

The quarterly newsletter of IEEE GOLD  
for young professionals



# GOLD *Rush*

March 2011



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Improving the speed and quality of research  
via shared algorithm implementations



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## From the Editor

Timothy Wong

It is my pleasure to warmly welcome you to 2011. I hope that you enjoy the newly redesigned March 2011 Edition of IEEE GOLDRush.

We have focused on breathing new life into the newsletter and improving on the overall look and feel for our readers. I would like to thank our new layout editor, Kenny Wong on his efforts on this redesign. I would also like to take this opportunity to welcome our new Assistant Editor in Chief, Stuart Bottom and our new Editorial Assistants. It is the volunteers in GOLDRush that really make things possible.

We have recently seen the major destruction this year in North Japan and Christchurch, New Zealand. My heartfelt wishes go out to all of those affected by these tragedies. I feel encouraged by the generosity and the speed at which countries around the world offered and delivered aid to the affected regions and the unity within the IEEE community.

In this edition, we have featured career development articles, submitted by our fellow IEEE members as well as our usual GOLD profiles.



Timothy Wong  
2011 Editor in Chief

## Welcome from the 2011 MGA GOLD Chair

William Sommerville



### Dear IEEE GOLD members,

One thing that I appreciate about engineering is the way that it penetrates all aspects of life. As engineers and researchers, we are advancing technology in homes, schools, hospitals, businesses, oceans, space, and anywhere we can imagine. Through our 39 technical societies and 7 councils, IEEE gives broad coverage of the various technical subjects of interest to our members. We have GOLD volunteers involved with most of these and I highly encourage everyone I meet to join a society of their choice.

The secret to doing really well in our profession, however, is to also master the non-technical dimension of engineering. Communication skills, networking skills, presentation skills, technical writing skills, and awareness of social/societal context are all a major part of our success in our careers. Even basic things like keeping an upbeat attitude and staying calm under stress can set us apart from our peers. Engineering school does not always stress these skills, but IEEE has lots of resources to help members improve these skills and others.

As you read this edition of GOLDRush, please take time to consider how these articles relate to your career. Although we cover a variety of topics, you will find that they all contain valuable information for young professionals. This is also true for our webinars, STEP events, and a long list of GOLD-related activities throughout the world. GOLD members volunteer to produce these services so that they may make connections and gain experiences that will benefit them throughout their careers.

I would like to encourage you to actively contribute to your profession by contributing to GOLDRush, a webinar, or even a local GOLD event. The experience of seeing your work in print or bringing people together for an event is amazing, and I find that it is well worth the modest time investment. This community is your community and your input is important!

Will Sommerville  
2011 MGA GOLD Committee Chair

Front cover  
photo credit:  
Soon Wan



# Readers' Forum

Your questions and opinions

**This month's feature letter comes from**

Alex Chen  
Hong Kong  
IEEE Grad. Student Member

## Start Your Career with a Low Carbon Job

Have you considered beginning your career with a graduate trainee program in a sustainability role?

I think that sustainability has become a new global trend in this day and age, at least in Hong Kong. In my case, I was recently interviewed for the Sustainability Program at Philips last summer and am excited about the contribution I can make with this opportunity. I predict that in the coming years, there will be a drastic increase in so called 'Green Jobs', driven by a number of programs and initiatives such as Barack Obama's new Energy plan, the Copenhagen 2009 Climate Summit, and the new emphasis on Energy Conservation and Efficiency in the Twelfth Five Year Plan of the People's Republic of China (PRC).

There is a finite amount of natural resources left on planet earth. I have heard that there is about 200 years of coal, 40 years of crude oil and 60 years of natural gas remaining to mankind. These fossil fuels are not recyclable nor are they renewable. They cause a great deal of air and water pollution as well as carbon dioxide emissions which contribute to the greenhouse effect.

The new renewable energy industries which include wind, solar, bio-energy, hydro and geothermal may be our saviour. I expect them to boom in the near future to reduce and possibly eventually replace fossil fuel use. Our planet would benefit from these renewable energy sources as they are sustainable and lead to an overall reduction in pollution, carbon dioxide. There are other trends such as carbon capture and sequestration where carbon dioxide is captured from high sources of



Be a Green Engineer in the Sustainable Future

emission and stored in a way to prevent it from entering the atmosphere.

Governments from around the world are looking at ways of reducing carbon emissions and pollution through financial means and through government policy. For instance, some countries have emissions standards and carbon trading schemes. New jobs and business opportunities have emerged from the renewable energy industry and from government policies. Jobs which didn't exist in the past will be created in the future in industries that may not have been created yet. Some of the industries which did not exist or were not dominant a century ago include hybrid vehicles, green rooftops, environmentally friendly packaging and materials, green purchasing and waste management.

A bright green future is expected, due to support through government policy, tax incentives, technology maturity and investment in this area. In the PRC, more green companies such as Xinjiang Goldwind or Wuxi Suntech are able to rival and operate at world-class levels. Shi Zhengrong, Chairman of Suntech recently attended the Davos Forum, held this past summer, for the first time. Although there are still issues in stand-

ardization, quality assurance, cost and finance, I have no doubt that a prospective and prosperous field is rapidly emerging in the region.

Once again, I urge you to consider joining the green engineer and sustainability roles and opportunities. The world is in your hands and you will have the opportunity to make a real difference through roles such as developing more green technologies, designing eco-friendly policies and ultimately allow everyone to enjoy a fresh environment and a sustainable future. ■

## Want to see your letter here?

Express your opinions on GOLDRush articles and ask questions to the authors by submitting a letter to the GOLDRush Readers' Forum. Send your submissions to [GOLDRush@ieee.org](mailto:GOLDRush@ieee.org) before 6 May 2011 for inclusion in the June 2011 edition. Submissions must be no more than 400 words and may be edited if necessary. We look forward to hearing your thoughts!

# IEEE GOLDRush Invited Article

Featuring IEEE Emeritus Director, Ted Hissey

**In this month's invited article, IEEE Director Emeritus, Ted Hissey reflects on and shares his experiences as an Electric Power System Automation Engineer for 43 years and his journey through IEEE.**

Welcome to the world of IEEE GOLD and the opportunities that it presents! I certainly hope that you enjoy the journey through both your personal and professional life with the same enthusiasm and results that I experienced.

I would like to share some thoughts and experiences from my life so far, and how IEEE has helped me during my personal and professional life and career.

Firstly, I would like to point out that my experiences were accomplished and enjoyed in a different economy and job stability situation from that of today. I joined the Leeds and Northrup Company after graduating with a BSEE from the Pennsylvania State University in 1948 and stayed with them until I retired in 1991. That is 43 years with one company and not a story that you would hear many times today.

You could well ask "Why stay with one company for 43 years? Did you have offers to change companies?" The short answer is yes. Let me explain why I stayed. The job was interesting and challenging. It required thinking "outside the box" and there was plenty of room for advancement. My managers, supervisors and the company supported me very well and it was fun working with a technology that constantly required innovation and creating new approaches.

Throughout my career, there were changes in computing and controls for electric power system operations, efficiency and stability plus the challenge of encompassing all of the new dynamic developments and offerings in hardware and software. During my 43 year commercial career, IEEE was my teacher, continuous educator, personal network provider, career guidance counsellor and much more.

Back when I started entered the Electrical Power System Automation field in 1948, the industry was using a combination of electro-mechanical and electronic equipment to implement the solution of a single, simple equation for interconnected electric power system operation and frequency control. The hardware used in this field made tremendous strides during my 43 year working career. By the early 1990's, the industry had moved from the use of electro-mechanical to electronic solid state components and from analog to digital computers, along with high speed digital data acquisition systems. This was a dynamic change from simple to complex hardware.

As for software, the changes were even more dynamic. Electric Power Systems were re-structured and their operational and security needs expanded, along with the advent of both analog and digital computers and high speed data acquisition systems. We were given the challenge and opportunity to bring real-time data to the control centers and use this data to solve many simultaneous and interlocking equations. These new systems helped improve the continuity of services, increase the efficiency and effectiveness of operation as well as enabling forecasting possible contingency and operational problems for the expanding Electric Power Networks.

I received the necessary continuing education material to cover these changes, from and through the IEEE, with the full support of my employer. The opportunity that I had to help create the designs of, and proving the validity and application of these systems, plus working in the field on the "start-up" through to a successful operational system, provided me with an interesting and gratifying

personal and professional engineering experience.

At my company, I enjoyed the privilege and pleasure of working with, and assisting in designing and applying products and systems with some of the originators and icons of Automatic Generation and Interconnected Electrical Power Frequency Control Systems. My supervisors trained, instructed, mentored, supported and guided me in the complex technical automation area and in participating in IEEE.

The company executives made certain that I understood the personal and professional values of working in the IEEE volunteer cadre, including: technical committees, participating in technical paper writing and presentations, developing a network of personal and technical contacts around the world and participating in technical conferences worldwide.

These days, this support of IEEE participation and activities is unfortunately not provided by many of today's industry executives. This creates a real challenge to young engineers desiring to participate in IEEE or other technical associations.

I feel that the increased value of my lifetime experience from IEEE really came down to two areas: firstly, the sharing and discussion of concepts, ideas, and problems through the IEEE Technical Committees, Conferences and Seminars. This, along with the field and installation work provided in my work, broadened my knowledge of Electric Power Systems Operations and needs, creating new applications for our equipment. Secondly, the development of global contacts through IEEE networking enabled much of our success in the final 20 years of working on International Electric Power System control installations.

This is why I continue to contribute to the IEEE with my time, energy, ideas, and funds to try to return some of the investment and contributions which the IEEE made to me, for me, and in me! ■



# IEEE GOLD Member Profile

Featuring up-and-coming IEEE GOLD members from around the world

## Dr. Yasuharu Oghoe

Alma mater **Tokyo Denki University**

Current location **Tokyo, Japan**

Areas of interest **Renewable Power Systems**

### Career description

I received a Ph.D (Engineering) in 2005 from Tokyo Denki University, Saitama, Japan. My thesis title was 'Development of Carbon Thin Film Deposition on 3-dimensional Structure by radio frequency (RF) Plasma CVD (Chemical Vapor Deposition) technique.' After graduation, I started working as a research associate at Tokyo Denki University. In 2010, I became an Assistant Professor and I have been working at the university. My professional interests include plasma science technology and development of carbon thin films.

Currently, I am involved in several research projects on material sciences and educational activities. In one of my main research projects for the last two years, I focused on amorphous hydrogenated carbon (a-C:H) film including diamond-like carbon. The properties of a-C:H film include low friction, extreme hardness, high electrical resistance, and good biocompatibility, etc. For this reason, the combination of these properties of a-C:H film is expected to be used as surface coating technology in industrial fields. However, the practical applications of a-C:H film are limited. If the film deposition technique and deposition conditions were categorized according to application of the a-C:H film, we could use the coating more practically. Now, I'm involved in development of an enquiry system for practical applications of a-C:H film coating for industrial fields by using an artificial neural network. The system shows information of target a-C:H film on deposition methods by artificial neural net-

work. I feel the biggest challenge is that the value of a-C:H film would thus be enhanced with a wider variety of uses by using our inquiry system.

### What are your personal interests (i.e. hobbies)?

My favorite hobby are playing musical instruments (violoncello, piano, and clarinet) and listening to music. I am not a good player of these instruments, but I enjoy it. As for listening to music, I have been going to orchestra concerts with my wife every December since 2000. Besides this, socializing is also one of my personal hobbies. I enjoy talking to and meeting new people, and making new friends. I have many friends in many countries through IEEE activities. This year, I went snowboarding with my second daughter for the first time. I hope to further enhance my hobby skills.

### How has IEEE helped your career?

As many IEEE members would agree, I believe the IEEE provides a chance of growth and development for us as professionals. In fact, my IEEE experience has been a very important source of professional development for me. I was involved in Regional and MGA GOLD activities starting with the role of Region 10 GOLD Coordinator (2005—2007) and MGA GOLD Representative (2008 and 2009). I organized the Region 10 GOLD Congress in 2006, and I was involved in the 1st GOLD Summit in 2008 and Humanitarian Technology Challenge in 2009. Beside this, I established Tokyo GOLD Affinity Group which is the first Japanese



GOLD team in 2008. I am currently the Tokyo GOLD Affinity Group Chairperson. Through my IEEE experience, IEEE has always inspired me on my career development and given me a chance to learn from successful leaders. It has allowed me to make many good friends who make an effort and succeed in their careers. Everything is great!

### Any words of advice for young professionals?

IEEE service always targets young professional members including students and women engineering members. The purpose of our GOLD activities is to raise awareness on young professional members' future paths and relevant skills and to share the experiences. You might ask and think to yourself about "How to shape my career?", "How do I get to a dream goal?", "How to enjoy my life as a young professional or woman engineer?", or "What is benefit of IEEE activities for developing my skills or career?", etc. IEEE always inspires you and you get many chances to succeed in your career planning. ■

### Know someone we should profile?

Get in contact with us at [goldrush@ieee.org](mailto:goldrush@ieee.org). Include their contact details and why we should feature them.

# IEEE GOLD Community News

From around the world

## IEEE GOLD Member Honored as a “New Face of Engineering” for 2011



Mr. Sampathkumar Veeraghavan, an IEEE GOLD Member, was recently honored as one of 2011's “New Faces of Engineering” by the National Engineers Week Foundation of the United States. Just 14 young engineers from across the U.S. were selected for this prestigious award as part of the annual “National Engineering Week” event.

Sampath, 27, is a recent graduate of Tufts University and currently employed by Intel Corp. as a component design engineer. As an electrical engineer, he was selected for this award based on his development of “technological solutions to global humanitarian issues for disabled and impoverished women and children” in India. Mr. Veeraghavan has re-

ceived numerous other awards recognizing his contributions to the advancement of technology.

Sampath wished to express his “...sincere thanks to the MGA GOLD committee and its leadership, all the past and present GOLD regional coordinators, volunteers, and staff members for their support.” He added, “As an active GOLD member and volunteer, I’m excited to bring this honor which demonstrates the public visibility of our efforts to address societal issues through technological innovations.”

The New Faces of Engineering award recognizes “the next generation of engineers whose innovation, leadership skills, and commitment to excellence are helping to better our world and inspire young people to consider a career in engineering.” For those wishing to learn more about the 2011 United States National Engineering Week awards, the official announcement can be found at

[http://www.eweek.org/Site/Engineers/newfaces2011/Press\\_Release\\_Final.pdf](http://www.eweek.org/Site/Engineers/newfaces2011/Press_Release_Final.pdf). ■

## Helping Students Transition to Young Professionals with IEEE

STEP stands for Student Transition and Elevation Partnership and is an initiative that was developed to provide a standardized yet localized program for facilitating the transition from student member to young professional, by introducing the opportunities and benefits of IEEE membership during the onset of a career. The IEEE STEP Program objectives are:

- Identify a local IEEE entity beyond the student branch for members to contact
- Plan a joint Section and GOLD event to introduce local IEEE resources
- Illustrate IEEE member benefits appropriate for young professional members
- Identify recent IEEE Student members who have graduated with an undergraduate or graduate degree; help retaining members by capturing any

change of address, email or other contact information

Funding is available for STEP activities including a graduation reception for groups holding an event with a minimum of 10 recent graduates. Basic funding will be provided up to the amount of \$500 and additional funding may be available if the number of additional recent graduates attending exceeds 25.

IEEE will provide each STEP sponsor with a package of supplies to help make your workshop a success. The resources included in the STEP Kit will assist you in organizing and executing a Student Transition Event, as well as a successful IEEE membership campaign to help retain student members as young professional members and keeping them actively engaged with IEEE. For more information please visit [http://www.ieee.org/membership\\_services/membership/gold/step.html](http://www.ieee.org/membership_services/membership/gold/step.html). ■

## Christmas STEP events in Osijek and Zagreb, Croatia

Ana Katalinic (IEEE Croatia GOLD AG Chair) and Josip Balen (IEEE Student Branch Osijek Chair)

Three STEP events took place in Croatia during November and December 2010.

The first STEP event in Osijek was held on 3rd November 2010 at the Faculty of Electrical Engineering, University of Osijek. The topic of this event was “Working in a big or small company?”. This short workshop covered the benefits and drawbacks of working in a big or small company and was well attended by around 20 students and young professionals.

Tomislav Pokrajacic depicted the benefits and drawbacks of a small start up company, sharing his experience of being both an employee in a private company and starting his own business.

Ana Katalinic shared her experience from a working in a big company, providing some thoughts about career choices for young professionals. The same topic presented from two different points of view provoked very interest-

*(Continued on page 7)*

# IEEE GOLD Community News

From around the world

## Christmas STEP events in Osijek and Zagreb, Croatia

*(Continued from page 6)*

ing and fruitful discussion during the social networking which followed with snacks and drinks.

Two STEP Christmas themed events took place on 21st December 2010 – one in Osijek and another one in Zagreb.

In Osijek, a very interesting lecture about Google applications in science and business was given by Mr Zoran Balkic, who shared his own experience and thoughts about tools and open-source programs which are widely used both in science and business. Because of the wide range of services provided by Google, this interesting lecture motivated a long discussion. The workshop gathered 23 participants, who were all invited to a Christmas party with food and drinks afterwards.

The STEP function in Zagreb was focused on the importance of social networking. Mr Marko Lackovic, IEEE Croatia Section Industrial Relations Chair, gave a presentation about the importance of social networking in every person's professional life and how a professional's individual network of contacts can affect their current and future career. Based on his broad experience, he gave some "tips and tricks" for successful networking, but also pointed out some common mistakes which should be avoided. This motivated a number of questions and a discussion, especially about the advantages of good social skills and opportunities to further learn and develop these skills for those with no prior experience. All of 23 participants had a chance to apply this new knowledge through a short quiz and an informal social networking session, in the spirit of Christmas.

All STEP events took place in a relaxed environment and were intended as an opportunity for students and

young professionals to learn about IEEE, meet fellow members and have a good time. They were all made possible as a result of close collaboration between IEEE Croatia GOLD Affinity Group and Student Branches from Osijek and Zagreb, with support from the Professional Activities and Industry Relations projects. ■



STEP Event at Zagreb, Croatia



Mr Marko Lackovic presenting at the STEP event

## IEEE Sensors Council GOLD Award and Sensors 2010 Conference Reception

Venkata S. Chivukula

IEEE Sensors Council is a growing community sponsored by 25 IEEE member societies that represent 260,000 researchers, scientists, developers, practitioners and students working on various aspects of sensing - from fabrication and manufacturing to the applications of sensing devices based on a variety of physical, chemical and biological phenomena.

IEEE GOLD members comprised of recently graduated young professionals within the sensor community constitute an important role in advancing future sensor research and development. The IEEE Sensors Early Career GOLD Award was presented for the first time in the year 2010. The Award promotes, recognizes and supports contributions of young GOLD members in the field of sensing. In response to the Award announcement in early August 2010, the GOLD Award Committee has received over a dozen nominations from all over the globe. In a two-stage process, out of these nominations three finalists were selected by the GOLD Award Committee based on the origi-



IEEE GOLD information desk at 2010 Sensors Conference (Photo by Chris Schober)

ality, creativity, and impact of their contributions to profession and the economy. The winner of the 2010 GOLD Award is Dr. Ville Viikari from VTT sensing and devices in Finland. The Award, which carries a plaque and an hono-

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# IEEE GOLD Community News

From around the world

## IEEE Sensors Council GOLD Award and Sensors 2010 Conference Reception

(Continued from page 7)

arium of \$2000 USD, has been announced by IEEE Sensors Council President Chris Schober during the IEEE Sensors Conference in Waikoloa Hawaii on Nov. 3, 2010, in the presence of more than 600 conference attendees.

The GOLD information desk at IEEE Sensors'2010 conference attracted much attention and curiosity on the part of students, young faculty and industry professionals. The

information desk had a poster, flyers and free candy to lure people closer. To celebrate the achievements of the finalists and the award winner, there was also an informal reception with snacks and beer was held during the conference. At the reception, a short presentation with information and details about the award was presented by the GOLD award chair, Venkata Chivukula followed by informal discussions, IEEE logo door prizes and a social gathering. ■

## New Region 8 GOLD Committee

After the great work done by Joao Figueiras and his GOLD team in the years 2009-2010, the recently appointed committee is ambitious to keep the momentum and work even harder to ensure that defined goals and plans will be fulfilled. In 2011, the new Region 8 GOLD Committee will focus on its continuous involvement towards increasing GOLD visibility. In addition, the committee will try to create an environment where ideas can be expressed through creatively designed projects and events. Establishing new Affinity Groups, new initiatives, web communication and saving R8 GOLD history in the GOLD Book are the key projects in this new committee's plan. Improved communication among R8 GOLD members to increase innovative thinking will play an inevitable role in all efforts taken by this committee.

Finally, the newly appointed committee would like to thank all IEEE members for their great contributions and trust that this committee will improve management and teamwork to meet and elevate the high standards set previously. For our recent activities and initiatives, please visit our Facebook website: [www.facebook.com/r8gold](http://www.facebook.com/r8gold).

### Salima Kaissi – R8 GOLD Coordinator

Salima has a background in communication and computer engineering and works as an applications officer at Europcar Headquarters. In addition, she studies Strategy and Management of International Business at ESSEC Business School - Paris. Salima was the initiator and project leader of the IEEE Day. She was a member of the 2010 R8 GOLD committee and has recently been appointed to the R8 GOLD coordinator position for 2011.



### Nele Reynders – R8 GOLD Committee Member



Nele is working as a research assistant at the Department of Electrical Engineering in K.U.Leuven, Belgium, towards a PhD in ultra-low-power sub-threshold digital circuit design. She was a member of the organizing committee of the R8 Student Branch and GOLD Congress 2010 in Leuven.

### Rafal Sliz – R8 GOLD Committee Member

Rafal is a research scientist at the University of Oulu, Finland. His research focus is on organic/inorganic flexible electronics, especially photovoltaics. He served as the Chair of IEEE GOLD Finland in 2010. Within one year Rafal and his team significantly increased the visibility of IEEE GOLD Finland.



### Ahmed Gamal – R8 GOLD Corresponding Committee Member

Ahmed is a Pre-Sales Engineer at IT-Blocks. He graduated from the Faculty of Computers and Information (Information Systems dept.), Helwan University. His hobbies include: graphic design, photography, swimming and travelling. Ahmed lives in Cairo, Egypt. ■





# IEEE GOLD Community News

From around the world

## IEEE Kerala Section GOLD Congress and Dinner

Rayees Amar Nishad (IEEE Kerala GOLD Affinity Group Chair)

The first ever GOLD Congress in the history of IEEE Kerala section was held at Mar Baselios College of Engineering and Technology, Trivandrum on 26th February 2011.

The event was a resounding success and marked an ideal kick off for GOLD activities in the Section this year. The entire Congress was centered on the theme 'Bridging gaps, Expanding networks.' The GOLD Congress did full justice to this focus and became an ideal venue to bridge the gap between the graduating students and the industry professionals and helped everyone present to expand their professional network.

One of the major highlights of the event was a session on Career Development by Amarnath Raja. It covered a wide range of topics ranging from how to choose the right career up to how to build a smart career in today's competitive world. Raja shared interesting and challenging episodes from his professional life to enlighten the delegates on the challenges and risks associated with building a successful career.

An awareness session on IEEE GOLD and its membership benefits to young professionals embarking on their professional careers was delivered by S Gopkumar, a veteran of IEEE Kerala Section. He shared his own personal experiences with the IEEE throughout the last 26 years. This included the roles and responsibilities that he undertook, such as Student Activities Chair and Section Chair.

Visan Kosy Varghese, South Asian GOLD clustering program coordinator and a well-known volunteer in Region 10 GOLD was flown into Kerala to deliver this all important session. This session covered all of the important aspects about GOLD starting from its objectives, vision and mission and the opportunities it offers to the young professionals. The delegates warmed up to the session and showed keen interest in knowing more about GOLD, the activities it covers and the resources they can explore for bettering their careers.



Rayees Amar Nishad

of Kerala Section. The three member expert panel for the discussion comprised of eminent personalities of Kerala namely Amarnath Raja, CEO, Inapp Technologies, Sasi P M Additional Director CDAC (Centre for Development of Advanced computing) and S Gopakumar Group Director, VSSC (Vikram Sarabhai Space centre). The following were the key points that came up during the discussion:

- The expectations of organizations and companies from young professionals
- Difference between Government and Private sector careers
- Role of IEEE in supporting professional and personal growth
- Role of IEEE GOLD in assisting young professionals in building a strong career
- Enhancing GOLD membership value

The discussions imparted wisdom and knowledge into the minds of young professionals who are on the verge of embarking on their professional career and made the participants realize the value of IEEE membership. It was a good opportunity for Kerala GOLD Affinity Group to develop an action plan for the upcoming year based on the needs and expectations of the GOLD members in the section.

The Congress was followed by a Networking Dinner in which ideas were exchanged and actions were planned for



Jaison Abey Sabu receiving his award.

a vibrant GOLD in the coming months. At this dinner, IEEE Kerala GOLD Affinity Group recognized the selfless and exemplary volunteerism of Jaison Abey Sabu. Jaison, one of the well regarded and reputed GOLD members of the Kerala Section was honored by Kerala GOLD Affinity Group for his exemplary contributions to IEEE for the last 7 years. Jaison has emerged as a great IEEE leader within the IEEE community and has gained immense recognition at the Section and Region 10 level for his exemplary contributions and commitment towards IEEE. Congratulations Jaison for this achievement. Kerala GOLD salutes you for exemplary contributions and leadership in IEEE. ■



Attendees at the IEEE Kerala Section GOLD Congress and Dinner

A panel discussion on IEEE GOLD and Career growth took place and was moderated by Jaison Abey Sabu, Student Activities Chair and a highly regarded GOLD member

**Do you have IEEE GOLD news?**

Email it to us at [goldrush@ieee.org](mailto:goldrush@ieee.org)!

# IEEE GOLD Affinity Group Profile

Featuring GOLD Affinity Groups from around the world

## Singapore GOLD Affinity Group

Founded **2003**

Chairperson **Nithin Salgunan**

Website **[www.ieeegold.org](http://www.ieeegold.org)**

### History

The Singapore GOLD Affinity Group chairperson, Nithin Salgunan has been working closely with the Singapore GOLD Affinity Group for four years. 2010 has been an exciting year for the Singapore GOLD affinity Group, where more than twenty-five volunteers showed interest to work with and participate in GOLD events and activities. 2008 and 2009 were almost dry years for Singapore GOLD Affinity Group, at a time when they were struggling to form a four member committee.

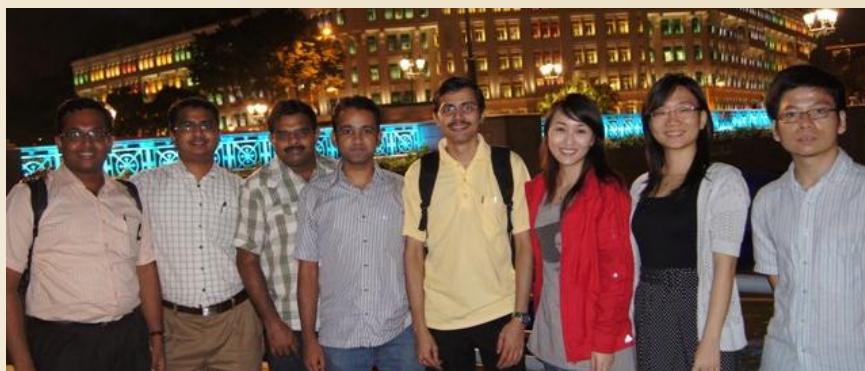
The Singapore GOLD Affinity Group executive committee was formed during the generation election of the Singapore Section. Deepu C John was Secretary and we had two female members: Yao Wei as Vice-Chair and Zhang Xin as Treasurer. The Singapore GOLD Affinity group also comprises of four general committee members, namely, Ganesh Neelakanta Iyer, Jerrin Pathrose Vareed, Pramod Kumar Pishardy and Xiaolei Chen.

### Events

Singapore GOLD maintains an up-to-date website, [www.ieeegold.org](http://www.ieeegold.org). This website has been very useful in attracting more volunteers and members to GOLD. We use the website to publicize and advertise GOLD events and to conduct pre-registration for all our events and talks.

Singapore GOLD AG had identified few themes for the year 2010 including: Entrepreneurship, Cloud Computing and Mobile Application Development.

Helene Fung, the then GOLD Coordinator for Region 10 visited Singapore and Singapore GOLD had a meeting with her on March 1st. She shared her experiences with GOLD,



IEEE Singapore GOLD Affinity Group Committee

activities, events and her participation in IEEE Region 10 Conference held in Philippines. She pointed out the general theme for GOLD in 2010 is all about Humanitarian workshops.

Singapore GOLD held its first technical event for 2010 on 19 May at National University of Singapore (NUS). It was a talk about Cloud Computing and it was named 'Sailing in the Cloud'. We had two speakers for the day: Ganesh Neelakanta Iyer (Research Scholar in NUS, GOLD AG

After few months gap, Singapore GOLD held its second event: a technical talk about Mobile Computing and Mobile Application Development. The two speakers were: Dr. Henry B. L. Duh (deputy director - research of KEIO-NUS CUTE centre

and faculty member of ECE department, NUS) and Chris Ismael (Developer Evangelist, Microsoft Singapore). Chris Ismael gave a good overview about the Windows Phone 7 and its nuances. This event was highly successful, drawing a larger crowd than the first technical event.

We had our team dinner meeting on 29 October at the River Walk Tandoor, an Indian restaurant at Clark Quay. The night was a memorable experience and a good opportunity for the non-Indian members to try Indian cuisine. We had a lively meeting while walking through the River Quay for almost an hour, after the dinner.

On 2 November 2010, Singapore GOLD held a seminar event by IEEE Educational Activities Board at Fusionopolis, Singapore. The seminar covered few topics like career goals and how to develop your management & leadership skills. ■

**"2010 has been an exciting year for the Singapore GOLD Affinity Group"**

Committee Member) and Jonathan Wong (Technology Evangelist, Microsoft Singapore). The event was very successful with more than 60 participants.

Singapore GOLD held a few committee meetings throughout the year and we used to communicate over the email. The different work location of members makes it difficult to meet often. We normally select a mutually convenient meeting venue.

**Would you like your GOLD Affinity Group profiled?**

Contact us at [goldrush@ieee.org](mailto:goldrush@ieee.org) for more information.



## The Political Engineer?

*The following article is based on an excerpt from the recently published book 'The View From Here—Optimize Your Engineering Career From the Start' (ISBN 978-1-4507-5055-4). More details on this book may be found at the website [www.theviewfromherebook.com](http://www.theviewfromherebook.com)*

Engineers involved in politics --- it seems both counter-intuitive and counter-productive. Why would one interested in politics bother to study engineering in the first place? Why not study political science or economics or law, which would seem to be much more appropriate for a life in the political sphere? While it would seem that engineers have no place in the political process, they have more to offer than you may realize and as the opening quote from N.W. Dougherty (past Professor of Civil Engineering at the University of Tennessee) implies, an awareness and even some detailed knowledge of politics and the political process can be a valuable asset.

A pertinent question raised by this opening quote is just what constitutes an 'engineering problem'. One perspective is that engineering problems represent the symptom or manifestation of a larger social policy issue. Consider for a moment such mega projects as the Suez Canal, Hoover Dam or the Transcontinental Railroad; none of

**'The ideal engineer is a composite ... He is not a scientist, he is not a mathematician, he is not a sociologist or a writer; but he may use the knowledge and techniques of any or all of these disciplines in solving engineering problems.'**  
**N. W. Dougherty, 1955**

them were ends in and of themselves but rather they were all executed for social policy reasons. To effectively execute the engineering, it requires the engineer involved to understand the reasoning behind it, whether that be enabling trade, empowering commerce or connecting communities.

In the West, politicians tend to be lawyers, self-made business-men or former heads of big business, but very few have a technical background of any kind. There are exceptions, notably the current Chancellor of Germany, Angela Merkel, who has a Science background and with governments in the East, it's an entirely different story. In China, every member of the uppermost tier of the communist party is an engineer. Having engineers involved in the upper echelons of government helps guide decisions made by leadership that may impact the health and well-being of technology-driven industries or the development of infrastructure.

Engineers are also extremely useful in the legislative process where government regulations are formulated.



Jimmy Carter (39<sup>th</sup> President of the United States) graduated with a B.S. and worked on the development of the Nuclear Submarine while serving as a Naval Officer.

Having a roomful of politicians with no technical background draft bills that affect the regulation of the power industry would not seem to be the smartest way to do things, and yet this is precisely what has happened in the U.S. Noting this, some engineers have carved out very lucrative careers translating technical documents and arguments into language politicians can understand and incorporate.

Engineers generally stay out of politics and the political process because it's not so cut and dry; there's no right and wrong, and negotiation is a part of the environment. Many engineering arguments are assessed in terms of their cost or economic impact rather than their technical merit and the political process and politics in general can also be a particularly fickle and unforgiving occupation where perception counts for more than facts. For the engineer mindful of these issues, they can be a very rare and powerful commodity in an occupation whose decisions frequently impact the technical side but rarely include those versed in its language, namely engineering. ■

### About the Author

Reece Lumsden is a Project Engineer for a large Aerospace Company in Everett, Washington. He holds a Bachelors degree in Electrical and Electronic Engineering, a Masters of Space Studies, an MBA—Technology Management, a Masters of Science in Systems Engineering and is a certified Project Management Professional (PMP) with the Project Management Institute (PMI).

He is a Senior Member of IEEE, lifetime member of AIAA and serves on the Board of Governors for the Aerospace and Electronic Systems Society (AESS) and AIAAs Systems Engineering Technical Committee.

## Improving the speed and quality of research via shared algorithm implementations.

David Doria - IEEE Member

Sharing and dissemination of ideas throughout a research field is absolutely critical. Recently, algorithms have become quite complex and ideas are tightly coupled to their implementations. The ability to share and obtain these implementations easily is crucial to the future success of many fields. My message is easily summarized - doing your part to enable the maximum potential of future research is as easy as sharing your code.

To understand the problem that is too frequently encountered in research, consider a simple invention, the pencil. One can explain the concept of a pencil in a single sentence: "A pencil is a writing instrument usually constructed of a narrow, pigment core inside a protective casing." Consider that you have thought of an incremental improvement to the pencil - you want to make it one color for the first half of the pigment, and another color for the second half! If you were the creator of the original pencil, this would be extremely easy to produce - simply use two different pigments in your pencil core production process. However, if you are not the creator of the original pencil, this is now an extremely complex task. You must re-address fundamental questions like "How do I compact graphite?". These questions have already been studied in detail by the original creator. It is not likely that he will let you use his pencil factory to try out your idea, so you must start from scratch.

This contrived example is surprisingly similar to the daily situations encountered by engineering researchers. Someone develops an algorithm and spends years perfecting its implementation. Now someone else wants to use that algorithm as a step in their research. The path rarely strays from:

1) Look online and find no publicly available documentation of the algorithm published by the author.

2) Email the author asking him to share his implementation.

3a) The author agrees! Now you realize the code has been written without regard for future users - there are no comments or reasonable API.

3b) More commonly, the author will not respond or cannot share the code. Either way, you must now move forward with nothing.

4) Decide whether to take your research in a different direction or implement the algorithm yourself.

5) Spend weeks fighting with the nuances that were not in the algorithm's publication.

Having experienced the above path on countless occasions, I have classified the problems into three categories:

1) Massive time expense for newcomers to a field. A new researcher cannot hit the ground running - they must work back several years and write previously published algorithms so he can compare new results as well as build on old ideas.

2) Research group cliques. When a lab has multiple researchers working together on parts of a unified problem, the effects of the pencil analogy are amplified. After a few years of multiple people working together on a single code base, incremental improvements are extremely quick to churn out, and nearly impossible to implement by an outsider. This leads to an even more intimidating barrier for a newcomer, which ultimately leads to a less diversified outlook on problems.

3) "Bad" re-implementations. The original researcher likely dedicated months or years to this particular algorithm. A new researcher simply intends to use it as a small piece in a larger puzzle. The implementation he creates in one week will not compare to the original implementation in efficiency or correctness. This leads to inaccurate comparisons in research results, as well as overall lower quality and speed of future research in the field.

Most journals and conferences do not currently require the submission of code. However, this trend seems to be changing. The 2010 Computer Vision and Pattern Recognition conference added some fields to the reviewer score card which ask about repeatability criteria ("Is the code and data publicly available?, etc) Another new concept is that of an online journal. For example, the Insight Journal [2] does a great job encouraging the submission of code to accompany submitted articles.

As I have outlined above, the lack of code sharing has several severe negative impacts on scientific research. Please fight this problem by publishing your code! ■

### References

- [1] <http://cvl.umiacs.umd.edu/conferences/cvpr2010/submission/>
- [2] <http://www.insight-journal.org/>



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## Microwave Curing of Guitar Finishes

Patricia Mellodge - IEEE Member, and Diane Folz

Musical instrument makers have long tried to identify the reasons that Stradivarius violins define tonal excellence. They know that the secret lies in the coatings applied to the wood structure. The coatings on musical instruments protect the wood from moisture and mechanical damage. However, coatings also change the vibrational characteristics of the woods and thus contribute significantly to the sound quality of the instrument.

Since the coatings are applied as liquids, they must be cured to provide effective protection. For many decades, the coatings on musical instruments were cured using radiant or infrared heating techniques. In the 1990s, Taylor Guitars introduced a new curing method for their instruments – ultraviolet (UV) radiation. With this new method, they were able to cure specially designed coatings much more rapidly. Ultraviolet radiation had been used for quite some time to cure polymers, but this was the first time it had been applied to musical instruments. Known for their innovation, Taylor was open to another new idea by researchers from Virginia Tech and the University of Hartford – use microwave energy to cure coatings.

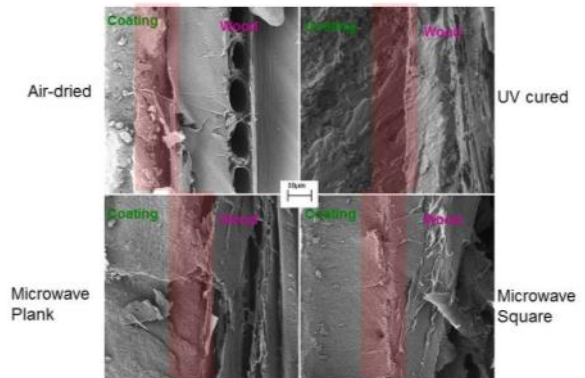
Over the past three decades, engineers have been developing microwave processing as a tool for heat treating a number of materials. Advantages associated with microwave processing include:

- Rapid and uniform processing – Microwave energy can heat a target material quickly and with a uniform temperature profile throughout.
- Volumetric or internal heating – Microwave energy penetrates into the material and heats from the inside out. (Conventional radiant heating heats from the outside in.)
- Selective heating of specific phases – Materials with high dielectric loss will absorb more energy than those with lower losses, allowing for designed heating of specific parts of the product.

Unique properties unachievable with conventional methods – Because of the different heating mechanisms associated with microwave energy, it is possible to obtain different mechanical and/or physical properties in some materials (i.e. hardness, strength, density).

For curing guitar coatings, the selective heating and internal heating mechanisms are the keys to successful application. Selective heating is important because it is the coating and coating-wood interface that must be targeted. If the wood heats significantly, it may burn or become brittle. Internal heating is crucial as it allows for the interfacial layers to cure first, followed by the surface layers of the coating. Without internal heating, most energy absorption would occur at the surface of the coating because the penetration depth of high-frequency UV waves is very low.

Curing only the top layers of the coating also makes it more difficult for the volatiles (materials that tend to burn off at relatively low temperatures) to evolve from the interfacial layers, slowing the curing process further. Micro-



Scanning electron micrographs of maple coated with polyurethane and cured using different processes (200x magnification).

wave processing may be the solution to provide this internal heating.

An interdisciplinary research team is studying the microwave curing process and its effect on instrument vibration. A microwave process has been developed to cure water-based polyurethane coatings on maple samples. Results of these coating experiments are illustrated in Figure 1. In the air-dried and UV-cured samples, the demarcation between the coating and wood surface is clear. However, in the microwave-cured samples, the polymer-wood interface is not clear. The polymer penetrated the wood surface and was cured up to several microns in depth. The coatings also differed in thickness, with the UV samples at approximately 100 microns versus 50 microns for the air-dried and microwave-cured samples. Despite these differences, the vibrational characteristics were similar (Table 1). These preliminary findings show that the microwave process is a potential alternative and may provide a more complete cure than the current methods. There may also be an environmental advantage since the polymer coating used in microwave processing emits lower levels of volatile organic compounds (VOCs).

Sample	Average Mass (grams)	Average Damping (%)
Uncured	132.5	1.613
UV Cured	149.0	2.260
Microwave Cured	133.5	2.287

Vibrational characteristics of bare maple and maple cured using UV and microwave methods.

In summary, microwave energy is being studied as a replacement technology for UV energy to cure wood coatings on musical instruments. The increased penetration depth of microwave energy over UV energy may lead to more complete curing of the polymer coating on the wood instrument body, while the selective heating phenomenon can leave the wood structure of the instrument relatively unaffected. This research is being conducted jointly by an interdisciplinary team at Virginia Tech, the University of Hartford, and Taylor Guitars. ■

## Differentiating Yourself as an Engineer

Jacob Beningo—IEEE Member

The field of engineering has always been a competitive field to work in but recently with down turns in the global economy and outsourcing of engineering services to foreign companies, our field has become even more so as we compete for fewer and more specialized opportunities. So how can a young motivated engineer rise above the background noise and get the attention of employers? In my experience, there are three primary ways to turn heads; earning an advanced degree, becoming a licensed professional engineer and earning an IEEE professional certificate.

Earning a bachelor's degree in the engineering field is quickly becoming the bare minimum to get a foot in the door with an employer. The rapid rate at which technologies are advancing is forcing engineers to continually learn new skills and adapt to volatile market conditions. Earning an advanced degree goes beyond the basics as the engineer learns the techniques necessary to stay current, innovate and tune their raw potential. Engineering students are no longer simply limited to Master of Science degrees with degrees such as Master of Engineering or Master of Business Administration being highly sought after by employers. These degrees not only get an employer's attention but have the potential to provide access to higher level jobs and salaries that would otherwise be inaccessible. According to the U.S. Bureau of Labor Statics, engineers with advanced degrees on average earn \$200 more per week.

However, advanced degrees aren't for everyone and luckily for us it is not the only option available. Becoming a licensed professional engineer is an outstanding way to show that you not only have book smarts but that you have the experience to back it up. Professional Engineering Licensing is overseen by the National Council of Examiners for Engineering and Surveying (NCEES) which promotes uniformity of the licensure process across the United States. Each state board has its own requirements for licensure so it is a good idea for interested engineers to check the NCEES website for their own state.

Attaining the license involves meeting standards in education and experience such as a bachelor's degree from an A.B.E.T. accredited university. After receiving the bachelor's degree, the engineer takes the Fundamentals of Engineering (FE) exam which covers basic engineering principles. The exam is closed book but a booklet of equations and constants is provided that pertains to what is needed during the exam. During the afternoon session, there is an option to continue with a general skills engineering exam or take an exam focused on a particular discipline such as electrical engineering.

Prior to taking the Principles and Practice of Engineering (PE) exam, the engineer must meet the states' work

experience requirement. This is usually four years or more of progressive work experience which sometimes must be performed under the supervision of a professional engineer. Once again it is wise to check your states' requirements. The PE is an open book exam focused on a specific discipline of engineering that once completed allows you to work as a professional engineer.

If neither of the previous two options is appealing then perhaps an IEEE professional certificate will be more appetizing. These certificates demonstrate that the engineer has skills and knowledge that are essential for professionals working in a variety of fields. IEEE has developed a number of Professional Certificates written by engineers working in the industry which allows certified engineers to be recognized for their abilities by a third party. Earning IEEE certification credentials can enhance professional credibility, increase opportunities for career advancement and demonstrate commitment to the profession. IEEE

offers a number of certification programs such as the Certified Biometrics Professional (CBP), Certified Software Development Associate (CSDA), Certified Software Development Professional (CSDP) and Wireless Commu-

nication Engineering Technologies (WCET). Each program has its own requirements based on minimum amounts of education and experience.

In highly competitive and global markets it is essential for an engineer to differentiate themselves from their peers. We've briefly glanced at three of the most popular options currently available to engineers. While none of these options could be deemed "the easy way", they are a way to show that you are equipped for the challenges that face this generation of engineers. ■

### References

[http://www.ieee.org/education\\_careers/education/professional\\_certification/index.html](http://www.ieee.org/education_careers/education/professional_certification/index.html)  
<http://www.ncees.org/>

### About the Author

Jacob Beningo is CSDP certified, Senior Engineer at Badenoch in Southfield, MI and part-time consultant.





# IEEE GOLD Society Profile

Featuring IEEE Societies supporting Young Professionals

## IEEE Electron Devices Society

Ravi Todi, GOLD Representative



Ravi Todi

EDS, the Electron Devices Society, is a member-led, member-driven organization, within the IEEE, devoted to advancing the field of electron device science and engineering.

EDS was founded in 1952, shortly after the most important invention of the past century, the transistor. The work of Bardeen, Brattain, and Shockley and subsequent developments by other giants in the field of electron devices has, without exaggeration, revolutionized the way humanity lives, works, and communicates. The mission statement of EDS, embodies the impact of our field. "Promoting excellence in the field of electron devices for the benefit of humanity" and the society realizes this mission in a myriad of ways:

### Conferences

EDS sponsors over 150 conferences and 80 Distinguished Lecturer workshops and Mini Colloquia worldwide each year.

### Publications

EDS publishes, or co-publishes, over a dozen outstanding, industry-leading periodicals and journals such as Transactions on Electron Devices, Electron Device Letters, and the new IEEE Journal of Photovoltaics.

### Awards and Recognition

To help recognize outstanding achievement in the EDS field of interest, EDS distributes awards, grants, scholarships, and fellowships to engineers working in academia and in industry, as well as to students at various levels in their educational pursuits.

### A truly global society

EDS is a truly global society. We have over 10,000 members worldwide, with more than 150 chapters around the globe: 65 in the Americas; 50 in Europe, Africa, & the Middle East; and 40 in Asia and the Pacific. Our 10,000+ members include academics and industry leaders such as the winners of the 2009 Nobel Prize in Physics including Charles K. Kao for his pioneering work in optical fiber technology and Willard S. Boyle and George E. Smith for inventing a digital image sensor – the charge-coupled device. Herb Kroemer, also a long-time EDS member, was awarded the Nobel Prize in 2000 for developing semiconductor heterostructures used in high-speed- and optoelectronics.

Our membership is as diverse as it is accomplished. A vital part of what makes EDS a great community is our strong student and GOLD member base.

In an effort to increase value for young professionals, EDS has established a host of programs and activities. As the EDS IEEE GOLD representative, I am happy to report on these new initiatives.

### EDS GOLD Committee

The EDS GOLD AdHoc Committee is dedicated to better serving students and young professionals. This committee strives to:

- better serve the needs of students and recent graduate professionals
- involve young members in society activities
- effectively bridge the gap between student, GOLD and senior members
- increase and provide sustained membership growth
- help young professionals with career opportunities within EDS' field of interest

### EDS Student/GOLD Ambassador Program

The Student/GOLD Ambassador Program is a joint initiative from EDS GOLD and Education committees. The key objectives of this program are to increase student branch chapters and provide sustained growth in membership by better serving the needs of students and young professionals.

### IEEE Electron Devices Society Early Career Award

EDS approved the establishment of an Early Career Award, at its June-08 AdCom meeting, and the first award was presented in 2009.

EDS Early Career Award is awarded annually to promote, recognize and support Early Career Development within the Electron Devices Society's field of interest.

To be eligible, the candidate must be an IEEE EDS GOLD member making contributions in an EDS field of interest area. The nominator must be an IEEE EDS member. Previous award winners are ineligible. A stipend of US\$1,000, a certificate; and if needed, travel expenses to attend the award presentation at the annual EDS GOLD Lecture held in conjunction with the IEEE International Electron Devices Meeting (IEDM) is available.

Any initiative is only as successful as volunteers behind it. If you are interested in becoming active and getting involved with any of these new initiatives, please contact me immediately. Please send me an email indicating what you would like to be involved with, including your short bio. If you are interested in serving on the GOLD committee, you will be expected to attend at least one meeting a year, and there is typically no financial support available to attend this meeting. For any additional information please contact Ravi Todi (rtodi@ieee.org). ■

# IEEE GOLDRush Notices

## Engineering for Change Debuts with Launch of Online Platform



Engineering For Change Logo

IEEE, ASME (American Society of Mechanical Engineers), and Engineers Without Borders USA have launched EngineeringforChange.org, an online platform that provides engineers, technologists, non-governmental organizations (NGOs) and local community advocates the tools to collaboratively address humanitarian and global development challenges. Members of the Engineering for Change community – working together – will design, apply and share knowledge to develop technical solutions for humanitarian and global development challenges in local communities throughout the world.

The E4C Web site is designed to provide users with a convenient and diversified way to learn, collaborate and share knowledge – leading to enhanced problem solving. As part of this growing community, E4C users will be able to:

- post challenges and problems to gain insight, perspectives and experience from other E4C community members;
- work collaboratively and virtually on project teams;
- utilize a growing, open-source archive of catalogued solutions and related information submitted by organizations from around the world;
- keep updated with news and information related to the nexus of engineering and global development;
- learn from expert practitioners on applying engineering in developing communities;
- track projects of interest.

To learn more or get involved, visit the [Engineering for Change Web site](#), [Facebook page](#) or [Twitter feed](#).

Newsroom announcement: [http://www.ieee.org/about/news/2011/25january\\_2011.html](http://www.ieee.org/about/news/2011/25january_2011.html) ■

## IEEE GOLD EMC Symposium GOLD Event

The IEEE Electromagnetic Compatibility Society (EMC) is excited to invite you to the first ever IEEE EMC Symposium GOLD Event. If you have graduated from your first professional degree within the last ten years, then you are eligible to register for the EMC Symposium GOLD Event. This event will be held at Long Beach, CA, USA on 15 -19 August 2011. The first ten years after graduating from your first professional degree can be very challenging. It is common for young and recent graduates to be searching for employment, planning their professional growth and career development, and changing their life status.

Come and join us for a fun evening where you will learn more about GOLD, have an opportunity to enter in a raffle and take part in an ice cream social following the

welcome reception. This is a great opportunity for you to meet other young professionals, exchange contacts, discuss stories of work (and perhaps find out how similar the stories are, no matter where you work at) and your hobbies. You will also have the opportunity to co-mingle with members of the EMC Society Board of Directors.

If volunteering is your thing, we have a number of volunteer opportunities in GOLD EMC.

Want more? Then why not also join us in our first GOLD session where you will hear from some remarkable speakers in the EMC field. They will be offering guidance on how to get ahead at work, how to market yourself and much more. Visit the EMC 2011 website at <http://www.emc2011.org/> ■

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# IEEE GOLDRush Notices

## IEEE GOLD Webinars



GOLD offers webinars for members on topics related to professional development, humanitarian efforts, and technical knowledge. GOLD webinars are scheduled monthly and are recorded for on-demand viewing. For more information on GOLD Webinars, please visit this website:

[http://www.ieee.org/membership\\_services/membership/gold/events/index.html](http://www.ieee.org/membership_services/membership/gold/events/index.html)

Webinars in 2011 will continue to cover career development topics that will help IEEE young professional members learn skills to enhance their professional growth.

If you have suggestions on topics or would like to be involved in the development of IEEE GOLD webinars, either as a volunteer or a speaker, please contact [gold@ieee.org](mailto:gold@ieee.org). ■

## IEEE GOLDRush Call for Articles: June 2011 Edition

IEEE GOLDRush invites you to submit an article for publication in the June 2011 edition.

The article topic(s) shall be of interest to young professionals, the primary readers of the publication. Articles must be strictly no more than 700 words and should be sent to the IEEE GOLDRush editor at [GOLDRush@ieee.org](mailto:GOLDRush@ieee.org) on or before 6 May 2011. Please feel free to include captioned photos or pictures with your submission. All articles and photo(s) will be peer reviewed and edited if necessary.

Full submission guidelines must be adhered to and can be found at <http://www.ieee.org/web/membership/gold/newsletter/goldrushPolicy.htm> ■



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Motivated by IEEE's core purpose to foster technological innovation and excellence for the benefit of humanity, the GHTC focuses on applying technology to solve the world's most pressing humanitarian and development challenges. Papers will be presented by renowned individuals in the field, and highlight new technologies, business models, and social entrepreneurship initiatives that help improve the livelihoods of the under-privileged. GHTC hopes to stimulate the growth of a worldwide community that places priority on developing technology for sustainable human prosperity.

**Call For Papers**  
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More Information: [ieeeghtc@ieee.org](mailto:ieeeghtc@ieee.org)

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We look forward to hearing from you!