms of the access to IEEE journals, the number of local meetings that are held, and the discounts that are offered to IEEE members at these meetings. An often forgotten benefit of IEEE membership is the exclusive discounted services that are available. In many cases, these discounts are far better than you can receive on your own. There are a host of substantial discounts for life, home, and auto insurance that can save you far more than the cost of IEEE membership. If you currently have Travelers or Liberty Mutual as your insurance provider, I encourage you to compare your rate to the discounts offered to IEEE members. IEEE also has a negotiated discount program with USP where you can receive up to 35% shipping charges. Buying a new PC? IEEE also has negotiated discounts with Lenovo, Dell and HP business products.

https://www.ieee.org/membership_services/membership/discounts/index.html

JOIN US AT THE NEXT EXCOM MEETING!
If you are looking for a cheap $3 lunch, join us for the next monthly Rochester Section IEEE Executive Committee meeting. It will be from 12-1pm on October 7th at the Hibachi Sushi Buffet in Southtown Plaza (3333 W. Henrietta Rd, Henrietta, NY). Please join us to learn more about the Society and how you may contribute.

<u>Startup opportunities for engineers!</u>

FotoFit is an early-stage, high-tech startup with proprietary technology focused on making online shopping for clothes easy and efficient for both consumers and retailers. It allows online shoppers to find well-fitting jeans without having to try them on. The company does this by asking consumers to submit a picture of their best-fitting jeans as a baseline for determining key measurements that affect fit, feel and comfort. FotoFit uses those measurements to scour their large database of brands/styles and finds great fitting jeans for each consumer. Consumers will get a customized list of jeans with links to stores that carry the merchandise of their choice. FotoFit is expanding their team and is looking for engineers with imaging or computer science background. For further info email FotoFitJeans@gmail.com.
www.fotofit.co

IEEE EDS Activities in Western New York Conference – Nov. 3

The 38th Annual IEEE EDS Activities in Western New York Conference will be held on **Monday, November 3rd** in the CIMS facility at RIT. The forum this year will be a bit different based on feedback from last year's event. This year's event will include a Measurement Technology Tour in the morning, and the technical presentations will begin at 1PM.

As usual, we have an excellent lineup of invited speakers:

Electronics on Anything
Prof. Ioannis (John) Kymissis, Electrical Engineering, Columbia University, New York, NY
GaN-based Semiconductors for High-Efficiency Photonics and Electronics
Prof. Jing Zhang, Electrical and Microelectronic Engineering, Rochester Institute of Technology
Overview of Photovoltaic Research at Natcore
Dr. David H. Levy, Director of Research and Technology, Natcore Technology, Inc., Rochester, NY

We are soliciting abstracts for poster presentations, which will be presented during the mid-afternoon coffee break. Poster presenters will participate in the 1min / 1slide "Nano-Flash" session which has been a big hit in past events. This is a great opportunity to prepare for upcoming national conferences sponsored by IEEE, MRS, SPIE or other professional societies. Submission can be done electronically to the conference chair (see below) using MS-Word or pdf formats. Abstracts must be submitted by **Thursday, October 30th** to be included in the proceedings. Nano-Flash slides should be in PowerPoint or pdf formats.

See the latest information and **register for the event** on our website: **http://www.rit.edu/kgcoe/eme/EDSWNY**

Computer Society / Computational Intelligence Society Meetings on Genetic Algorithms

Dates: Monday evenings, December 1 and 8.
Time: Pizza & Drinks 6:00, presentation 7:00 PM.
Location: Golisano Hall, room 70-3000, Rochester Institute of Technology.
Speaker: Presented by Peter G. Anderson, RIT Professor of Computer Science (Emeritus)

Abstract: Genetic Algorithms (GAs) are among a growing body of problem solving techniques inspired by natural systems, biological, sociological, chemical, physical, etc. GAs are based on the evolutionary idea of survival of the fittest and are implemented as algorithmic problem solving by selective breeding. A GA uses a population of dozens or hundreds of proposed solutions to a problem and repeatedly creates new solutions (children) from pieces of the relatively better individuals (parents), injecting a small amount of error (mutation) into the new individuals. Surprisingly, this often works.

These algorithms can often be very effective to find maxima of continuous functions in cases where calculus cannot easily be applied, and also to quickly find acceptable sub-optimal solutions to difficult (i.e., NP complete) combinatorial problems such as scheduling, bin packing, traveling salesperson, map coloring, etc.

The first of the two talks gives an introduction to the basic algorithm along with variations and tuning parameters and surveys some applications. In this portion, solutions to problems will be represented by bit strings, a familiar object that is easy to create randomly, crossover (sexual reproduction) and mutate.

The second talk covers more interesting variations and applications. We give special attention to permutation-based problem solutions and how to perform crossovers on permutations.

About the speaker: Peter was a member of the Computer Science faculty at RIT for 25 years, concentrating on graduate education, CS Theory, Neural Networks, Pattern Recognition, and GAs . He continues to actively advise Graduate CS students, pursue research in Fibonacci Numbers, and march with the Pittsford Fire Department Band.

New free E-Book for members in November

IEEE-USA will offer "Writing for Success - An Engineers Guide -- Volume 2: The Road to Excellence" by Tom Moran.