

GOLD*Rush*

December 2011



Featured in this issue

Women in Engineering

Engineering Social Change

Kerala GOLD Affinity Group

IEEE Electromagnetic Compatibility Society

GOLD News Around the World



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From the Editor

Timothy Wong

As Young Professionals, we are accountable for our actions in no lesser terms than experienced professionals. In some cases we are at an initial disadvantage because of our lower levels of experience and some of the negative perceptions that are held towards younger generation professionals. The news isn't all bad though as there are many more senior professionals both still in service and retired, who are both willing and able to mentor Young Professionals as they recognize that Young Professionals are the future of the profession.



This will be my last edition of GOLDRush as the Editor-in-Chief. It has been a pleasure to be in this role especially with the new working relationships and friendships that have resulted. I have developed both personally and professionally in this role and feel it is time to provide this opportunity to other deserving volunteers. I have every confidence that my successor, Stuart Bottom will continue to strive for excellence in producing GOLDRush and ensuring that it evolves with the needs of our readers. I would like to thank the GOLDRush editorial team, MGA GOLD committee, IEEE staff and our reader's for supporting the production of GOLDRush. ■

Timothy Wong
2011 Editor in Chief

Welcome from the 2011 MGA GOLD Chair

William Sommerville



Dear IEEE GOLD members,

As we come to the end of 2011, I would like to thank you for being a member of IEEE and making the most of your membership through actions such as reading this newsletter. I get a lot of personal fulfillment from being active in IEEE and I hope that everyone reading this can find their unique combination of benefits, value, and fulfillment in their membership.

As we go into 2012, I will transition to "past chair" as Eva Lang becomes our first female GOLD Committee Chair. I have full confidence in her leadership and we are both very happy that her appointment came with 6 months of notice, giving her the opportunity to start at full speed. There will be other transitions in various IEEE volunteer positions at this time, so please keep this in mind as you correspond with your section, region, societies, etc.

I am really looking forward to being past chair next year. I will have fewer direct responsibilities and will be able to delve deeper into areas of GOLD that I enjoy the most. I will continue to serve as a VP in the Vehicular Technology Society as a GOLD Liaison - where I first began volunteering in IEEE. I hope that those of you

who are serving as volunteers in GOLD will one day transition to other posts within IEEE that you will love just as much.

The other big year-end event in GOLD now is the start of nominations for the GOLD Affinity Groups Hall of Fame Award. It is important to make sure your events are reported by the end of the year and work with your GOLD Regional Coordinator to get nominations in before February 15 2012. I am looking forward to seeing the nominations so I can learn about all the amazing things going on in our Affinity Groups. Our Affinity Groups remain the bedrock of GOLD within IEEE and they are widely recognized as bringing energy and inspiration to IEEE and its members around the world.

Best of luck to you in 2012! ■

Will Sommerville
2011 MGA GOLD Committee Chair

Front cover
photo credit:
Timothy Wong

Featured Article: Diversity in Engineering

Shimul Sachdeva

Shimul Sachdeva graduated from the University of California, Berkeley in May 2010 with a B.S. in Electrical Engineering and Computer Sciences. During her time at Berkeley, she was heavily involved with the IEEE Student Branch and served as an executive officer there. She currently works for Microsoft as a Software Development Engineer on the Windows Phone Services team. In her spare time, she enjoys music, cinema, travel, water sports, and snowboarding. She currently lives in Seattle, Washington.

A few weeks ago, as I was walking back after a team lunch at work, a senior co-worker, Michael, caught up with me and said in a sympathetic tone, "I couldn't help but notice you were the only girl on the table of 13 people. If I were the only male surrounded by women, I'd be so uncomfortable." The comment did two things: it reinforced the well-known theory of women being underrepresented in the technology industry and it made me realize how I had unknowingly grown immune to that fact.

As a computer science student, I often found myself to be one of two or three girls in classes of 20 or more. I remember having moments of doubt – am I in the right field? Did I miss the memo that girls are not supposed to be engineers? Will I ever make it big here? I found myself making deliberate efforts to network with other female engineers. Fortunately, I was able to find peer support groups through my involvement with student organizations. In particular, the IEEE Student Branch became a pivotal part of my college experience. Through my involvement

with IEEE, I was able to validate myself as an engineer and find an identity people could relate to. Not only did I discover like-minded women, I took on leadership roles and built a strong network of friends and professionals.

At work, I face a different set of challenges. I make conscious decisions every day – making sure not to over-dress, controlling the urge to make feminist remarks (to avoid bringing up the topic), and feeling the need to participate in beer breaks without being particularly interested in doing so. While these are personal trials I face passively on a daily basis, Michael's comment made me realize that I may have internalized the status quo. It also made me wonder if I was subconsciously conforming myself to become more accepted by my male peers.

My six years as a female engineer have not exactly been comfortable as I have constantly struggled to prove myself and find my place. But my intention is not to complain. Minorities, in themselves, are not bad for society; in fact I would argue there is a certain pride in being one. It's when there is active or passive discrimination and/or nurturing of stereotypes based on them that it becomes an issue.

The challenge for women engineers is rooted at a basic level. The stereotypical image of a computer scientist as an overweight, unkempt male playing video games for hours on end is not exactly inviting. There is a need for us to correct this image and encourage more young women to consider engineering. With the introduction of the Computer Engineer Barbie®, this is already beginning to take effect. Coupled with the ever-increasing number of support groups for female students and entrepreneurs, there is a rising sense of optimism. People like Marissa Mayer and Sheryl Sandberg are inspiring leaders and pioneers of this movement in our generation. As I find my

own role in the push to prettify gender ratios, I am positive about the future.

Allow me to be a women's libber for a moment and quote Tina Fey from a recent movie, "Just remember, whatever you're doing, I'm doing it in heels." To all my fellow female engineers: be proud of who you are and realize your potential to be so much more. It may still seem as if the sun goes around the earth, but we all know better. ■



First in a series

This article is the first in a series on "Diversity in Engineering." Future articles in the series will feature authors from a variety of backgrounds discussing what it's like to be an engineer from their perspectives. We welcome your submissions on this topic. To submit an article, e-mail goldrush@ieee.org.

IEEE GOLD Member Profile

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

Om Perakash

Alma mater **Australian National University** Current location **Canberra, Australia**

Current career and job: **Data Analyst at General Electric Energy**

Areas of interest: **Wireless Communication, Project Management**

Career description:

I received my Masters of Engineering (Wireless Communication) degree in 2011 from Australian National University (ANU). Prior to studying at ANU, I completed my Bachelor of Telecommunication Engineering degree from National University of Computer and Emerging Sciences (NUCES) Karachi. During my studies, I worked on several projects. Some of them were very interesting and challenging such as solving the traffic problems in dense populated areas; an example of which I recently finished was focussed on Body Area Networks (Wireless communication). The aim of this project was to explore the possibility of beam formation in Body area networks to increase battery life. This has a good number of applications in healthcare, which can potentially assist many in need.

I worked with Procter & Gamble as Process Optimisation Analyst in Karachi, Pakistan after finishing my Bachelor degree. The start point of career was challenging and I used to work minimum of 10 hours a day on average, which is considered normal sometimes in Pakistan. I recently joined General Electric (GE) Energy Company in Canberra as Data Analyst. The work I am currently doing involves extensive analysis of energy-sector data, where I analyse the data received from customers and build models. After building the model, I ensure the proper migration of data from one system to another.

What keeps me motivated with this job is the challenging environment which provides the opportunity to learn new things every day. Having the background in Telecommunication and wireless, where components are tiny, I love the experience

of learning more about power electronics and interesting projects.

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

When I get some free time, I listen to music, hang around with friends and network to make new friends. Bowling is what I love the most, where I potentially spend a good amount of money; Photography is another passion of mine - I acquired this recently after visiting so many beautiful places. While visiting several countries, I have also collected more than 20 different currencies. I also love travelling when it involves fun and meeting new people. I enjoy exploring new cultures around the world and making new friends.

I also like to volunteer, and have volunteered for IEEE and several other organisations including serving as International Student Ambassador to Australian Capital Territory government. Within IEEE, I have served at several positions and currently I am serving as IEEE Region 10 Student Representative, representing 40,000+ Region 10 student members to IEEE management. IEEE has provided me platform to make friends around the globe and has helped me to gain intrapersonal and communication skills which are mandatory in today's world.

Words of advice for Young Professionals

After you finish your studies and start working for a company, it's a completely different environment than you studying at school, and sometimes a completely different world. Both worlds have their positives and challenges. In the profes-



Om Perakash

sional world, I have observed that employers do understand that you are new to working environment but still there are certain expectations like "Dedication", "Motivated to work", "Interested to know more and going beyond", "Taking the work seriously", "fast learner", and "delivering the output".

The above expectations are true and your boss in first month generally uses them to work out what kind of worker you are. It is really important for you to satisfy the above expectations because first impression is very important and are long lasting.

In summary I would say Network with your colleagues, Get to know the people around you including your boss, Stay focussed on your career, Work smart, and deliver outputs. ■

Do you know someone we should profile for GOLDRush?

Get in contact with us at goldrush@ieee.org. Include their contact details and why we should feature them.

IEEE GOLD Community News

From around the world

IEEE Day events in Croatia

Ana Katalinic, IEEE GOLD Croatia Affinity Group

Two consecutive events were organized on the occasion of IEEE DAY 2011, both being held at the University of Zagreb's Faculty of Electrical Engineering and Computing in Zagreb, Croatia.

The main event, another STEP (Student Transition & Elevation Partnership), took place on October 6. Following this year's IEEE Day motto 'Empowering Members to Create the Future', the program was designed to answer questions that generally confront engineers at the beginning of their careers, but also covered some important topics for young professionals with several years of experience.

The first part was a talk about MBAs and social networking given by Ana Jergovic and Lana Dojcinovic from Cotrugli Business School. As most of the audience were (or are aspiring to be) engineers, this talk was focused on the benefits and opportunities for an engineer in pursuing a more business-orientated formal education while also emphasizing the importance of social networking, business contacts and social skills for one's career.

Afterwards, there was a video simulation of a job interview, organized by Virtual Career and Knowledge Day, a regional event also taking place that week. A volunteer from the audience was interviewed by a human resource professional, who asked several typical questions. This mock interview was filmed and later played and commented for the audience. This very attractive, fun and interactive workshop gave the audience a real-life example of what to expect and how to (or how not to) act at job interviews.

The main objective of this event was to present GOLD/PA team members as young professionals, successful engi-

neers and IEEE volunteers. During the whole event, five members of GOLD/PA team, who are currently actively involved in organizing and managing IEEE events, acted as panelists/moderators to answer questions from the audience, sharing their own professional experience and pointing out the benefits of being an IEEE volunteer

The event had a cosy, informal atmosphere with snacks and drinks available for all participants. In total, there were 43 attendees (19 IEEE members and 24 non-members).

Two days later, 22 members of GOLD and Student Branches from Osijek, Rijeka, Split and Zagreb gathered for the first GOLD & SB Congress in Croatia. This full-day event brought business and pleasure together. During the official program, there was a lecture about writing a scientific paper given by Iva Bojic, Ana Petric and Vedran Podobnik and a short presentation of an extremely interesting scientific project given by one of our GOLDies, Igor Brkic. Later, there was quite a fruitful discussion session about past and future planned IEEE activities, followed by the unavoidable informal social networking. In the end, the most valuable part of this event was the fact that it had triggered better and more profound cooperation between Student Branches and GOLD in different parts of Croatia, which, we hope, will have many benefits for the IEEE as a whole.

Both events were organized by IEEE Croatia Section GOLD Affinity Group and IEEE Student Branch Zagreb, supported by Student Branches Osijek, Rijeka and Split and coordinated with Professional Activities and Industry Relations projects. ■



IEEE GOLD Community News

From around the world

IEEE GOLD Cape Town IEEE Day and GOLD STEP Event

Joyce Mwangama and Shaun Kaplan

The IEEE Graduates of the Last Decade (GOLD) affinity group of Cape Town hosted a social event on 6 October at the University of Cape Town. This event attracted IEEE members and other Electrical Engineering students from the University of Cape Town, the Cape Peninsula University of Technology and the University of Stellenbosch.

Two keynote speakers participated in the event. The first was Irshad Khan of Hot Platinum, who spoke on his experiences as an electrical engineering entrepreneur.

Irshad is one of the founders of Hot Platinum Pty. Ltd, a technology company focused on the development and manufacture of innovative induction technology for the processing and analysis of base and precious metals. The company has a strong research base and a proven ability to manufacture award winning technology for the mining, refining, jewellery, dental, laboratory, and commercial heating markets.

The second speaker was David Hislop of Korwe Software, who spoke on engineering professionalism, the importance of networking, and IEEE. David has a PhD in Physics from the University of Cape Town, and is the founder and business development director at Korwe Software. Korwe produces software solutions for businesses that want to open up mobile spaces for their customers. David is also a senior member of IEEE and is currently chairing the IEEE Computer Society of South Africa.

The rest of the evening was dedicated to the student members interacting with representatives from Peralex, Communicate, Engineers Without Borders, Eaton, City of Cape Town, Jembi Health Systems and Grintek Ewation. At the end of the function, one student won an Android Tablet and students were encouraged to continue with IEEE membership and activities once they had graduated. ■



IEEE STEP in Houston

Timothy Wong (Region 10 GOLD Coordinator) and Kheng Swee Goh (Region 5 GOLD Coordinator)

In today's scary and uncertain world of work, students are in a position where they could benefit from guidance from experienced professionals. A graduating students reception was held at the University of Houston, Texas on December 13th 2011 to help students transition from life as an undergraduate to working in industry or postgraduate studies. The event was MC'd by Student Branch Chairperson, Ruben Gomez, and presented by Kheng Swee Goh, Region 5 GOLD Coordinator who provided edutainment on the importance of IEEE and ongoing professional development. A number of prizes were presented to stu-

dents who actively participated in the evening activities. The Region 10 GOLD Coordinator, Timothy Wong, happened to be visiting Houston on vacation and shared his perspectives as a Young Professional and life as an IEEE volunteer. Overall, this event successfully engaged the graduating students who will go on to continue their professional development with IEEE. ■



IEEE GOLD Community News

From around the world

Region 8 GOLD in 2011

Rafal Sliz, Region 8 GOLD Committee



A year of hard work is over and it is time to recall all the successes and failures of Region 8 GOLD in 2011. The year started slowly with a couple of Skype meetings focused on planning and organization issues. A new Region 8 GOLD Committee was introduced to all GOLD Chairs during a Skype teleconference in March. Later,

three additional Skype meetings with Region 8 GOLD Chairs were organized to foster interaction and gain information about requirements and concerns of GOLD Chairs. In April, committee members had a great chance to meet face-to-face for the very first time at the Region 8 meeting in London. Since then, all the projects - small and large - acquired an incredible momentum. Freshly established IEEE GOLD social networks on Facebook, LinkedIn, and Tweeter have generated great interest, especially among young professionals. The GOLD Book was the highest priority project and it was finalized and presented with great success in August.

After the Sections Congress in San Francisco, the GOLD team needed a short break to recover and strike out with renewed energy during IEEE Day celebrations in October. This worldwide event, coordinated by the IEEE Day team and with the participation of Region 8 GOLD committee members and IEEE staff, was one of the greatest achievements of the year. Region 8 GOLD Coordinator, Salima Kaissi, proudly represented the committee at the UKRI Student Branch Congress in London and at the biggest GOLD event in the Region – the Egyptian Engineering Day.

Among all these success stories, there is one tiny failure. Due to organizational and technical problems the new Region 8 GOLD website is not ready. Nevertheless, the Region 8 GOLD Committee is aware of the importance of Internet communications and the website project will be prioritized next year. Moreover, close interaction with the SAC and PA Committees will be essential to achieve a high level of cooperation within Region 8.

Finally, in the summer of 2012 all the joy, happiness, creativity, and craziness will converge in Madrid, Spain, as we participate in and celebrate the IEEE Region 8 Student and GOLD Congress. It is too early to predict how innovative and creative the Region 8 GOLD team will be next year,

but based on the experience of 2011, we expect miracles. So, let us wish good luck to the Region 8 GOLD Committee!

■
- Rafal Sliz
Region 8 GOLD Committee



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IEEE GOLD Community News

From around the world

Oulu's Nuclear Future—the largest event in GOLD Finland History

Rafal Silz, IEEE GOLD Finland

Sometimes success is achieved through luck, other times through shrewd management of a situation. This time, GOLD Finland achieved it through both. Recently the Finnish government decided to build a seventh nuclear plant in Finland, with construction on the site scheduled to begin in 2012. In the wake of the Fukushima catastrophe in Japan many countries, particularly in Europe, have questioned the safety of nuclear power and the associated risks in relation to the benefits. This event had been planned since the beginning of 2011, and the Fukushima catastrophe only encouraged the GOLD Team in Finland to make the event even more spectacular. It ended up being the largest event in history of IEEE in Finland. Underscoring the timeliness of the event, on the very same day it was held the construction company in charge of the Finnish nuclear plant, Fennovoima, released information on where the plant will be built.

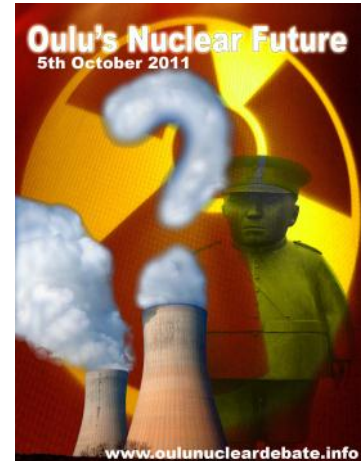
Careful planning is key to every good event. The plans for this one were ambitious from the beginning – starting



with the topics, speakers, media coverage, venue, attractions and ending with the demanding audience. Nuclear energy is a very controversial topic and the most crucial aspect of planning the event was the selection of speakers. To cover the whole spectrum of opinions, representatives from Greenpeace, Fennovoima (Nuclear Power Company), the City of Oulu, and the University of Oulu were invited.

The event was not just another lecture or discussion on the pros and cons of nuclear energy. Rather, participants were invited to consider how the nuclear plant might affect their life. The GOLD Team designed a separate website where all concerned citizens could, before the event, familiarize themselves with the content of the event, the speakers, and even submit their questions for the debate. This time, the event organizers carefully marketed the event and generated substantial media coverage. The event was considered so important that the PR officer of the University of Oulu was charged with managing the media coverage. As a result, many journalists from newspapers, radio, and regional and national TV were present.

What is usually every event organizer's dream this time became a curse – the amount of participants overwhelmed the highest hopes of the organizers. The event was so popular that the intervention of security officers was required to limit the maximum number of participants to that allowed by fire regulations.



During the event, each speaker gave a 15 minute presentation. A panel discussion followed the presentations. Although, the topic was very controversial, the host – Professor Riitta Keiski – managed to keep the discussion vibrant and polite for all parties.

After the event, the organizing committee, speakers, and invited guests went to dinner where the debate continued in a more informal atmosphere. Notably, two days later the local newspaper also published an article which was the natural continuation of debate at the event. The success of this endeavour demonstrates that it indeed possible to organize an enormously popular event on a risky and controversial topic – with a positive outcome!

Therefore, organizers didn't miss the opportunity to publish an article about organizing events with high risk factors due to controversial topics.

- Rafal Silz
IEEE GOLD Finland ■



IEEE GOLD Community News

From around the world

IEEE New Zealand North GOLD Project Management Workshop

Happy Xia, New Zealand North GOLD Committee

Good project management skills are extremely important for young engineers in order to lead, and manage a team, and be successful in life. The New Zealand North GOLD Affinity Group invited Loreen Ozolins¹ to conduct a project management workshop at the University of Auckland. The purpose of this event was to provide young professionals with an opportunity to learn and apply project management skills in a fun and practical environment. The 3-hour workshop was well attended by GOLD members, as well as student members and young professionals from industry.

The workshop began with an opportunity for the attendees to network with each other over some refreshments. Loreen then kicked off her presentation with an overview of project management and its importance in today's world. The agenda for the workshop included key topics such as project scope, scheduling, resource management, work breakdown structures and project deliverables.

Attendees have an opportunity to learn and put project management skills into practice through group-work projects. Loreen presented the key concepts of project management relevant to each group activity. In our groups of four, each group was asked to create a team name. "Smoke signals", "Team-Wat-A-Park", "Skynet" and "Travel Eye" were just a few. We also formulated a project scope and took on the challenge of thinking 'outside the box' while considering the practical aspects of a good project scope. Each group was then required to complete a series of exercises with an increasing level of complexity. A sequential project setup procedure was explained by Loreen and applied to the project activity. This included defining the project deliverables, work breakdown structure, allocation of tasks, milestones, resources, scheduling, quality review and tracking process with a network diagram.

Each group had an opportunity to work through their project step by step, from the initial proposal to the final deliverables with Loreen's assistance. Loreen also addressed questions from the audience as she progressed and delivered the training.

The feedback received during and after the event showed that it was a great success. One important concept learnt was the 'project management triangle'. Its importance became very evident for some of us working in industry as it is a common misconception that's ignored in the real world and scope creep not only affects time and budget but also the quality and outcome of the project. The workshop highlighted the importance of a constant check of the three constraints of the 'project management triangle' for delivering a successful project. The event concluded with a lucky dip draw and six attendees were gifted popular IEEE merchandise. ■

¹ Loreen Ozolins is very well known in the New Zealand North Section for her involvement with the IEEE at a local and global level. She has over 20 years of leadership and project management experience over a variety of sectors including technology, retail and customer services. She is a senior IEEE member and specialises in expert delivery of large and complex strategic programs with significant change management components at a Senior Executive Management level.



Pictured: Workshop participants (top),



IEEE GOLD Community News

From around the world

Innovation and Open Source Activities in Tunisia for Students and Young Professionals

Habib Kammoun, Tunisia GOLD Affinity Group

The IEEE GOLD Tunisia Affinity Group (AG) organized the first International Summer School on Innovation (SSI '2011) jointly with the National Engineering School of Sfax (ENIS) IEEE Student Branch. The summer school was titled 'From Idea to System: Design, Development, Evaluation, and Presentation'. The event ran from July 19th to 23rd, 2011 in Sousse, and included participation from students, researchers, and industries from Germany, England, Canada, Qatar, and Tunisia. SSI '2011 was mainly sponsored by the German Academic Exchange Service (DAAD), as well as the IEEE Computational Intelligence Society, Cynapsys, and MDSOFT. The main goal of the summer school, was to provide students, academics, and engineers from industry with hands-on knowledge on actual innovations and how to go from an idea to the implementation of the system.

The program covered a combination of theoretical and practical techniques on innovation, in the fields of education, research, and industry. The speakers comprised of leading researchers from academia and experienced practitioners and managers from major industry. Participants had the opportunity to discuss the needs for innovation; talk about the importance of new ideas for creating businesses and new jobs; to share skills, methods, and insights.

The summer school was opened with an introduction to IEEE including benefits of IEEE memberships, innovations within IEEE, the STEP program and its benefits for young professionals. It was a good occasion to encourage student members who have recently graduated to continue their IEEE memberships. The IEEE opening session was rounded up by a welcome reception sponsored by the IEEE GOLD / STEP program. SSI'2011 was concluded by awarding the winner of the best innovative idea contest organized during the summer school.

This event was attended by 11 guests and 44 IEEE members (17 GOLD members, 14 CIS members, and 15 due to graduate in 2011). Due to the positive feedback received, a number of future seminars on different aspects of innovation will be organized in the future.

Following the success of SSI '2011, the GOLD Tunisia AG organized with the TunAndroid Community and the IEEE ENIS Student branch, an event titled Software Freedom Day "SFD Tunisia 2011". The event was attended by the Tunisian secretary of state for technology. Other leading participants in the field included: Google, Ubuntu Tunisia, Mozilla Tunisia, SecuriNets, etc.

SFD'2011, is part of a worldwide celebration of Free and Open Source Software (FOSS), and was one of about 450 events organized in over 100 countries. The aim of the event is to spread the culture and concept of Open source software, increase awareness of Free Software and its virtues, and to educate the benefits of using high quality FOSS everywhere: in education, in government, at home, and in

business. More than 350 participants comprising of Students and Professionals attended from Ariana, Gafsa, Monastir, Sousse, Sidi Bouzid, Sfax, Tunis, and other cities.

The guest speaker was Mr. Chris DiBona, Open Source & Public Sector Programs manager at Google, California. He presented the open source projects at Google, such as the Android OS and encouraged students to participate in the Google Summer of Code program.

Furthermore, participants enjoyed the presentations of TunAndroid, the Tunisian community working and promoting the Android open source system; Ubuntu Tunisia Community; Mozilla Tunisia Community; and the club of computer security in INSAT "SecuriNets". These groups organized booths during the day in order to exchange knowledge and experiences open source professionals with students.

After the coffee break, professionals in free and open source software shared their success stories: Eng. Zied Ben Salem, manager of Alpha Engineering presented the Business models for open source software in his company; and Eng. Mouna Sghaier from Jasmine Conseil presented the JasForge as an open source collaborative development platform developed by a Tunisian engineering team.

The event was concluded with a closing ceremony where many awards were presented by IEEE ENIS Student Branch to students who correctly answered 5 questions about IEEE, Google, and other communities. The success of the event was publicized through Tunisian radio stations, journals, newspapers, and Facebook pages; especially Sfax radio and Express FM radio.

For future activities, the GOLD Tunisia AG plans to organize, on December 18-20, 2011, a Robotics Competition and an IEEE Teacher In Service Program (TISP) Workshop in Yasmine Hammamet. For further information on SSI 2011 please visit this URL: <http://ssi2011.ieee-enis.org/> ■



IEEE GOLD Community News

From around the world

Empowering Members to Create the Future

Rafal Sliz, IEEE Day Team

IEEE Day celebrations took place around the world for the second time on 6th October - building on its success when this initiative was first introduced in 2010. If you thought that IEEE Day 2010 was ground breaking, IEEE Day celebrations in 2011 were simply astonishing.

The idea of IEEE Day 2011 was simple - "Empowering Members to Create the Future." The IEEE Day team consisted of students, GOLD members, and IEEE staff, all coordinated by Salima Kaissi. The team worked together to encourage and engage members worldwide to celebrate this very special day.

The strategy for engaging and empowering our members was simple. First, the organizers concentrated on advertising to inform members about IEEE Day and encouraged them to organize events on the 6th of October. Due to local constraints on resources and circumstances, not all the groups were able to organize events on the 6th, however, this did not stop them from celebrating on adjacent days. A new website containing instructions, hints and ideas on how to get involved in IEEE day was established. It also gave IEEE Day organizers worldwide the ability to submit and advertise their events on the official IEEE Day website. A world map featured on the website rapidly filled up with pins representing local IEEE Day events. Additionally, social networks were used to spread the news. Based on experiences and facts from previous IEEE Day, a remarkable video clip was prepared to capture previous efforts and to empower members to be active and make a difference.

The new IEEE Day 2011 logo was designed by team members and published on the internet. A large number of IEEE groups and individuals printed the smiley logo on T-shirts to wear during IEEE day celebrations.

Besides coordination tasks, the IEEE Day Team also organized a Photo Contest. All interested contestants were invited to take and share a picture of themselves in real engineering action (for instance: at the laboratory, desk, classroom, with an oscilloscope, posing next to a wind turbine or nuclear reactor, etc...) or at an IEEE event. The best ten pictures were awarded with \$500 prizes designated for group activities.

The IEEE Day team did an outstanding job and their efforts finally paid off. Here are some official statistics from IEEE Day 2011:

- Number of IEEE Day events organized: 168
- Number of photo contest entries: 566
- Website visits (Sep 21st - Nov 19th): 32,062
- Visibility and motivation gained: enormous

The IEEE Day Team is extremely proud of all the efforts provided by every member involved in making IEEE Day a success. Thank you all for making a difference!

Rafal Sliz
IEEE Day Team

IEEE STEP in Houston

Timothy Wong (Region 10 GOLD Coordinator) and Kheng Swee Goh (Region 5 GOLD Coordinator)

In today's scary and uncertain world of work, students are in a position where they could benefit from guidance from experienced professionals. A graduating students reception was held at the University of Houston, Texas on December 13th 2011 to help students transition from life as an undergraduate to working in industry or postgraduate studies. The event was MC'd by Student Branch Chairperson, Ruben Gomez, and presented by Kheng Swee Gog, Region 5 GOLD Coordinator who provided edutainment

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IEEE GOLD Community News

From around the world

IEEE Teacher In Service Program

Shree Kumar, Deepak Malani - Bangalore, India

Volunteers from Bangalore IEEE GOLD Affinity group organised a Teacher In Service Program (TISP) event at Microsoft India Pvt. Ltd. on 24 September. Co-incidentally the venue room featured wallpaper that read, "We see teachers instilling the joy of learning".

Twenty-three teachers from government and private schools from the Bangalore area participated in the program, including educators from the Agastya foundation, a non-profit organization involved in improving science education via usage of low-cost models and methods. Eleven volunteers helped organise and execute the program.

Getting Started

Deepak Malani started the program by introducing the TISP concept. He described the program as an effort to encourage understanding of engineering and technology during the school lessons. V. V. Srinivasan, Chairman of the IEEE Bangalore Section, and Ganesh Hiregoudar spoke about IEEE's involvement in educational initiatives at the pre-university level.

Lesson Plan 1

Shree Kumar presented the Windmill lesson plan from TryEngineering.org as the first hands-on activity. This lesson was chosen to highlight the importance of renewable energy, especially in the context of India, where access to electricity is still limited. Teachers were briefed about wind energy and wind turbines as source of renewable energy. Groups of three teachers were given an hour to design a windmill to be tested by a stand fan. They all had the raw material needed for the activity on their tables: bicycle spokes, aluminium foil, plastic soup spoons, ice-cream sticks, tape, cardboard, plastic straws, binder clips, bamboo sticks and tea-bags.

IEEE volunteers encouraged the teachers to measure their results, as well as make improvements to their design. Each group then demonstrated their design with a brief presentation.

Round-table

A round-table discussion was held between administrators from Twinklers High School and IEEE volunteers. The discussion revolved around the school's science club, and a road-map for following up TISP activities in their school. This school could potentially act as a hub for other government schools around the area for activity-based learning on Saturday afternoons.

Activity Based Learning Resources

Teachers were introduced to lesson plans from TryEngineering.org that encourages use of activity based learning (ABL) in their day-to-day teaching. Experimental demonstration videos by Arvind Gupta illustrated science concepts by using locally available and low cost materials.

Lesson Plan 2

After lunch, Manjunath Iyer took up the second hands-on activity on Morse Code. Teachers had one hour to build a mechanism to exchange messages using Morse code, with the choice of using bulbs or LEDs. Most teachers had built the circuit quickly and work as a group to determine ways of transmitting messages. The experiments were concluded with cross-team communications. The excess experimental material was packed as take-away kits for the participating teachers.

Feedback and Round-Table II session

Prakash compiled a three-point agenda for this session, to understand:

- (1) The teachers' view of this methodology
- (2) How this could be incorporated by teachers while meeting curricular requirements
- (3) What challenges the teachers would face on implementation

Aligning the lesson plans to syllabus requirements came out as an important point in the discussion. Teachers felt that they could host one such activity at-least once a month. Two teachers even volunteered to help create and tailor lesson plans to suit local needs.

Wrap-up and Conclusion

Dushyant arranged a visit to the Microsoft Technology Center and showcased cutting-edge technologies such as the Microsoft Surface and the X-Box to the participants. Discussion continued on the future TISP sessions and follow-up plans with teachers to assess the impact of this session. ■



IEEE GOLD Affinity Group Profile

Featuring GOLD Affinity Groups from around the world

Kerala GOLD Affinity Group

Chairperson: **Rayees Amar Nishad**

Kerala, more popularly known as God's Own Country to enchanted globetrotters, is on its way to becoming GOLD's own country. Supported by a section which is as vibrant as ever, GOLD Kerala has taken the initiative to focus on the much needed areas of Student Elevation and career growth for professional members. The wonderful team that made all this possible includes Rayees Amar Nishad, who stepped in as Chair of the GOLD Affinity group in 2011, and his enthusiastic team members: Namith Najeeb, Nithin Padmanabhan and Ranjit R. Nair who served as the Vice chair, Secretary, and Treasurer respectively. The contributions made by Shahim Baker as our Membership development chair and Ajin Baby as our Educational activities representative also deserve a special mention. We also use this opportunity to express our token of gratitude to Mr. Sasi P. M. who served as the advisor of our group and helped us deliver focused activities.

The Kerala GOLD kicked off its activities for the year with the first ever GOLD Congress in the history of the IEEE Kerala section, which was held at Mar Baselios College of Engineering and Technology in Trivandrum on 26th February 2011. The event was a resounding success and was centered on the theme 'Bridging Gaps, Expanding Networks.'

Kerala GOLD organized an exclusive training workshop for Student Branch Counselors across Kerala on 2nd April 2011 at Government Engineering College, Thrissur. The workshop, handled by Ranjit R Nair, was the first ever of its kind in Kerala.

Kerala GOLD organized a Student Transition and Elevation Partnership (STEP) event, in collaboration with LINK (the Student Body in Kerala Section), on June 18th 2011 at Harbor View Residency, Cochin, Ernakulam. The program was hosted by IEEE Student branches of TKMCE, Kollam and ToCh, Ernakulam. The program

was centered on the theme 'Thinking beyond cubicles and paycheques.' The event had an excellent response and a turnout of 32 Graduating Student Members (GSM) and 17 non-GSM members.

Having realized the benefits of networking and collaboration through our experiences as volunteers in IEEE, we decided to take it one step higher, by planning a national GOLD officers' meet. Hence, we conceived PIIGOM-11; the Pan India IEEE GOLD Officers Meet 2011, which was held on the 19th of June 2011. It became a milestone in the history of Region 10 (R10) GOLD activities and another golden feather in the cap of Kerala GOLD. The event had a record participation of five Affinity Groups in India, namely Bombay Section, Madras Section, Hyderabad Section, Bangalore Section and the host Kerala Section.

Educational Activities has always been Kerala Section's priority and this year GOLD members took it upon themselves to make sure we strive further in this regard. We took the initiative of organizing the first ever Teacher In Service Program (TISP) Workshop for School teachers in Kerala after the launch of the TISP initiative by IEEE EAB in India in May 2011.

The Continuing Education Congress 2011, another education initiative GOLD Kerala brought out, was not meant for toddlers in school but for the brilliant minds of academia. The idea was born out of the necessity of attracting members from academia to the marvelous world of opportunities that is IEEE. Selected for the R10 EAC Support fund this year, the CEC was one of the dream projects of Kerala GOLD. The CEC was organized at ToCh Institute of



Kerala GOLD Executives (L to R) Namith Najeeb, Rayees Amar Nishad, Ranjith R Nair, Nithin Padmanabhan

Science and Technology on 30th September and 1st October, 2011. The workshop was attended by around 40 delegates from various engineering colleges.

This was also a year of achievements for Kerala GOLD. Our chair Rayees was appointed to R10 GOLD Executive Committee, and he also represented the group at the R10 GOLD Congress in New Zealand this year. Ranjit and Nitin represented the Affinity Group at the "E- Scientia around the World Symposium" held in Uruguay.

We have plans to scale the limits of possibilities through our persistent effort and unending passion for IEEE. The curious outsider asks us, "Where does all this energy come from?" and we say "When you are out to play, go for the GOLD!" ■

Would you like your GOLD Affinity Group to be profiled?

Contact us at goldrush@ieee.org for more information.

IEEE GOLD Peer Reviewed Articles

Engineering Social Change

Jonathan Bishop, IEEE Member

The Graduates of the Last Decade face an unprecedented task ahead of them if they are to reach their aspirations to advance technology for humanity. Many older generations are competing for jobs in this economic climate, which even as graduates we lack the experience to compete with.

Many graduates are interested in politics. We all probably experienced some policy change in university we either agreed or disagreed with. We are highly educated and this is making us demand ever more change in society. Some of us, as I did, might seek candidacy for a political party in local or national election. But as I found out, even if one was to get elected, as I did, there is very little one can do to make real change.

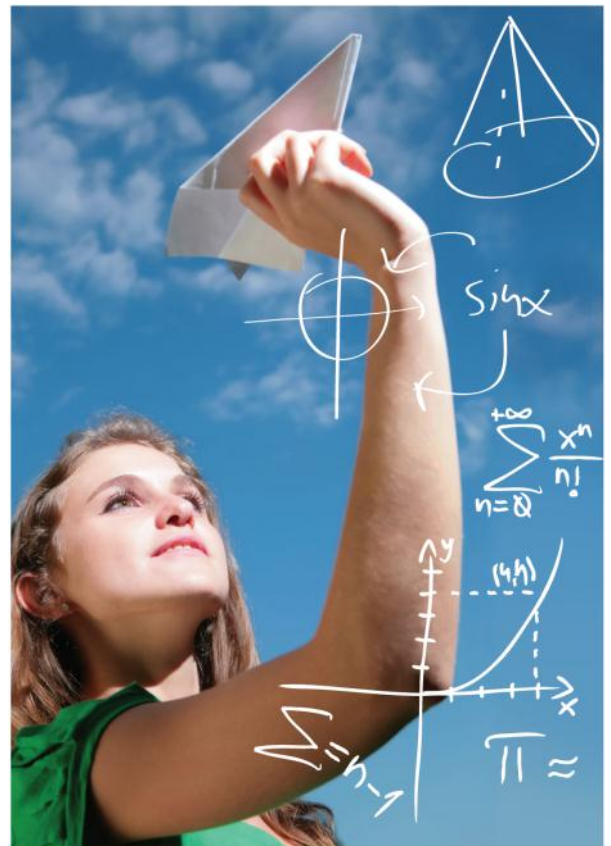
Our ethics as professionals will, as it did me, leave us disillusioned with the political process. The 'you scratch my back and I'll scratch yours' ethos does not fit well with us as we want to do things on merit, and we have a lot of merits as graduates.

So we need to realize that politics does not automatically imply government. Organizations such as 'Engineers without Borders' have pioneered the way of using engineering to tackle poverty and this could be a good starting point for new graduates.

There are many ways we can use our ingenuity to effect change in society. As engineers we can design a patentable technology, and if we manage to commercialize it we can use the profits to do community work that would otherwise not happen if we were to spend the same time involved in party politics. We can even set up not-for-profit social enterprises of our own - which I have done—and in this environment we can virtually work for ourselves in an engineering area we are good at. With the profits we make from this we can use it to 'match-fund' grants from public, charitable, or trust funds to run innovative projects. These projects are very satisfying, and even if we were to only pay ourselves the minimum wage in the first few years, the experience we get counts for more than sitting on a local council committee – it could even get us SMIEEE, or even FIEEE if we develop and apply a patent along the way. ■

About the Author

Jonathan Bishop is a full member of the IEEE and the BCS, the Chartered Institute for IT. His pro-bono work has included software development and IT maintenance in addition to writing peer-reviewed publications. He is currently running a social enterprise and pursuing a doctorate in information systems. His website is located at <http://www.jonathanbishop.com>.



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IEEE GOLD Society Profile

Featuring IEEE Societies supporting Young Professionals

IEEE Electromagnetic Compatibility Society

Caroline Chan, GOLD Representative

History

The EMC Society originated in the mid-1950s when some electrical engineers specializing in radio frequency interference (RFI) began to discuss a more formal organization for their loose-knit technical activities. These discussions resulted as a corollary reaction to informal meetings at Conferences on Radio Interference Reduction. The first of these formal Conferences was held at the Armor Research Foundation in December of 1954 under Tri-Service (United States Army, Navy, and Air Force) sponsorship. This conference highlighted the magnitude and diversity of interference experienced by commercial and military electronic equipment and stressed techniques for reducing its severity. The first "Armor Conference" was a success and lead to a series of "Armor Conferences."

The membership of the EMC Society has also shown international growth. The current composition of its 4000 members is 60 % from the U.S., 40% international. Every year, more EMC society chapters are being created all over the world.

The EMC society covers many technical areas and standards used commercially and in the military. It ensures that electronics that surround us are compatible and minimize interference during their usage. This is a critical domain as high tech gadgets inundate modern households.

Conferences

Conferences and Symposiums have been an important part of the EMC Society from its beginnings, and indeed even before the time of its organization. The first Conference on Radio Interference Reduction was held in December of 1954 at the Armor Research Foundation of the Illinois Institute of Technology in Chicago, Illinois.

EMC Chapters sponsor or co-sponsor many conferences and meetings worldwide throughout the year. One of the most important ones is the international EMC Symposium, usually held during the summer, and recognizes individuals for their contributions to the EMC field in that year.

Many of the local chapters features mini-symposia catering to the local EMC population and organize free technical seminars, online or locally.

Awards and Recognition

To help recognize outstanding achievements in the EMC field, the EMC society presents a best paper award, a best student paper award and presentation, fellowships to engineers working in academia and in industry, and grants and scholarships to establish a new EMC course at the university level.

A new award is being established to recognize the best EMC GOLD paper and will be presented in the usual award ceremony at the International EMC Symposium.

EMC GOLD Organization (also known as GOLD EMC)

GOLD EMC is dedicated to serving currently enrolled or just graduated students and bringing them to the next level of the EMC society.

GOLD EMC strives to:

- Provide advisors at the request of the student or young professional
- Involve young members in society activities
- Bridge the gap between college students and technology fellows
- Educate students and young professionals on GOLD membership and IEEE membership benefits
- Advise members or potential members on the ability to get IEEE transactions and the ease of connecting to the EMC society for any question

I would like to thank Dan Hoolihan who provided the EMC Society history, as noted above. I would also like to thank Robert Davis, Bill Sommerville, and Elya Joffe, who are acting as EMC advisors for GOLD. Finally, I would like to acknowledge our GOLD advisors, Gigi Lau and Soon Wan Gim.

The recently formed GOLD EMC, born in Summer 2011, is looking for volunteers. If you are interested in getting involved with any of these initiatives, our new website, or the EMC GOLD effort in general, then please contact me immediately at goldemc@gmail.com (or caroline.chan@lmco.com) and also check out our Facebook page.

IEEE EMC Webpage (local chapter included):
<http://www.ewh.ieee.org/soc/emcs/>

- Caroline Chan
EMC Society GOLD Representative ■



IEEE GOLDRush Notices

IEEE GOLDRush Call for Articles: March 2012 Edition

IEEE GOLDRush invites you to submit an article for publication in the March 2012 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 on or before 18 February 2012. 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/membership_services/membership/gold/newsletter_guidelines.html ■

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Email us anytime at goldrush@ieee.org.

We look forward to hearing from you!