

The quarterly newsletter of IEEE GOLD
for young professionals



GOLD *Rush*

June 2011



Featured in this issue

IEEE President-Elect Candidates Interviewed

Advice for Young Professionals

The ATHENA Summer School, Greece

San Francisco GOLD Affinity Group Profile

Are you receiving the mentorship *you* need?

**Smart Grid: Does Time Of Use Utility Power Pricing Save
the End-User Money?**



Visit us online at
IEEE.org/GOLD

In this issue

June 2011

- 3 Readers' Forum
- 4 IEEE President-Elect Candidates
- 6 GOLD Member Profile:
Professor Marcos Collares Bina
- 7 GOLD Community News
- 13 IEEE Affinity Group Profile: San Francisco
- 14 Are you receiving the mentorship *you* need?
- 15 Smart Grid: Does Time Of Use Utility Power
Pricing Save the End-User Money?
- 16 Canada's 'NANO' Technologists
- 17 Power and Energy Society
- 18 Notices
- 20 GOLD Committee

From the Editor

Timothy Wong

Welcome back to the June 2011 Edition of GOLDRush.

In this edition, we interview the 2012 IEEE President Elect candidates - Roger Pollard and Peter Staecker - on how they will serve and manage the IEEE Young Professional members. Make sure that you make your voices heard by casting your vote on time. IEEE Young Professional members commonly find career planning a difficult task. There is a common saying that "if you fail to plan then you plan to fail." This applies to almost anything in life including careers. Be sure to check out the article titled "Are you receiving the mentorship you need?"

The MGA GOLD meeting and GOLD Summit is due to be held on 16 and 17 August 2011 at the same location of Sections Congress in San Francisco. The GOLD Summit is a tri-annual gathering of IEEE Young Professional volunteers to inspire, energize our leaders of tomorrow.

IEEE GOLDRush is a purely volunteer based publication and is dedicated to improving the quality of its content to its reader's. Please feel free to send feedback to goldrush@ieee.org with your comments and suggestions. ■



Timothy Wong
2011 Editor in Chief

Welcome from the 2011 MGA GOLD Chair

William Sommerville



Dear IEEE GOLD members,

The world is changing faster than ever before and institutions like IEEE are doing their best to stay current. I feel that our IEEE GOLD members must be the biggest drivers towards meaningful progress in the way we do business and to keep us relevant in today's world, both within IEEE and in the institutions where we live and work. Even simple things like showing your local section leaders how to start a Doodle poll or set up a Twitter account can make a big difference.

As recent graduates, we sometimes feel at a disadvantage when competing against our more senior colleagues for jobs, projects, grants, etc. Young entrepreneurs sometimes fret about the ability of big corporations to dominate them in the marketplace. Yet the world is an ever-changing place, and with very different ways of doing business than before it is precisely the recent graduates who are best able to take advantage of new tools and paradigms.

We can take advantage of these paradigm shifts by constantly learning and communicating. The Internet and mobile phones have given us powerful tools for information exchange, and IEEE GOLD

members are known to be the masters of this realm. However, just as a hammer needs nails to be useful, these tools require us to possess other skills to be effective with them. Networking skills, interpersonal skills, the ability to sell an idea, interviewing skills, innovation, entrepreneurship, trading favors, time management, project management, strategic planning, technical competence, and even simple things like a firm handshake are useful skills that we all possess to some extent. Together, they magnify our ability to succeed.

In this edition of GOLDRush, you will see example after example of young professionals who have embraced the latest technologies while continuing to improve the bedrock skills that define what it means to be a professional. They find success every day, not as an end goal, but as a fun and exciting journey that they share with 60,000 IEEE GOLD colleagues throughout the world. I hope you find information and inspiration in this edition, and I look forward to reading about your accomplishments in the next edition. ■

Will Sommerville
2011 MGA GOLD Committee Chair

Front cover
photo credit:
Timothy Wong

Readers' Forum

Your questions and opinions

This month's feature letter comes from

Daniel Shapiro
Ottawa, Ontario, Canada
IEEE Grad. Student Member

Advice for Young Professionals

I have found myself dispensing tidbits of unsolicited advice to my fellow graduates, and the thought occurred to me that organizing these suggestions may be quite useful to you. Some of this advice is being regurgitated to you by many of your peers, and some of it originates with your past professors and managers, but on average the advice that makes my short list of suggestions below is nice to keep in the back of your mind.

My short list of advice includes the following: have fun, take risks, always learn new things, move out of your comfort zone, spend some time in industry, collaborate often, be nice to secretaries, always keep your resume updated, learn to argue, learn to write, and do not take yourself too seriously.

So let us begin first with some obvious advice: have fun. If you are not having fun, then you are doing something wrong, or you are in the wrong job. Engineering can be the most enjoyable pursuit in the world, as long as you can keep from getting tired, and maintain your childlike wonder with the world around you. If you love what you do, then you will know what I mean.

Take risks. In your career and in your entrepreneurial pursuits, risk taking will teach you much, and give you a wisdom that following a common path will not provide. Always learn new things, such as a new programming language, a new hardware platform, a new type of modeling tool, etc. You will grow more than just your resume. For example, It may be the 11th hour for a project when your unexpected understanding of integer linear programming saves the day. That can lead to any-



Daniel Shapiro

thing from a slap on the back to a nice promotion.

Move out of your comfort zone. Learn to interact with chemical and civil engineers, database administrators, scientists, and others. As engineers we are tasked with making many things, few of which involve pure engineering within our own tiny field. I recommend that you read the book "Startup Nation", which explains the value of moving beyond your comfort zone. It also helps to spend some time in industry. Besides the fact that we all like making money, you will really enrich your resume and your understanding of the working world by working in a company. You will start to understand terms like dev, prod, QA, int, scrum, and even meeting in a new and useful context.

Another good tidbit of advice is to collaborate often. Every time you work with a team, you will broaden your horizons. There is a special type of knowledge transfer that takes place within a group of collaborators, and an economy of scale that stretches you beyond the limited world of your desk, or pair programming. The bigger a network of co-authors and collaborators you can amass, the more easily you will hear about jobs, find projects in common, and find helpful advice when you get stuck on a problem.

Be nice to secretaries. We often forget that secretaries are the gatekeepers to the organization. They are the filter between a job application and hiring manager; employee and organization. On that note, I highly suggest that you always keep your resume updated. Every time you complete a training session, article or project, write it into your resume.

Learn to argue. I would recommend reading a book called "The back of the napkin" to learn more about idea sharing. It is key to realize that your colleagues are not "against" you, they just need to be convinced with data and/or logic. Learning to command a presentation, and the ability to write a clear technical paper are keys to getting your way at work and in research. I suggest reading "The best method for presentation of research results in theses and papers" by Ivan Stojmenovic, and learning LaTeX helps too. Finally, try and remember that you are a limited human being that does not know everything. It is way better to say that you do not know than to make something up. Just try and do not take yourself too seriously, since the whole point of this life thing is to take risks and have fun. ■

Would you like 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 before 5 August 2011 for inclusion in the September 2011 edition.

Submissions must be no more than 400 words and may be edited if necessary.

We look forward to hearing your thoughts!

IEEE President-Elect Candidates

In this month's edition of **GOLDRush**, we interview two IEEE President Elect candidates, Roger Pollard and Peter Staecker.

IEEE annual election ballots will be mailed to all eligible voting members on or before 1 August. All eligible voting members can also access their ballot electronically. For more information access:

http://www.ieee.org/about/corporate/election/election_faq.html

Dr Roger Pollard

Background

Roger Pollard's professional career has been in both academia and industry. Until September 2010, he was Professor and Dean of Engineering at the University of Leeds and is now working at Agilent Technologies, Santa Rosa, CA (formerly Hewlett-Packard Company), where he has been a consulting engineer for the last 30 years. He has authored technical contributions in books, over 150 journal articles, 3 patents and company and commercial publications.

Roger was elected to the Royal Academy of Engineering, the UK's national academy, in 2005 and is an IEEE Fellow, a Chartered Engineer and Fellow of the IET (formerly the IEE).

He has served in a wide range of IEEE volunteer roles including Vice-President, Secretary, Technical Activities Board, MTT Society President and UK&RI Section Chair. As Chair of the TAB/PAB Electronic Products Committee, he provided the leadership for the creation and launch of IEEE-Xplore, a world-class resource of technical information.

What prompted you to become an IEEE member and volunteer?

I first joined IEEE as a student because of the breadth and quality of the technical activities and it has been an important part of my 40-year career in academia and industry. A mentor early in my career encouraged me to become a volunteer as a way of giving something back to

the profession that gives me so much.

How do you see yourself positively affecting IEEE Young Professionals if you are elected?

By ensuring that our members, especially more recent recruits to the profession, see real value in their IEEE membership – notably by bundling membership in a technical Society, providing easy and affordable access to IEEE's vast database of technical articles and promoting both conferences and social media as means for networking, community building and sharing of information. Also working to ensure that IEEE lives up to its claim to be a global organization by connecting members worldwide.

What are your hobbies and interests?

I hold a UK private pilot's licence and enjoy flying small aircraft whenever I can rent one!

Do you have any words of advice for Young Professionals?

Get involved and engage with others in helping IEEE achieve its core purpose - to be the most recognized and respected global organization in our fields of interest, fostering the development and facilitating the exchange of scientific and technological knowledge that benefits members, the profession and humanity. IEEE's success is largely a result of the emphasis on being a volunteer-led organization. Volunteering can



Dr Roger Pollard

be a gratifying and memorable experience as well as advancing your own career. You can contribute whether your skills and experience are suited for providing leadership, writing articles, organizing conferences and meetings, finance, communicating or maintaining web sites. If you are not already active in Section, Region, Chapter or Society activities, resolve to volunteer. ■

Roger Pollard's campaign website can be accessed at

<http://www.rogerpollard.org/>

IEEE President-Elect Candidates

Dr Peter W. Staecker

Background

Peter Staecker holds BS and EE degrees from MIT, and MS and PhD degrees from Polytechnic University. His professional career started in 1972 at MIT Lincoln Laboratory, where he developed microwave design and test techniques for satellite communications.

In 1986 he joined M/A-COM, where he led program, product and process development, then helped the company's transition from defense to commercial markets. During this period he also established strong ties with US and European universities and with research organizations. He retired from M/A-COM as Director of Research & Development.

Staecker served industry and government on manufacturing and advisory panels, and is consulting editor to *Microwave Journal*.

Staecker is Past-President and Honorary Life Member of the MTT Society, and is an IEEE Life Fellow. His 28-year service to IEEE includes leadership roles in Finance, Strategic Planning, Publications, and Membership. He has served on the IEEE Board of Directors for five years.

What prompted you to become an IEEE member and volunteer?

I joined as a student member in my second year at MIT, but did not make time to allow the member experience to work for me. As a graduate student I re-joined and began to see the value in the professional journals and the periodic meetings. The value increased with my first professional assignment at Lincoln Lab; in those days before IEEE's electronic library, the technical journals of MTT-S were greatly appreciated.

The question "Would you be interested in volunteering for...?" is much more than a casual request for help, it is also an invitation to grow – and I am fortunate that the question

was put to me at an early stage of my professional career. The heroes of my life were both professional and volunteer luminaries, and I have never regretted the acceptance of my first volunteer assignment.

How do you see yourself positively affecting IEEE Young Professionals if you are elected?

It is gratifying to see the extent to which young professionals have taken leadership roles in IEEE, most recently in Humanitarian Activities. GOLD and Graduate Student Members are a vital resource to students who are wondering what mysteries lie beyond the protective walls of the university, and I enthusiastically support increasing their roles as local trusted advisors to students as they transition to the workplace.

They will multiply the effect of good faculty advisors and replace the effect of marginal advisors. I would encourage senior leadership to continue to reach out to and encourage these future leaders of our organization; we should never forget our individual roles as personal mentors for our young volunteers.

What are your hobbies and interests?

Sports and physical activity have always been a part of my life, from sandlot baseball as a youth, track and soccer in secondary school, and rowing in college. Today I have traded running for hiking and swimming. My greatest thrills were being faster than Harvard in each of 3 years in lightweight crew at MIT, finishing my first marathon, hiking to the summit of Mt. Washington with my son on New Year's Day in near white-out conditions, and hiking a number of Colorado 14'ers and the Chilkoot Pass in Alaska/British Columbia with him some years later. In recent years, my wife and I have had the opportunity to visit and hike at Machu Picchu in Peru, Angkor Wat in Cambodia, and parts of the Great



Dr Peter W. Staecker

Wall in China, all breathtaking examples of past civilizations.

Do you have any words of advice for Young Professionals?

Much of what you want or need in your professional life will come from another person... so surround yourself and interact with people who have diverse views, backgrounds, experience, and...who are smarter than you. Address challenges and problems using both a telescope and a microscope. Embrace failure (it brings wisdom), and celebrate success. Don't confuse what you do with who you are. Know that people are more motivated by meaning than by money. Never lose sight of the meaning in what you do, and help others find the meaning in what they do. Finally, ask yourself to picture yourself in 5 years and think of the steps you will take to become that person. ■

Peter Staecker's campaign website can be accessed at

<http://www.peterstaecker.net/>

IEEE GOLD Member Profile

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

Professor Marcos Collares Bina

Alma mater **National Institute of Telecommunications** Current location **Brazil**

Areas of interest **Digital signal processing**

Career description

I graduated in Electrical Engineering from the National Institute of Telecommunications (INATEL) in 2006. After graduation, I began a Master of Business of Administration while working as a National Account Executive at Brazil Telecom, the largest telephone utility in Brazil. It was then, in 2009, that I decided to leave the labor market and devote myself to the Master's degree at the Federal University of Saint Catherine to concentrate in Digital Signal Processing, and act as a substitute teacher at the Institute Federal of Santa Catarina teaching Mechatronics classes. Although this was a great achievement for me, I always wanted more.

After completing my Masters course I went on to be accepted in my tenure as a professor at the Federal Institute of Saint Catherine in the Electrical discipline. At the moment, I am a professor and am writing my thesis on the area of Compressed Sensing.

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

My main hobbies are traveling and sports. I enjoy travelling to visit new places around the world and find the experience very gratifying. I strongly believe that being involved with sports is vital to health as there is a saying that "A healthy body is a healthy mind." I believe this because when the two work in sync, our power of concentration increases and you can work harder in pursuit of meaningful results.

How has IEEE helped your career?

I have been a member of IEEE since 2009 and have actively participated in the Signal Processing and Circuit Systems society. I am part of Region 9 in IEEE which includes Latin America. I believe that the IEEE can signif-



Professor Marcos Collares Bina

icantly help in the growth of each member. I enjoy the access to the information database which contains a large collection of what happens in our world of research. I'm also part of the Chapter created in Brazil that

covers the states of Rio Grande do Sul, Santa Catarina and Parana.

Any words of advice for young professionals?

Never give up your dreams and always believe in your potential. Also never forget to pursue your passion. Working in the area which you enjoy is very rewarding. In my case I am passionate about education and strongly believe in it. I think that education really can change the world. ■



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

The 1st ATHENA Summer School, Greece 2010 - "Cellular Technologies & Solutions"

Nicolas Sklavos—IEEE Greece GOLD Affinity Group Chair

IEEE Greece Gold Affinity Group, Teledrom AB, Department of Telecommunication Systems & Networks – Technological Educational Institution of Messolongi Greece, Department of Informatics & MM – Technological Educational Institution of Patras, Greece co-organized the 1st ATHENA Summer School 2010 (www.athenasch.gr) in the thematic areas of "Cellular Technologies & Solutions". The ATHENA event was held from July 19th to 25th 2010 in the beautiful city of Nafpaktos, Greece. Technical support and sponsorships were provided by IEEE Greece GOLD Affinity Group, Cosmote S.A., CISCO Networking Academy, ANKO and IEEE VTS.

The ATHENA summer school was the first technical summer school event interconnecting universities and private telecom companies to take place in Greece. The main aim of ATHENA Summer School was to train students (undergraduate, postgraduate, Master and PhD Thesis students) as well as engineers (scientists, engineers and professionals which mainly work in the areas of mobile and wireless networks) in technical details of existing (GSM, GPRS, WCDMA) and new emerging (LTE) technologies. In this way students and professionals have an advantage for future vocational rehabilitation and private sector companies would have a good scientific staff well prepared in the latest technology.

Teaching lectures were divided into a general course section, which included the theoretical part of GSM, GPRS, WCDMA/UMTS and LTE, and a specialized course section that focused on applications in the areas of mobile telephony. The latter included advanced topics such as Networks Design, Applications of All Manners, Networks Security and Energy).

The Summer School event included speakers from IEEE, industry and academia. The program included:

- ANKO on technical solutions for cellular and TETRA technology presentation
- Teledrom on GSM SPC switches technology on GSM/WCDMA
- IEEE Gold Affinity Group
- IEEE VTS
- Theoretical presentations from Universities on GSM-GPRS-UMTS theory
- Technical – laboratory presentations included: a) Cisco Networking Academy where CISCO routers have been used for core network traffic simulation, b) Cosmote S.A. real network presentations (visit to network premises) and radiation security precautions.

The 2nd ATHENA Summer School is planned for June 2011, in the city of Pyrgos Ileias, Greece. ■



Professor Vassilis Triantafyllou opens the ATHENA Summer School.



Students during their visit to Cosmote S.A



The General Chair of ATHENA Summer School Professor Spyros Louvros, during a teaching session.

IEEE GOLD Community News

From around the world

IEEE GOLD at Region 8 Meeting in London

Rafal Sliz & Nele Reynders—Region 8 GOLD Team

Region 8 GOLD attended the 96th IEEE R8 Meeting held in London. It was the first time that the newly appointed committee members got to meet each other in person. The team wore eye-catching “Ask me about GOLD” T-shirts designed to encourage meeting participants to discuss GOLD. The GOLD poster, with lighting by Equinox, was displayed during the official reception. The illumination system, Equinox – Bringing Electricity to Rural Communities in Developing Countries, was developed by the winners of the IEEE President’s Change the World competition - student members from Imperial College London.

Salima Kaissi, R8 GOLD Coordinator, presented on recent achievements of the GOLD committee and plans for the near future. This included statistics showing an upward trend in the number of GOLD members within Region 8, validating that our efforts have been fruitful. Data related to the GOLD website and the social networking activities was presented to participants as well. In addition, the most recent initiative – The R8 GOLD BOOK – was presented to and discussed with the broader audience.

The meeting in London gave us the opportunity to discuss issues that have arisen recently, especially concerns related to interaction and cooperation between affinity groups, chapters, etc. within R8. We also confirmed GOLD targets for 2011, and the meeting brought a number of vibrant new ideas and a motivational boost to our volunteering work.

Undoubtedly, the GOLD Team will be focused on activities supported by the STEP and Humanitarian Workshop programs and will tighten the cooperation with Professional Activities, Student Activities and Member Development Committees, to be aware of their activities and share

their knowledge and experience. Moreover, GOLD will keep the ultimate target in mind – to increase the number of newly established and active GOLD groups in Region 8.

Finally, Ms. Salima Kaissi’s great volunteering work within IEEE was recognized. She was awarded the MGA GOLD Achievement Award for her outstanding contributions to the public visibility of IEEE by creating and implementing the idea of establishing a global IEEE Day.

For more GOLD information and more pictures visit our website www.ieee.org/r8gold. ■



Region 8 IEEE GOLD Team

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. ■

IEEE GOLD Community News

From around the world

IEEE GOLD Site Visit to Schneider Electric's Office, Auckland

Noel Gomes—IEEE GOLD New Zealand North Section Chair

On 30th May 2011, the IEEE GOLD New Zealand North section along with 'Engenerate' – the young engineers division of the Institute of Professional Engineers of New Zealand (IPENZ) jointly organised a site visit to Schneider Electric's modern office in Auckland. The event was well attended by GOLD members, IPENZ young professionals and student engineers from electrical, mechanical and civil engineering disciplines.

The purpose of this event was to provide young professionals with an insight into some of the innovative energy efficiency and eco friendly design features in a modern state of the art office. Schneider Electric's New Zealand head quarters, completed in August 2009 was designed and built to be an industry showcase of sustainable best practice. The combination of natural light, efficient lighting and an integrated heating/air-conditioning system makes their East Tamaki complex at least 50% more energy efficient than buildings of a comparable design. The building is a working example of the technologies available for new and retrofitted buildings and delivers world-leading energy efficiencies. It won the Excellence award in the Industrial Property Award category at the 2010 Property Council NZ Awards.

The event began with a networking session over drinks and pizzas; this was followed by a series of presentations from Schneider on the company, its target business market, products, services and a presentation on some of the key energy efficiency features of the building.

The attendees were then divided into three groups for a forty five minute interactive tour of the office. Along the way, there were several stops made to explain the functionality of various design features or products in the office and to answer any specific questions relating to its purpose. The two hour event ended with a few announcements by the IEEE GOLD New Zealand North Section Chair and a group photo.

Some of the eco-friendly features implemented in the building include:

- **Warehouse Lighting** - Fully-automated with a dimming facility controlled by sensors in different zones, the lighting level is continually adjusted depending on the amount of sunshine and cloud cover.
- **Warehouse Ducting** - Uses Schneider Electric's own Powerbus ducting system which runs in a grid across the building and power points are taken down where they're needed. This system is easy to install and provides flexibility for changing the lighting layout if necessary.
- **Office** - Powerbus ducting used in the double storey office and all lighting, air conditioning, and heating are run off the same system. The air conditioning system has a very effective thermal efficiency and pumps refrigerant throughout pipes configured around the building depending on its heating/cooling requirements.
- **Lighting** - The office uses high performance glass which optimises the amount of visible light let through. Lights are connected to occupancy sensors to switch off if no one is in the room.
- **Air Health** - The building's flow of fresh air is governed by CO2 sensors. As people fill in the building and the CO2 level builds, the sensors react and automatically introduce new air with fans.

Overall the event was a great success with all attendees benefitting from the opportunity to interact with Schneider staff and other young engineers in the region. The attendees were very satisfied with the information provided and the extent of details covered by the tour guides. The collaboration of IEEE GOLD and IPENZ Engenerate was a first for this year for an event like this. The event provided some useful insights into the energy dilemma we have ahead of us and how important it is for us to be innovative in our designs in order to be sustainable and address this global issue. It also provided practical ideas into how simple energy efficient products can lead to significant cost savings over the operational life of new or retrofitted buildings.

This site visit has strengthened our relationship with IPENZ for future joint events and we look forward to maintaining this relationship in the years to come. The committee would like to thank Schneider Electric (NZ) for the opportunity to visit their office and all the attendees for their participation and time.

More photos on the event can be found on our Facebook page at <https://www.facebook.com/pages/IEEE-GOLD-New-Zealand-North/195913920434315> or on our website www.ieeenzn-gold.org. If you attended this event and have any suggestions or comments for future events, please do not hesitate to contact the committee at gold.ieee.nz.north@gmail.com. ■



IEEE GOLD Community News

From around the world

Kerala Section GOLD – A Quarterly Report

Nitin Padmanabhan, Secretary, GOLD AG, Kerala Section, India

The Kerala Section Gold Congress covered in the last edition of GOLDRush laid an ideal platform for GOLD activities this year. Student membership attrition after graduation was one of the major issues which the Congress addressed. Keeping this in mind, we organized exclusive GOLD awareness sessions for students in various parts of Kerala.



Nitin Padmanabhan

A session on “GOLD Awareness and Challenges Faced by Women in the Corporate World”, which was held at College of Engineering Trivandrum on March 20th, attracted a huge student audience from across Kerala. This session, moderated by Ranjit R. Nair (GOLD Treasurer), focused on the challenges and constraints faced by women in today’s corporate world. The session highlighted GOLD activities to the graduating students present and helped bridge the gap between the student community and industry— in general, it was a huge success.

A similar session on GOLD Awareness was held at the Vidya Academy of Science and Technology, Thrissur, on 8th April 2011. The graduating students present expressed their enthusiasm for continuing their membership after graduation and remaining involved in GOLD activities.

We at Kerala GOLD, realizing the significant role Branch Counselors play in ensuring student membership retention after graduation, organized an Exclusive Training Workshop for Student Branch Counselors across Kerala. The workshop, handled by Ranjit R Nair, was the first ever of its kind in Kerala. Its participants became aware of the value of GOLD membership in professional life and were empowered with strategies retain student membership.

One of the other focus areas of GOLD Kerala this year is to promote research and development in the educational sector. We have planned for a “Continuing Education Congress for Academia” to be held in August with the objectives of improving the quality of academicians and attract-

ing more young academicians to the GOLD fraternity. This initiative was greatly appreciated by the R10 EAB and received a support grant of 500 USD. The event is expected to be a milestone in the activities of Kerala GOLD in the coming calendar year.

We also had good representation at the recently held “Teacher In Service Program (TISP)” at Hyderabad on 6th and 7th May 2011. Inspired by the outcomes of this TISP workshop, we are planning to organize a TISP workshop for Kerala in association with the Section Educational Activities Committee.

Upcoming Activities:

- The Kerala Section GOLD AG will be organizing the following programs in the coming months:
- All Kerala STEP Workshop on 18th June 2011 at Hotel Harbor View Residency, Cochin, Kerala
- Continuing Education Congress in August at Rajagiri School of Engineering & Technology, Ernakulam
- “Breakthrough 2011,” an outbound adventure training program for GOLD and Student members in May and June jointly organized by GOLD and LINK, Kerala. ■



The Kerala Section Team at TISP Hyderabad



Imagine a simple way to make an impact

The IEEE Foundation relies on charitable donations to advance education, innovation and preservation. Include the IEEE Foundation in your will and help power the discoveries of tomorrow.

Imagine the difference you can make
Donate today at www.ieeefoundation.org

IEEE FOUNDATION

login to
myIEEE

login

(IEEE Web Account Required)

www.ieee.org/myieee

IEEE

IEEE GOLD Community News

From around the world

STEP in Argentina

Augusto José Herrera, GSM, GOLD Chair Argentina Section

The Argentina section organized a Student Transition and Elevation Partnership (STEP) event for the second time last December. It was carried out in three cities: Córdoba, Bahía Blanca, and Catamarca. The objective was to disseminate GOLD activities beyond the city of the GOLD Coordinator's residence by developing activities in other cities that have a strong presence of GOLD members.

More than 45 members participated in the three STEP events. These included student members near graduation, graduate student members (towards whom this program was directed), and IEEE authorities from the Argentina Section. Student Branches at six Universities were represented: four from Córdoba, one from Catamarca, and one from Bahía Blanca.

The first of the three STEP events was held in Córdoba on 9 December. The event was attended by more than 20 IEEE members, of which 15 had GOLD status. Participants included Eng. Ricardo Taborda, the IEEE Argentina Section president for 2011; Eng. Pablo Recabarren, IEEE Córdoba Subsection president; Eng. Augusto Herrera, GOLD Argentina Coordinator; and more than 10 GOLD members (mostly graduate students) living in Córdoba. The event was held at the Córdoba Specialist Engineering College (CIEC – Colegio de Ingenieros Especialistas de Córdoba) and also had the participation of Eng. Carmen Rodriguez, the College's vice president. IEEE members from industry and academia also attended the event.

Eng. Augusto Herrera, 2010 GOLD Chair for the Argentina Section, explained the STEP program and its goals. He encouraged all student and graduate student members to continue their active involvement in IEEE professional activities after graduation and to maintain active relationships with IEEE GOLD's officers and the Section and Student Branches in which they were volunteers. This was followed by a formal dinner and toast to celebrate the end of the year. Finally, GOLD members with outstanding contributions were recognized: Joaquin Garin, Ignacio Isaías Brasca, and Federico Medeot.

The second STEP was held in the city of Catamarca on 13 December. It was organized by volunteers Iván Ruiz and Gustavo Soto and attended by 10 members (students and GOLD) living at Catamarca, in addition to Eng. Sergio Gallina, Catamarca National University (UNCa) Vice Dean and the UNCa Student Branch Counselor. This was the first time a STEP event took place in this province, an area that has provided very active student and GOLD volunteers in the Argentina Section.

The third STEP event was held in the city of Bahía Blanca on 22 December. The event was attended by 17 members (primarily graduate students and GOLD) mostly from the Southern National University (UNS). The event was also attended by Marcelo Moreyra, S-SAC Argentina Section 2009/10 and Martin Di Federico, IEEE GOLD Argentina Secretary for the period 2011/12 (and GOLD CAS Representative - BoG Member), who organized the event. The event also served as a meeting for the GOLD Affinity group

in this city, which has the most members with GOLD status.

We hope to organize a similar event in the course of this year in Tucumán province, the residence of Argentina GOLD Vice President Milton Marché.

Ultimately, the GOLD Argentina Affinity Group has organized more than 15 activities over the past year including meetings, conferences, courses and seminars. To learn more about the GOLD-AR group, please visit <http://ewh.ieee.org/r9/argentina/gold/>. ■



Pictures above: STEP attendees around Region 9

IEEE GOLD Community News

From around the world

Technical site visit to Bosch STEP Event 2011, Tokyo GOLD

With the kind invitation of Mr. Hiroyuki Kondo of Bosch Corporation Japan, members of Tokyo GOLD had a chance to visit the Yokohama office of Bosch on February 9th 2011. The visit was co-organized by the Student Branch of the Tokyo University of Science. This STEP event was the first STEP event held in 2011, and 27 participants enjoyed a wonderful afternoon at Bosch. The main topic of this workshop was "Career development as an electrical and electronics engineer." The engineers of Bosch's Yokohama office provided the students with the chance to see and understand real research and development work in a world-class company.

The chairperson of Tokyo GOLD, Mr. Yasuharu Ohgoe, gave the opening speech explaining the importance of being a member of IEEE, a point which was reiterated by the engineers at Bosch during the workshop. In the first part of the workshop, Mr. Masakazu Kobayashi talked about his specialty: automotive control system technology. Generally people have a perception that the car industry depends heavily on mechanical engineers, but from the talk the participants got a strong sense of how the electronic parts in the control system help control a car such that it can be run safely on the road.

Mr. Kobayashi described the workflow of designing the control system, which included designing with computer simulations, building a prototype for system testing, and final production. After the talk, the audience had the opportunity to see the actual development environment, including computer aided design and prototyping tools. Participants felt that this part was especially valuable, as usually they didn't get much exposure to an actual working environment.

In addition to the technical aspects, the personal and social aspects of an engineer's life are also very important. Mr. Kondo discussed how to prepare for becoming an engineer. He stated that professional knowledge is important, but the power to "realize dreams in the industry" is also very important for an engineer to give him or her the ability to solve challenges. Going technically deep in one's own profession needs to be complemented with breadth at the same time. Integrating knowledge from different disciplines can inspire innovation as well.

After the workshop, a social gathering was organized. The students were joined by more engineers from Bosch, allowing them to share their opinions and experiences. Snacks were served in the gathering and the participants were able to ask whatever questions were on their mind, enhancing their understanding of industry. While students often attend introductory sessions for various companies – sessions typically led by HR personnel – the participants agreed that talking directly with engineers in a relaxed setting gave deeper insights and a clearer image of what it means to be a professional engineer.

The STEP event at Bosch was a big success. Once again, we are grateful to Mr. Kondo of Bosch Corporation for his kind invitation and the participation of the staff in the Yokohama office. ■



Yasu, Tokyo GOLD Affinity Group chair providing the opening address



A presentation by the electronic engineers of Bosch Co. on automotive control system technology



Social function after the presentations

Do you have IEEE GOLD news?

Email it to us at goldrush@ieee.org!

IEEE GOLD Affinity Group Profile

Featuring GOLD Affinity Groups from around the world

San Francisco GOLD Affinity Group

Founded **Mid 2000** Chairperson **Frank Oppong** Website www.ieee.org/sfgold

History

The IEEE San Francisco GOLD Affinity Group (SF GOLD) has always aimed to inspire young engineering graduates to become involved in their profession, career and IEEE. SF GOLD strives to achieve its goals by offering both technical and professional lectures as well as organizing many social and networking events during the year. SF GOLD is fortunate to be located in the vibrant Bay Area that includes not only San Francisco, but also Oakland and San Jose.

SF GOLD's revitalization started in the mid-2000s with Alex Goldhammer as he worked to tackle GOLD's core missions. Then in 2008, SF GOLD had an infusion of new energy with the addition of Frank Oppong and Marvic Verzano who have helped grow the group and expand the variety of events. 2010 saw the addition of Gerardo Baroeta who has helped round out the executive committee team and brought even more fresh ideas to the team.

Events

SF GOLD centers its events around technical, professional, and networking events and 2010-2011 has been a very exciting year for the group. One major highlight of 2010 was the SF GOLD "How to Get Ahead in Engineering" presentation given by human resource professionals based at Pacific Gas & Electric. This event, especially in response to the current economic situation, aimed to equip undergraduates as well as young professionals with the tools to land a job, stand out among the crowd, and develop the necessary skills that professional recruiters look for. The event was a great success with a great turnout of undergraduate students and professionals looking to advance their career.

Also in 2010, SF GOLD presented the "Your Path to Home Ownership

101" event. As part of our very popular personal finance presentation series and partnering with Ameriprise Financial, the home ownership panel discussion gave GOLD members an amazing interactive experience with real realtors, insurance brokers, and mortgage brokers in the realm of home ownership.

SF GOLD ended 2010 on a fun note with the always popular AT&T Ballpark tour, home of the 2010 World Champion San Francisco Giants. The tour gave behind the scene access to normally restricted areas of the ballpark including dugouts and VIP box suits.

2011 has been a very busy time for SF GOLD as well. After kicking things off with a great and relaxing social mixer event in February, SF GOLD presented its members with an exclusive tour of the Lawrence Livermore National Lab's Ignition Facility in April where scientists and engineers study how the making of a star can lead to new energy sources of the future.

Along the same theme of energy, SF GOLD recently partnered with Pacific Gas & Electric to host a presentation on the "Evolution of the Utility-Scale Solar Industry." With over 80 members in attendance, the presentation, given by Senior Vice President Mark McLanahan of Fowatow Renewable Ventures went over the opportunities, development regulations, finance environment, and industry outlook for utility-scale solar.

SF GOLD reaches many of its members through its immensely popular Facebook and LinkedIn pag-



IEEE San Francisco GOLD Affinity Group Events

es. Since embracing alternative forms of media outreach, SF GOLD has seen participation of various events rise.

Interesting Facts and Initiatives

SF GOLD is planning on having its first STEP function during the 2011 Section Congress when it is held in San Francisco in August. STEP will be a great forum to further highlight the benefits of IEEE to students and recent graduates as well as provide insight into future career opportunities. ■

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

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

IEEE GOLD Peer Reviewed Articles

Are you receiving the mentorship you need?

Cristian A. Linte, PhD, Member of IEEE & EMBS

“Having good mentors early in one’s career can mean the difference between success and failure in any field”, states the 2007 Nature’s Guide for Mentors article. No one can make decisions for you, but the right people can help broaden your vision and thinking, and help you make decisions that will benefit you and your career. That’s who mentors are – individuals you admire, look up to and feel comfortable talking to, and asking for an honest opinion.

Mentoring - a two-way street

Mentoring relationships tend to develop across a broad experience gap. You, as a trainee, need guidance and encouragement for your career development, and since neither you nor your peers have probably had that experience, you turn to your superiors or senior collaborators for professional development and career advice. Although mentoring relationships are perceived as primarily benefiting the trainees, mentors also experience personal satisfaction from shaping the next generation. Trainees carry forward their mentors’ achievements and as their professional horizons expand, so do their mentors’ professional networks. Mentoring is a symbiotic relationship, in which you as a trainee open up your world of opportunities and give back to those who helped you develop your career.

What do you look for in a mentor?

Passion, enthusiasm and positivity are never bad traits to look for in a mentor. Look for someone who is available – think of the open-door policy – and willing to dedicate his/her time to spontaneous discussions. A true mentor possesses a well-established system of moral values, acts according to their stated principles, and is able to communicate the hard truths about the real world without giving you false hopes and without crushing your dreams. You should look up to your mentor rather than perceiving them as just another friend. You are not looking for another pal; you have enough of them! Don’t let the relationship become too relaxed – reciprocal respect is essential for successful mentoring.

Building mentoring relationships: Seek, connect, maintain

The outcome of good mentorship should result in you being part of a well-connected network, knowing who to go to for the advice you need, and maintaining long-term personal and professional relationships. During your training you had the opportunity to connect and impress several professors or employers with whom you should stay in touch and update on your professional development. Sooner or later you will need to provide a list of referees for your next job application, and even if they are not directly involved in your current career stage, they will be in a better position to support you.

Once you immerse yourself into a new environment, seek professional relationships with individuals who can become your official mentors, slowly cultivate these relationships and treat them with respect – you need the advice and support of these individuals for upcoming promotions. Always try to broaden your perspective and seek out

other mentors, who may or may not be part of your immediate niche. These individuals may be experienced scientists or employees you noticed at a recent scientific conference or staff meeting, with whom you are not directly collaborating, but appreciate for their views. While their experience will help you see the bigger picture, they themselves may also appreciate your new, fresh point of view.

The key element to successful mentorship is maintaining the professional relationships you have worked so hard to establish. Identify a particular trait in each mentor that you would like to cultivate in yourself. Meet with your mentors regularly, keep them updated of your progress, and if progress is slow, engage them early and ask for their support. Keep meetings professional and be specific towards achieving your goals. Show them you are well-prepared, clear and keen on what you want to achieve.

What if things don’t work out?

It is not uncommon to find yourself in a position where you don’t feel that you are getting what you need and what you initially expected from your mentor. The best approach is to have a frank conversation with your mentor and re-iterate your needs and expectations. If you really find that he/she is clearly and consistently uninterested in you, undervalues your abilities or displays any signs of undermining the relationship, you should reconsider the relationship and start looking for other mentors. However, you need to proceed with care, as you don’t want to burn any bridges, especially if the mentor is a leading figure in the field. Of course, there is no need to “end” one mentoring relationship before engaging in other ones, as the advice and insight one mentor shares with you is bound to complement what you receive from another.

Tips to Successful Mentorship

1. Think strategically: set your goals, work creatively toward your aims, and measure your accomplishments;
2. Seek actively and test the grounds: ask tough questions and learn from others about a tentative mentor;
3. Connect and maintain: establish and nurture professional relationships, but don’t overstay your welcome;
4. Be humble: accept critical feedback constructively, be open to learning, and accept new ways of thinking;
5. Identify new learning opportunities: being mentored is taking a new course - you choose the instructor and topics;
6. Stay connected: always aim to cultivate a sense of community - you can never have too many supporters!

It is not easy to find good mentors! If you have come across someone who can provide you with the mentorship you need, nurture that relationship, inherit those good mentoring traits, and pass them along to your future mentees! Don’t forget, mentoring is a two-way street! ■

Cristian A. Linte is with the Biomedical Imaging Resource and Department of Physiology and Biomedical Engineering at the Mayo Clinic College of Medicine in Rochester, MN, USA.

IEEE GOLD Peer Reviewed Articles

Smart Grid: Does Time Of Use Utility Power Pricing Save the End-User Money?

Robert Schmid, MIEEE, PE, LEED AP

It seems that 'Smart Grid' is increasingly becoming a hot topic these days as the implementation of renewable energy and distributed generation increases. Many utilities are beginning to change their infrastructure to incorporate modern microprocessor based digital relays and switches throughout their substations and some have even begun to change meters at end user locations from analog to microprocessor based digital meters, or 'smart meters'.

Smart meters are able to communicate with the utility to transmit end-user power usage data and are able to determine the amount of power the end-user is using all the time. The utilities have, therefore, started to charge different rates based on the time of day, month and year. The utility will charge a higher rate during peak power usage times, and a lower rate during lower power usage times, such as overnight, or on weekends. This type of rate structure is referred to as TOU (Time of Use) and is similar to how a cell phone company prices minutes. It is also in line with a typical business structure that would price a product based on supply and demand.

In theory, the end-user should not use items such as large appliances or equipment until the lower rate periods, but can an end-user lower their electric bill each month, if they are diligent in operating this equipment at the correct time? The answer is yes, but it's complicated. The utilities need to set an off peak rate that will incentivize end-users to change their routines as well as make it worthwhile for them to make a capital improvement. The end-users also need to be willing to change!

Right now, most people turn on an appliance after it is filled; such as the dishwasher, washing machine, dryer or electric oven. Changing this routine would require being mindful about the electric rate at that time. Some residential appliance companies are actually incorporating communication with smart meters into their products, which will turn the appliance turn on when the rate drops, based on a signal received from the smart meter.

The following are some concerns, however. There are certain things that have to run during the higher rate periods, such as a pool filter or an air-conditioner and in the commercial and industrial world, just about everything that will produce revenue. Will running this equipment drastically increase an electric bill? Yes, because this is the type of equipment that causes the peak power demand periods in the first place. The solution is not to start doing business at night though, it is to use power 'smartly' and to implement 'smart' solutions to the facility.

In many commercial buildings they produce ice at night and store it for use during the day in the air conditioning system. This is great because it will utilize the low rate period to perform part of the high energy using function for use during the high rate period. Additionally,

some facilities have installed on-site batteries or a co-generation unit that utilizes excess steam or heat from equipment, to produce power. These are existing techniques that were utilized by buildings way before smart grid, because it lowers their peak demand and therefore lowers their electric bill. These techniques and various others will work just as well, if not better in a TOU rate structure. A simple cost/benefit analysis can be performed to determine if one or more of these will provide a return on investment that is satisfactory to the end-user.

So, to answer the question posed in the title, the answer is, yes, but indirectly and if handled properly with a little work and investment from the end-user. The next question should be: is TOU pricing fair? Well, from a business standpoint, yes. It's simple

supply and demand economics in a free market in which consumers are paying for a service (supply) and based on the consumer usage (demand), the power company is charging a publically disclosed rate. From an end-user standpoint though, it's unfair that their routines will have to change or a capital investment made through no action of their own, but in the end, they will save money. Doesn't the end justify the means? ■

The utilities need to set an off peak rate that will incentivize end-users to change their routines as well as make it worthwhile for them to make a capital improvement.

**Proceedings
of the IEEE:**
**Pioneering technology
from the inside out.**



Proceedings of the IEEE.
Subscribe today.
www.ieee.org/proceedings



Canada's 'NANO' Technologists

Aju Jugessur Ph.D. Senior Research Scientist/Manager, Nanolithography Facility, University of Toronto

Nanotechnology is the meeting ground of engineering, biology, physics, medicine and chemistry. Most of these disciplines converge at the nanoscale towards the same building blocks, principles, tools of investigation and fabrication. This emerging field is expected to generate new products and enabling technologies which will enhance our lives on many levels. However, the training of the Nanotechnology workforce poses a major challenge. It is estimated that about 2 million workers in this field will be required by the year 2020, with over half of the workers required in North America alone[1]. A country's economic viability and its citizen's job mobility requires that its workforce have a strong micro- and nanotechnology education, providing a skill set covering synthesis, fabrication and characterization[2]. Some experts have characterized the field of Nanotechnology to be in the process of giving birth to the second industrial revolution.

As a result, the Emerging Communications Technology Institute (ECTI) and the Department of Electrical and Computer Engineering, in the Faculty of Applied Science and Engineering, University of Toronto launched a new undergraduate course, "Introduction to Micro- and Nanofabrication Technologies," in the fall of 2009 in order to address the potential shortage of these skills. This final year undergraduate level course offers broad-base knowledge and hands-on skills on several micro and nanofabrication technologies which are applicable in the many other technological fields. The course which is one-of-its-kind in Canada introduces the fundamentals of micro- and nanofabrication processes. Students get to fabricate a micro-capacitor and a nano-optical waveguide by making use of a suite of state-of-the-art tools. These include techniques such as pattern transfer technologies including electron-beam nanolithography, reactive ion etching, atomic layer deposition, and metrology techniques. Figures 1 and 2 show the undergraduate students in their cleanroom suits and the fabricated optical nano-waveguide, respectively.

Students also learn important concepts in cleanroom technologies and protocols. It is recognized that there is an urgent need to train students in this growing field at all levels. Few students are finding their way into fields dealing with the development and manufacturing of high-technology devices. Secondary students have grown up with computers and high-tech gadgets but most of them have vague ideas about Nanotechnology in general - a current scenario in spite of the fact these devices are fabricated using a suite of micro/nano fabrication tools. They are comfortable with the concept of moving information around electronically but the idea of literally moving 'nano-size' features around to create and build is still remote to them. Fortunately, this is changing gradually



Figure 1: Undergraduate Students in cleanroom suits, including the instructor

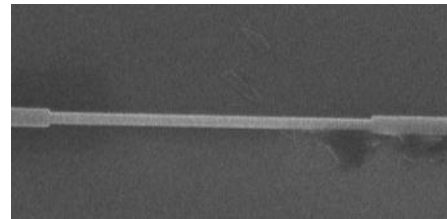


Figure 2: The fabricated nano-waveguide, with applications in optical communications and sensors

since many colleges and universities around the world have recently initiated programs in Nanotechnology.

Career choices are no longer

limited to semiconductor microelectronics industry which has been a 'boom-or-bust' industry in the recent years. Individuals trained in this field can follow career paths in a range of fields such as biomedical applications, MEMS, microfluidics, opto-electronics, microelectronics, energy and pharmaceuticals. More importantly, as the market trends in these high-tech sectors change, the nanotechnology workforce will be sufficiently versatile to change fields quickly. Figure 3 shows the interdisciplinary nature of the various nanotechnology fields which make use of the skills and knowledge acquired through the nanofabrication course at the University of Toronto.

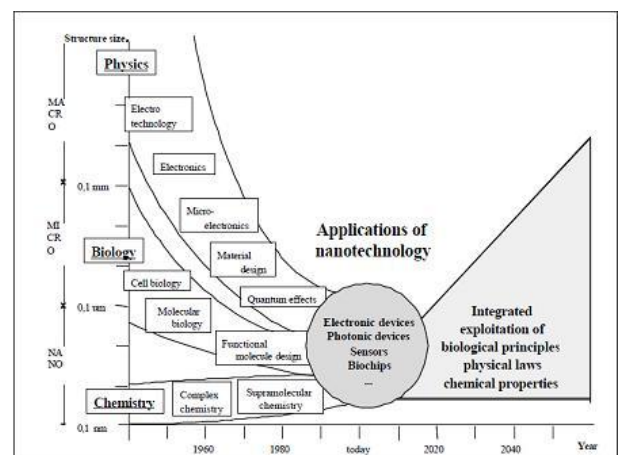


Figure 3: Applications of Nanotechnology (Source: VDI-Technology Center, Future Technologies Division)

The Engineering and Scientific community needs to extend its role of analysis, design and manufacturing to include the 'nanoscale manufacturing and engineering', which fortunately is already taking place. However, the availability of sufficient scientists and engineers in this area is uncertain if we continue on the current path. It is anticipated that Nanoscale engineering and manufacturing will continue to increase in importance in the years to come. The ECTI at the University of Toronto is committed to the critical mission of training the next-generation of scientists and engineers in this new and exciting area. ■

References:

- [1]. Roco M.C., "Nanotechnology - A Frontier in Engineering Education", *International Journal of Engineering Education*, Vol. 18, No. 5 2002.
- [2]. Fonash S.J., "Nanotechnology and economic resiliency", *Nano Today*, Vol. 4, p. 290-291 2009.

IEEE GOLD Society Profile

Featuring IEEE Societies supporting Young Professionals

Power and Energy Society

Aaron St. Leger, GOLD Representative



IEEE Power & Energy Society (PES) is a worldwide, non-profit association of more than 28,000 individuals engaged in the electric power and energy industry. Our mission is to be the leading provider of scientific infor-

mation on electric power and energy for the betterment of society and the preferred professional development source for our members. The scope of the Society embraces research, development, planning, design, construction, maintenance, installation and operation of equipment, structures, materials and power systems for the safe, sustainable, economic and reliable conversion, generation, transmission, distribution, storage and usage of electric energy, including its measurement and control. PES is home to more than 25 technical, coordinating and standards development committees. In addition, PES is very active in student programs. These activities include PES-Careers, an online resource designed to help students find a power engineering job or internship, the PES Scholarship Plus Initiative offering multi-year scholarships and career experiences to qualifying undergraduate students, and support programs to subsidize conference attendance for both graduate and undergraduate students.

Conferences

PES sponsors or co-sponsors many conferences and meetings worldwide throughout the year. Attending these events is a great way to stay up-to-date with latest advances, hear from leaders from the profession and network with your colleagues. Many of the conferences include specialized student programs such as poster contests and networking receptions. A few premier PES conferences are described below:

- **IEEE PES General Meeting:** This is the premier annual PES conference. This conference brings together practicing power engineers, executives, policy makers and academics from all over the world. This conference provides an international forum for experts to promote, share, and discuss various issues and developments in the field of electrical power engineering. Look for the GOLD reception and networking event held at the General Meeting each year.
- **Transmission and Distribution Conference and Exposition:** This semiannual conference provides the international power-delivery community with the information and details necessary to manage technology and business solutions now and in the decades ahead.
- **Power Systems Conference and Exposition:** This semiannual conference provides an exceptional venue for discussing issues and developments as well as for

highlighting key vendors with products and services essential to the field of electrical power systems.

Publications

Launched in 2003, PES has published IEEE Power & Energy Magazine, an award-winning bimonthly magazine dedicated to disseminating information on all matters of interest to electric power engineers and other professionals involved in the electric power industry. Feature articles focus on advanced concepts, technologies, and practices associated with all aspects of electric power from a technical perspective in synergy with nontechnical areas such as business, environmental, and social concerns. PES also publishes the following transactions:

- IEEE Transactions on Energy Conversion
- IEEE Transactions on Power Delivery
- IEEE Transactions on Power Systems
- IEEE Transactions on Smart Grid
- IEEE Transactions on Sustainable Energy

PES GOLD Committee

There are over 3,200 PES GOLD members worldwide. The PES GOLD Committee is focusing on better serving students and assisting with the transition to young professionals. This committee is currently focusing on:

- Building continuity into student programs, transitioning to GOLD membership, and senior IEEE/PES membership.
- Provide students and young professionals with career services via PES-Careers, job fairs and conference seminars.
- Educate students on GOLD membership and IEEE membership benefits.
- Involve young members in PES activities.

This committee recently formed committee is open to additional volunteers. If you are interested in getting involved with any of these initiatives or the PES GOLD effort in general, then please contact me immediately.

Send an e-mail (aaron.stleger@ieee.org) indicating how you would like to be involved, including a short biography. The committee is particularly interested in volunteers from Regions 8-10, however, members from all regions are welcome. In addition, feel free to contact me for any additional information.

IEEE PES Webpage:

<http://www.ieee-pes.org/>

PES-Careers:

<http://www.ieee-pes.org/workforce/pes-careers>

IEEE PES Scholarship Plus Initiative:

<http://www.ee-scholarship.org/> ■

IEEE GOLDRush Notices

Learn Integrated Circuit Design Online



Learn integrated circuit design from renowned experts in the field that will help you get up to speed very quickly in new areas and provide insight into new developments. Slides, audio, and complete transcription of ten 90-minutes tutorials as well as all 4 segments of the all-day short course on RF Design for Nanometer CMOS, are all free for Solid-State Circuits Society members. These are the same tutorials and short courses that research and industry designers paid hundreds of dollars for at the International

Solid-State Circuits Society, and are now offered online. This is a new Society benefit for its members. They are often assigned by graduate school professors and dissertation advisors and offer outstanding background. Logon with your IEEE web account. Some topics include:

- "Vector Processing as an Enabler for Software-Defined Radio in Handsets" by Kees van Berkel, NXP Research in Eindhoven,
- "Organic-Transistor Circuit Design", by Takayasu Sakurai, University of Tokyo
- "Radio Design for MIMO Systems with an Emphasis on IEEE 802.11n", by Arya Behzad, Broadcom

Visit <http://sscs.ieee.org/tutorials-on-line.html> today! ■

IEEE Nuclear and Space Radiation Effects Conference

Jonathan A. Pellish

The 2011 IEEE Nuclear and Space Radiation Effects Conference (NSREC) will be held July 25 - 29 at the JW Marriott Las Vegas Resort & Spa. The conference features a technical program consisting of eight to ten technical sessions of contributed papers describing the latest observations in radiation effects, a Short Course on radiation effects offered on July 25, a Radiation Effects Data Workshop, and an Industrial Exhibit.

Many students and young professionals attend this meeting on a yearly basis. The conference committee is also organizing an IEEE GOLD breakfast this year, which will give young professionals an opportunity to network

with each other and with other members of the international radiation effects community.

The technical program includes oral and poster sessions on nuclear and space radiation effects on electronic and photonic materials, devices, circuits, sensors, and systems, as well as semiconductor processing technology and design techniques for producing radiation-tolerant (hardened) devices and integrated circuits. The majority of research papers presented at the NSREC are published in the December issue of the IEEE Transactions on Nuclear Science. For more information, please visit

<http://www.nsrec.com/>. ■

Technology for the Benefit of Humanity

2011 IEEE GLOBAL HUMANITARIAN TECHNOLOGY CONFERENCE

October 31-November 1, 2011 (Seattle WA, USA)

Registration is Open

www.ieeeghtc.org



IEEE Members Save 10% on Online Learning Resources

Access more than 6,000 online courses from a growing list of universities and other learning institutions, who have partnered with IEEE to help you meet your professional development needs.



www.ieee.org/partners



IEEE GOLDRush Notices

GOLD Affinity Group Hall of Fame Awards

Member and Geographic Activities (MGA) GOLD Committee

The MGA GOLD committee recognizes three outstanding GOLD Affinity Groups every year for their activities and successes. Prior to the introduction of this award, the only forms of recognition in GOLD are the ones that recognize individual GOLD members. However, IEEE is a successful organization not only because of individual contributions but also because of outstanding teamwork displayed by the members. While it is important to reward the individuals that play a remarkable role in success of GOLD, it is also crucial to recognize the Affinity Groups that play a big role in helping their members succeed.

The benefits of having a GOLD AGs Hall of Fame include:

- Instilling a sense of pride in GOLD members for their accomplishments
- Encouraging the GOLD Affinity Groups to provide excellence in the service provided to their members
- Increased interaction of GOLD Affinity Groups with the Region GOLD Coordinator
- Inspired formation of additional GOLD Affinity Groups
- Increased high quality GOLD activities
- Inspiring GOLD members to engage in other IEEE activities

The Affinity Groups added to the Hall of Fame will also be presented with a plaque and \$500.00 for their accomplishments and commitment to GOLD.

MGA GOLD is pleased to announce the winners of the inaugural GOLD Affinity Group Hall of Fame award:

- Lahore GOLD Affinity Group
- Malaysia GOLD Affinity Group
- Finland GOLD Affinity Group

An honourable mention goes to the Argentina, Egypt and New Zealand North GOLD Affinity Groups. Congratulations to the IEEE GOLD Affinity Group Hall of Fame award winners for 2011. ■

Let's Change the World

Helene Fung

One of our former IEEE GOLD volunteers, Helene Fung, now IEEE Strategic Planning Manager recently wrote and composed a theme song for the IEEE Humanitarian Technology Conference due to be held in Seattle, USA in November 2011.

The song was written in Singapore and produced at a friend's home studio in Australia during a visit at the request of an HTC organizing committee member. The lyrics to the song can be found below. ■

Lyrics

We were born connected to the land
Through the land, we're all connected to each other
Hand in hand, we can make this world a better place

Improving people's lives

Our lives have been changed by technology
Tomorrow, the future will be brighter
Hand in hand, so many people will benefit
A new day has dawned for us

We have a duty (Put our minds together)
To help each other (We can travel all the way)
Through technology (and with liberty), we can solve problems

We have a duty (Let our hearts beat as one)
Since we're born to care for each other
Together, we can change the world
Together, we can change the world

IEEE GOLDRush Call for Articles: September 2011 Edition

IEEE GOLDRush invites you to submit an article for publication in the September 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 on or before 5 August 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> ■

2011 IEEE GOLD Committee

MGA GOLD Committee

MGA GOLD Chairperson

William Sommerville

MGA Representatives

Aisha Yousuf

Basak Yuksel

Michael Andrews

TAB Representatives

Christina Schober

Lisa Lazareck

Matthias Reumann

GOLD Coordinators

Region 1

Uri Moszkowicz

Region 2

Michael Pearse

Region 3

Jonathan Torbert

Region 4

Arun Kumar

Region 5

Kheng Swee Goh

Region 6

Gigi Lau

Region 7

April Khademi

Region 8

Salima Kaissi

Region 9

Salomon Herrera

Region 10

Timothy Wong

Education Activities Board

Prasanna Venkatesan

IEEE-USA

Cathy Strickland

Publication Services and Products Board

Timothy Wong

Student Activities Committee

Eva Lang

GOLD Society Representatives

Aerospace and Electronic Systems Society

Mike Roberts

Broadcasting Technology Society

Heidi Himmanen

Circuits and Systems Society

Sunil Pai

Delia Rodriguez de Llera

Martin Di Federico

Pui-In (Elvis) Mak

Communications Society

Jingxian Wu

Computational Intelligence Society

Damien Coyle

Consumer Electronics Society

Tom Wilson

Education Society

Aju Thomas Abraham

Electron Devices Society

Ravi Todi

Engineering in Medicine and Biology Society

Matthias Reumann

Electromagnetic Compatibility Society

Andres Pavas

Caroline Chan

Geoscience and Remote Sensing Society

Shannon Brown

Laser and Electro-Optics Society

Lianshan Yan

Magnetics Society

John Nibarger

Microwave Theory and Techniques Society

Sergio Palma Pacheco

Jenshen Lin

Photonics Society

Ju han Lee

Power and Energy Society

Glen Tang

Robert Balog

Robotics and Automation Society

Agostino Desantis

Systems Man and Cybernetics Society

Wing Ng

Ferat Sahin

Society on Social Implications of Technology

Emily Anesta

Solid State Circuits Society

Sean Nicolson

Vehicular Technology Society

Will Sommerville

Sensors Council

Venkata Chivukula

IEEE GOLDRush Team

Editor in Chief

Timothy Wong

Assistant Editor in Chief

Stuart Bottom

Layout Editor

Kenny Wong

Editorial Assistants

Kheng Swee Goh

Kristi Hummel

Lisa Lazareck

Jason O'Conal

Joanna Oommen

Sabarni Palit

Michael Pearse

Rajnish Sharma

Agusti Solanas

Aisha Yousuf

Do you have feedback on GOLDRush?

Email us anytime at goldrush@ieee.org.

We look forward to hearing from you!