IEEE

the LYNX

June 2012

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IEEE/Orange County Website:
www.ieee.org/ocs

The Chair's Corner:

Welcome to the June 2012 IEEE Orange County Section Newsletter!

Last month we had the Section's Annual Meeting and Award Dinner. Professor Frank Meyskens, from UCI Chao Cancer Center, delivered an interactive talk to all the families at the event. The younger members of the families attending were also brought together with robotic activities at the event to be part of IEEE as future engineers.

This year, the section has been providing three types of talks: (1) topics of general interest; (2) topics that fall on different societies and; (3) topics to support new chapters such as AESS and CES. We will have three more sets of talks in the Fall. We have also several talks from different chapters. In addition, please contact me or the chapter chairs to discuss potential future talks. The programs that will require your special support at this time also include OC History Project, OC Consultant Network, Section's Social Events.

I would encourage everyone to participate in different programs of the Orange County Section and Chapters at all levels. I'm sure you will be blessed by giving to, and receiving from, IEEE. Please send me an email to learn how you can participate.

Best,
John Collins, Ph.D.
Chairman, IEEE Orange County Section

The IEEE Orange County

Upcoming Events

June 1
New Trends in 3D Integration

June 2
Curiosity – Mars Rover

June 11
ARINC Global Network and "Rapyd-Connex" Mobile Broadband Service

June 12
III-V's: From THz To CMOS

June 14
Designing low-power integrated circuits for neural sensing applications

June 23
Consulting Opportunities with Big Data and Hadoop

Sept 6 & 7
2012 IEEE-CPMT/IMAPS Advanced Technology Workshop

Oct 24
IEEE OC Tech Job Fair

Oct 24
IEEE OC Student Design Contest

Receive i$50 by volunteering in IEEE OC Section or Chapters

We introduce iDollar as an incentive to all volunteers for their involvement in Section's programs. The iDollar can be used towards registration, food and other fees at the Section's events. The iDollar will serve as a motivator for volunteer involvement, their professional development and extending benefits to all IEEE Members.

The iDollar will bankroll the cost of a volunteer attending Chapter or Section events. As an incentive, we propose to issue ten $5 iDollars ($50 total) to each new volunteer. We will have a registry of all their names and IEEE Member numbers from those who were issued these iDollars, signed by the volunteer. The issued iDollars will have the volunteers' name and member number at the back of the bill. When the volunteer attends a Chapter (or Section) event, s/he shall put the event name and date at the back of the bills and hand them to the Chapter (or Section) Treasurer/Event Coordinator. In the following Section meeting the Chapter Treasurer will sign the back of the iDollars collected and redeem them as chapter funds from the Section. The Section will verify the bills against the registry before transferring funds to the Chapter. The volunteer does not get cash, the Chapter Treasurer redeems the funds to the Chapter. To add security, a wet stamp will be used on all iDollars issued to a volunteer.

We are confident that the iDollar program is simple and secure to attract and involve new volunteers at the Orange County Section.

Mario Manansala
manansala@ieee.org

Newsletter Inputs

We will publish IEEE Orange County Section Newsletter in the beginning of every month. Please provide any Orange County news, engineering conference details, expert view on engineering in Orange County, engineering article or engineering success story to info@nanomems-research.com no later than the 15th of a month. We'll publish the items in the following month. In your e-mail, please, enclose your news item between two lines of "+" characters, i.e.:

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News Item Title

Newsletter content Newsletter content, Newsletter content Newsletter content Newsletter content Newsletter content, Newsletter content Newsletter content

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Picture

We will be transitioning to a website-only submission model in which your news inputs may be submitted at any time. Information on the website address and logistics, will be provided soon. Please, stay tuned.

Thank you,
Hector J. De Los Santos, IEEE Orange County Section, Newsletter Editor
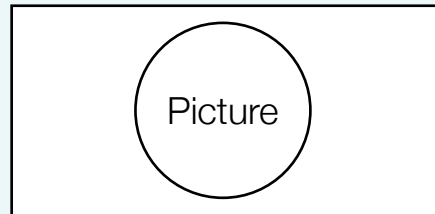
IEEE OCS Volunteers in the last 50 years

As we celebrate the 50th anniversary of IEEE/OCS next year, we would like to post biographies of all of our volunteers (section level and chapters level) on our website – both to give visibility and kudos to the volunteers, and to motivate new members to join the efforts.

Many of you already have a biography that we can post, and if you send your biography to lin.crampton.at.gmail.com, we can get it posted.

For those of you who do not have a biography handy, some of the things that are good to include are:

- Name
- Current IEEE position
- Picture
- Contact (email address, linked-in, twitter)
- Education
- Career highlights and achievements
- Publications (papers, books websites, blogs)
- IEEE membership history and past positions
- Other professional organizations or associations
- Personal information – optional

A biography on the IEEE site carries a lot of Internet authority, so we encourage you to take this opportunity to highlight your achievements. If you are uncomfortable writing about how wonderful you are, send an email answering the bullet points above to lin.crampton.at.gmail.com and she will do a rough draft that you can use as a starting point. In the interest of expediency, some of you may have received a rough draft bio for your approval. Please take a few minutes and go over the rough draft to ensure accuracy and get back to her with your approval. You will have final approval on the biography we post.

Included below are some links to IEEE biographies to give you an idea what an IEEE biography looks like.

http://www.ieee.org/about/awards/bios/emberson_recipients.html

http://ewh.ieee.org/r1/princeton-centraljersey/bios.html

http://cpmt.ieee.org/about-cpmt/61-cpmt-member-at-large-bios

http://www.usfirst.org/community/volunteers/senior-mentor-bios

https://www.csunalumni.com/default.aspx?Page=VolunteerServiceEmeritiBios

http://minesonline.net/s/840/NHindex.aspx?sid=840&gid=1&pgid=496

Contact: lin.crampton.at.gmail.com

Welcome the New Members Joined Orange County Section During April-May 2012

Mohammed Ibrahim Alayed	Jonah Micah D Jocson	RAJ PEDDI	Anh Huynh
Charles Lawrence Austin	Patrick Kahn	Prashane Patel	Brian Robert Jackson
Ethan Lee Berry	Jaspal Kamboj	Amy Pham	Gregory Allen Simmons
Zain Bokhari	Jahangir Karimi	Amelia Regan	Boriphan Sirirat
Chia Chang	Yasuhiro Komori	Ivan Roman	MARIA THOMPSON
Natalie Chau	Brandon Kong	Steven Michael Ryan	Nina M Thorosian
Pei-Yuan Chiang	Jahyuk Koo	Kyle Samuelson	Tracey Tien
Daniel D Chien	Ryan Kwong	Daniel Sanchez	Nghia Dinh Tran
Cameron Chitsaz	Santiago Landazuri	Seyed Hassan Sedighy	Michael Albuen Villagomez
Jeremy Chou	Christopher Lee	jainam Shah	Timothy Q Vu
Ricardo Chua	Edward Lin	Jon Gergen	Karen Walton
David Warren Culp	Hamed Maleki	Amir Hossein Ghaffarkhan	Kan Xu
Seth DiBenedictis	Lee Thomas Martie	Valerie Gregory	Winston Yee
Gurunath Dollin	Evan McKee	Ayaka Hatori	Dan Yu
Ryan Thomas Farraro	Sharad Mehrotra	Kimberly Hawkins	Xin Zhao
Natasha Felsinger	John Arnold Miller	Ryan Michael Hernandez	shawn liang
Andrew John Frank	Mitra Mostowfi	Julia JiangRong Ho	huylong dinh ngo
Erick Javier Gallegos	Jesse Navas	Adam Hobbi	
Priyanka Jain	Phuong Nguyen	Hung Khei Huang	
Christopher Jeong	Scott Nguyen	Javid Huseynov	

Joint event with AES Chapter

Date:	**May 31, 2012**
Topic:	
Speaker Name and Affiliation:	**Dr. Dmitry A. Altshuller**
Abstract:	
Speaker Biography:	Dmitry A. Altshuller (M'95–SM'03) received the B.Math. degree from the University of Minnesota in 1982, the Master of Control Engineering degree from Washington University in St. Louis in 1995, and the Ph.D. (Kandidat Nauk) degree in physics and mathematics with specialty in theoretical cybernetics from St. Petersburg State University (Russia) in 2004.
	He was a Member of Technical Staff at Lucent Technologies, worked as a Control Systems Engineer for MH Systems, Inc., as a Staff Mathematician for Scientific Applications and Research Associates, Inc, and as a Systems Engineer for Crane Aerospace & Electronics and Parker Aerospace. He is currently employed as a Senior Systems Engineer by Rockwell Collins Electromechanical Systems in Tustin, California. His research (done mostly on his own time) involves various aspects of nonlinear control systems, including stability and optimal control. He is an author or a co-author of 29 published and/or presented papers, including a partial solution of one the problems described in the renowned book Unsolved Problems in Mathematical Systems and Control Theory by Blondel and Megretski.
	Dr. Altshuller is a member of the Society for Industrial and Applied Mathematics and of the International Physics and Control Society (IPACS). He served on program committees for several conferences.
Time:	6:00 pm – Food and Networking 7:00 pm – 8:30 pm Talk
Location:	ETAP Learning Center 17 Goodyear, Suite 100 Irvine, CA 92618-1812 Direction: http://etap.com/company/oti-map-directions.htm
Cost:	pre-registered members/volunteers – $5 / (i$) unregistered members/volunteers – $10 / (i$)
Contact:	Send questions to OC Section Program Chair, "Ciaran O'Donnell" email: ciaran@josephmediatools.com

OCS History Committee Report:

I am seeking any history source of information regarding the early OC IEEE. I had lived and worked in LA County and was active in the LA Section in the IRE Professional Group on Automatic Control, didn't move to OC 'till '65 and wasn't really active in the OC section 'till the early 70's … so my ignorance runs deep. I really need your help in reconstructing the "early days" of our OC Section.

If I've already impulse you, please respond. If I haven't please take the initiative and shout, "Yes, I remember something …!" I'll bet you do.

Thanks,
Stan.White@ieee.org

IEEE Orange County Computer Society (OCCS) Is Pleased to Present:

Curiosity - Mars Rover

Date:	June 2, 2012
Topic:	Curiosity - Mars Rover
Speaker Name and Affiliation:	Charles Baker, Nagin Cox
Abstract:	A Special Presentation on The Latest Mars Rover Mission & Landing FEATURING: Two Lead JPL Mission Engineers (Charles Baker & Nagin Cox) • Amazing JPL Mars Rover Landing Simulation Videos • Possible Actual Curiosity Hardware and/or Mock-ups • Exhibit Tables from Several LA & OC Professional Societies • (The Planetary Society, IEEE, INCOSE, AIAA & others) KEY TALK TOPICS: What Have We Learned About Mars To-Date? • What Do We Hope to Learn about Mars from Curiosity Mission? • What Were Engineering Challenges in Designing Curiosity? Come to this special talk on Saturday, June 02, 2012, two months before the historic landing of Curiosity on Mars! Curiosity is the largest and latest Mars rover and has been described as being a Mini Cooper on 6 wheels. It is carrying advanced science experiments that include a laser for pulverizing rocks, and it will be the first craft to ever attempt a "sky-crane" landing.
Time:	2:00 PM to 5:00 PM (PT) (Doors Open at 1:30pm!)
Location:	Brandman University (Room 111) 16355 Laguna Canyon Road Irvine, CA 92618
Cost:	FREE (Parking, Admission, Bottled Water & Healthy Snacks!!!) – $0
Note:	This is also an LA/OC-Area-Wide Science, Technology, Engineering & Math (STEM) Outreach Event, so High School & College Kids are most welcome!!!
Contact:	RSVP ASAP to: http://occs-060212.eventbrite.com Event Questions to: Fred Lawler, (657) 464-9314, fredlawler@hotmail.com

Future OC Section Events

August	A presentation by Dr. Gary L. Blank, consultant, workshop leader, and 2012 candidate for IEEE-USA President-Elect is being rescheduled for an August date.
September	TBD Entrepreneurial Principles for Engineers
October	TBD (Project Management for Engineers)
November	TBD (Consumer Electronics)

Presentation by Dr. Gary L. Blank is Rescheduled

The Orange County Consultants Network (OCCN) along with the Los Angeles Area Consultants Network (LAACN) had arranged for Dr, Blank, a well-known consultant, workshop leader, and the 2012 candidate for the IEEE-USA President-Elect to speak at a special meeting on June 28th. It has been necessary to reschedule Dr. Blank's presentation until sometime in August, with the exact date to be determined. If we have your email address, we will notify you. If you would like to be added to our list, writer.gauger@ieee.org

IEEE Orange County EDS/MTT & IEEE's OC Solid-State Circuits Society (SSCS)Society Is Pleased to Present:

III-V's: From THz to CMOS

Date:	June 12, 2012
Topic:	III-V's: From THz To CMOS
Speaker Name and Affiliation:	**Prof. Jesus A. del Alamo** **Microsystems Technology Laboratories, MIT, Cambridge, MA**
Abstract:	The ability of Si CMOS to continue increasing transistor density while delivering enhanced logic performance has recently come into question. An end to Moore's Law threatens the microelectronics revolution: a historical 50 year run of exponential progress in the power of electronics that has profoundly impacted human society. There is a family of materials that perhaps like no other is capable of addressing this problem: III-V compound semiconductors. The capability of some III-Vs to efficiently emit and detect light has made them widely used in lasers, light-emitting diodes and detectors for optical communications, instrumentation, and sensing. A few, notably GaAs, InGaAs and InAs, exhibit outstanding electron transport properties. Transistors based on these materials are at the heart of many high-speed and high-frequency electronic systems. In fact, a sizable and mature industry exists that manufactures III-V integrated circuits in large volumes for applications as diverse as smart phones, cellular base stations, fiber optic systems, wireless local-area networks, satellite communications, radar, radioastronomy and many defense systems. The recent widespread use of handheld devices and their exploding consumption of data has represented a boon to this industry which is now characterized by highly automated and rigorous volume manufacturing in relatively large-area wafers, sophisticated device and circuit design tools, well established reliability in many "mission critical" applications, and a layered industrial ecosystem that includes "pure-play" foundries, "fabless" design houses and extended and competitive supply lines. There is no other material class currently being considered to replace the Si channel in a MOSFET that can line up such an impressive list of attributes. This paper outlines the case for III-V CMOS, it discusses the most critical problems to overcome, and summarizes recent progress along the way.
Speaker Biography:	Jesus A. del Alamo obtained a Telecommunications Engineer degree from the Polytechnic University of Madrid in 1980 and MS and PhD degrees in Electrical Engineering from Stanford University in 1983 and 1985, respectively. From 1985 to 1988 he was with NTT LSI Laboratories in Atsugi (Japan) and since 1988 he has been with the Department of Electrical Engineering and Computer Science of Massachusetts Institute of Technology where he is currently Donner Professor and MacVicar Faculty Fellow. Prof. del Alamo leads a research program on Si and compound semiconductor transistor technologies for RF, microwave and millimeter wave applications. In the last few years, his students have fabricated nanometer-scale transistors with world record high frequency operation. Prof. del Alamo is also investigating the use of III-V compound semiconductors to enable future ultra-low power CMOS generations. His group has demonstrated that InGaAs quantum-well field-effect transistors have superior scaling logic characteristics. Prof. del Alamo was an NSF Presidential Young Investigator. He is a member of the Royal Spanish Academy of Engineering and Fellow of the IEEE. He currently serves as Editor of IEEE Electron Device Letters. In 2012 he received the Intel Outstanding Research Award in Emerging Research Devices.
Time:	3:00-3:30 PM Networking 3:30-4:30 PM Lecture
Location:	OC Plaza, 2575 McCabe Way, Irvine, CA http://www.nanomems-research.com/OC_MTT_EDS.html
Cost:	FREE
Note:	Seating is Limited, RSVP by 06/11/12 by sending e-mail to: info@nanomems-research.com Non-IEEE members also welcome.
Contact:	info@nanomems-research.com

New Trends in 3D Integration

IEEE CPMT Orange County Chapter will host Dr. John Lau this Friday June 1st. Dr. Lau will present on new trends in 3D integration, it is a continuation of his last year talk in our chapter. Here is the talk detail:

Topic: New Trends in 3D Integration

Speaker: John H. Lau, PhD, IEEE, ITRI Fellow, Electronics & Optoelectronics Research Laboratory, Industrial Technology Research Institute (ITRI), Chutung, Hsinchu, Taiwan

Date: Friday, June 1, 2012

Time: Dinner and social time: 7:00 to 7:30 PM
Presentation: 7:30 – 9:00 pm (please note it is not our normal meeting time)

Venue: Broadcom Corporation, 5300 California Ave., Irvine, CA 92617 – Bldg. 2 Conf. Room 2-1037 (Salt Creek)

For more details and RSVP, please visit https://meetings.vtools.ieee.org/meeting_view/list_meeting/12751.

The Executive Committee of the Chapter invites everyone of you to attend this meeting and actively participate in all our future activities. Also, please feel free to forward this announcement document to all your friends who may be interested in this talk, as this meeting is OPEN to ALL to attend.

You can follow the Chapter activities on our website at http://sites.ieee.org/ocs-cpmt or on LinkedIn at http://www.linkedin.com/groups?gid=3996387&trak=hb_side_g.

2012 IEEE-CPMT/IMAPS Advanced Technology Workshop

Our IEEE Components, Packaging and Manufacturing Technology (CPMT) Society - Orange County Chapter will be hosting the 2012 IEEE-CPMT/IMAPS Advanced Technology Workshop on Opto-electronic Packaging and Assembly. This workshop will feature an International Technology Roadmap for Semiconductors (ITRS) working session as well.

Dates: September 6 & 7, 2012

Location: Embassy Suites, 3100 East Frontera Street, Anaheim, CA 92806

Twelve industry experts will be giving invited talks on topics such as High Brightness LED, CMOS Image Sensors, Optical Interconnects & Silicon Photonics and Optical Transceivers & Networks, on Thursday, Sep 6, 2012. This industry session will also feature vendor exhibits.

On Friday, Sep 7, 2012, ITRS experts will be conducting a half-day working session, with a presentation on the ITRS working process and an interactive discussion about their optoelectronic packaging activities.

Please mark your calendars and plan on attending this important event for the Optoelectronics and related industry in our region. More details on the speakers, agenda and registration will be sent in the coming months.

For more information, please contact the General Co-Chairs of this workshop:

Robert Warren, Conexant Systems, Inc. robert.warren@conexant.com
John Mazurowski, Penn State Electro-Optics Center, jmazurowski@eoc.psu.edu

If you are interested in sponsorships and/or table-top exhibits, please contact:
Lawrence Williams, Ansys Corporation, larry.williams@ansys.com
Jaydutt Joshi, Skyworks Solutions, Inc., jaydutt@gmail.com

Sam Karikalan
Chairman, IEEE CPMT Orange County Chapter
samkarikalan@ieee.org

UCI Engineering Events

Title	Location	Date
Renewable fuels: A challenge for technology or for policy?	McDonnell Douglas Engineering Auditorium	Jun 1 2012 3:00pm
Natural Immunity to HIV: From Statistical Mechanics to Clinical Data	McDonnell Douglas Engineering Auditorium	Jun 8 2012 3:00pm

IEEE Orange County ComSig Is Pleased to Present:

ARINC Global Network and "RapydConnex" Mobile Broadband Service

Date:	June 11, 2012
Topic:	ARINC Global Network and "RapydConnex" mobile broadband service
Speaker Name and Affiliation:	Ronald Watt Senior Director and Chief Technologist – RapydConnexSM by ARINC Advanced Systems Engineering and Integration Division Defense Systems Engineering
Abstract:	Mr. Watt will provide an overview of the ARINC Global Network and ARINC's RapydConnex mobile broadband service. ARINC is a world leader in aviation and transportation communications as well as engineering and acquisition support to the Department of Defense (DoD). ARINC operates a world-wide Layer-3 managed transport service; primarily for the air-transport industry, but also in support of several government/military organizations, rail transport providers, and other customers. The network is IP based. AGN spans 160 countries and provides connections to more than 1000 data processing centers and airports and delivers more than 25 million messages a day associated with critical airline mission operations and back office transactions. Servicing hundreds of customers that have unique mission, functional, and performance requirements, the AGN is a truly complex enterprise environment. The AGN provides multiple services, sensors, and integrated systems to support the overall safety-of-life mission of air traffic control and mobile user communications support. The AGN enterprise environment integrates space, user, and control segments to provide these services as well as connections to peer networks to facilitate Internet and Intranet access. ARINC has been a provider of Ku- and L- band based satellite communication for over 7 years. Launched in 2004, the current service offering, now known as RapydConnex, provides Beyond-Line-Of-Sight (BLOS) broadband connectivity for fixed and mobile applications. The RapydConnex service provides customers voice, video, and data connectivity and uses the ARINC Global Network as a backbone.
Speaker Biography:	Mr. Ronald Watt is the Senior Business Director and Chief Technologist for ARINC's new RapydConnexSM product line. RapydConnexSM provides viable and affordable open-architecture communication solutions for mobile edge users that are not able to get the bandwidth, connectivity, or capability necessary for their mission success. Previously, Mr. Watt was Chief Engineer of the Advanced Systems Engineering and Integration Division of ARINC. He has over 30 years of DoD and commercial experience in space systems. Mr. Watt provides expertise in systems engineering and integration, communications systems, and enterprise management systems. Mr. Watt's responsibilities include conducting technology needs assessment and developing recommendations for corporate investment in research and development. In addition to supporting Division programs and business development, Mr. Watt provides leadership to ARINC in developing strategic corporate programs. Mr. Watt has served on several corporate technology strategic working groups including ARINC network architecture security user group, system engineering training and certification working group, research and development proposal review and evaluation team, and engineering process improvement working group. Mr. Watt has been with ARINC for 25 years and resides in Southern California and is an ARINC Fellow. Before joining ARINC, Mr. Watt was a senior systems and design engineer for Rockwell's Collins Communications Systems Division. Mr. Watt is a graduate of Clemson University with BS and MS degrees in Electrical and Computer Engineering. Mr. Watt is a member of IEEE.
Time:	6:00 PM Social 6:30 PM Dinner 7:15 PM Presentation
Location:	Doubletree Club Hotel - Orange County Airport 7 Hutton Centre Drive Santa Ana, CA 92707-5794
Cost:	Member $27.00 Unemployed Member $22.00 Student Member $22.00 Presentation Only Free Non-Member $35.00 Late Registration/Walk Ins $40.00

IEEE Orange County Consultants Network (OCCN) joins with the Los Angeles Area Consultants Network (LAACN) in presenting:

Consulting Opportunities with Big Data and Hadoop

Date:	Saturday, Jun 23, 2012
Topic:	Consulting Opportunities with Big Data and Hadoop
Speaker Name and Affiliation:	Gayn B. Winters, Ph.D. 1962 Lerner Lane Santa Ana, CA 92705 Cell: (714)366-4296 gaynwinters@alum.mit.edu
Abstract:	Becoming common are Petabyte (10^15 bytes) and larger datasets and techniques to process them on clusters of thousands of ordinary PCs. This talk discusses the techniques provided by The Apache Software Foundation's Hadoop, which enable high availability processing on such clusters where frequent machine and disk failures are common and expected. The techniques and several simple examples plus at least one substantial example will be presented. Once basic principles are understood, consulting opportunities abound as more and more companies realize they have huge amounts of complex data. For example, in the financial markets there are huge datasets that are related to risks on various investments being made. Many companies offer their products on line, and as a prospect logs into their site, the company wants to make meaningful suggestions for products (Think Amazon for books, Netflix for movies, Fry's for electronics, Dell and HP for PCs, etc.) GM just cancelled their Facebook advertising for lack of productivity; GM has tons of consumer data, what did they do wrong on Facebook and how should GM proceed? Grocery stores give discounts for using "membership cards." They collect petabytes of information yearly that correlate the shopper's age, address, and purchases. How should they use this data? Power transmission companies have amassed huge quantities of usage and load data across the current grid. How should they use this to design the next generation "smart grid"? Electronic medical records can now be mined to discover correlations with various sources of pollution and certain diseases. Google builds all of its applications using this technology; what would you suggest for Yahoo and other specialized search engines? There will be time for Q&A on these and related consulting opportunities.
Speaker Biography:	Ph.D. from MIT, with considerable post-doctoral and academic work. Did foundational work using distributed workstations in the Financial Analysis industry. At Digital Equipment built the industry's first PC with integral Ethernet, won a Computerworld award for best micro/mainframe integration software (that became Digital's highest volume software product), promoted to Digital's corporate strategy board and Corporate Consultant, corporate internationalization architect, oversaw multiple worldwide programs with many F1000 clients. Board of Directors for Unicode, Inc. At Phoenix Technology, as CTO, VP and GM ran worldwide engineering and program management for systems; clients were manufacturers of PCs, boards, chips, peripherals, PDAs, and laptops. Started Bristol Systems to do engineering and application development outsourcing. Expert in high availability networking and security. Consulting, software development, and project/program management for manufacturing, commercial real estate, legal, and laboratory clients. At L-3/IEC, worked on current and modernized military GPS based products. Currently working on Big Data problems in the insurance industry.
Time:	10:00 AM Introductions & Presentation 12:00 PM Lunch & Networking
Location:	Cal State Fullerton on Nutwood and 57 in Fullerton. Meeting is in the Engineering and Computer Science (ECS) Building. Room 202 **Parking:** Saturday parking is free. Enter from Nutwood and take Folino Drive north to Parking Lot E. See maps at http://parking.fullerton.edu/maps/ for more detail.
Contact:	Lunch is free with reservation. RSVP before the 23rd with an email to r.gauger@ieee.org. Check out the IEEE-USA consultants website, database, and resources at www.ieeeusa.org/business.

San Diego IEEE Broadcast Technology, Communications, Computer, Signal Processing Societies and San Diego IEEE Section Joint Meeting

Multi-Program Video Coding for Digital Video Broadcasting

Date:	**May 31, 2012**
Topic:	**Multi-Program Video Coding for Digital Video Broadcasting**
Speaker Name and Affiliation:	**Dr. Lap-Pui Chau,** **Associate Professor, Nanyang Technical University** **Sponsored by IEEE Broadcast Technology Society under** **Distinguished Lecturer Program**
Abstract:	In digital video broadcasting systems, multiple video programs are compressed in parallel to form the elementary streams. The elementary streams are then multiplexed onto a single constant bit rate channel for transmission. At the receiver, the decoder first extracts the elementary streams, passes the corresponding streams which belongs to one program to the elementary stream decoder and then discards all other streams. The simplest approach to this multi-program encoding is to divide the available bandwidth equally among all programs. This method has the disadvantage that lead to uneven visual distortions between different video programs due to variation of scene complexity. To achieve even video quality for all programs, the channel bandwidth should be dynamically allocated to different programs in proportion to the complexity of each of the video sources. The lecture will first give a general introduction on multi-program encoding, following by the joint rate control algorithm to manage the operation of all the encoders to maintain a uniform picture quality among all video programs is discussed.
Speaker Biography:	Lap-Pui Chau received the B. Eng degree with first class honors in Electronic Engineering from Oxford Brookes University, England, and the Ph.D. degree in Electronic Engineering from Hong Kong Polytechnic University, Hong Kong, in 1992 and 1997, respectively. In June 1996, he joined Tritech Microelectronics as a senior engineer. Since March 1997, he joined School of Electrical & Electronic Engineering, Nanyang Technological University, Singapore as a research fellow, then assistant professor and currently, he is an associate professor. His research interests include streaming media, multimedia coding and compression, and VLSI for signal processing. He involved in organization committee of international conferences including the IEEE International Conference on Image Processing (ICIP 2010, ICIP 2004), and IEEE International Conference on Multimedia & Expo (ICME 2010). He is a Technical Program Co-Chair for 2010 International Symposium on Intelligent Signal Processing and Communications Systems (ISPACS 2010). Besides, he also served as track chairs in technical program committee for many international conferences regularly. He is a senior member of the IEEE, a Chair-Elect of Technical Committee on Circuits & Systems for Communications (TC-CASC), a member of Technical Committee on Multimedia Systems and Applications (TC-MSA), and a member of Technical Committee on Visual Signal Processing and Communications (TC-VSPC) of IEEE Circuits and Systems Society. He is currently Chairman of IEEE Circuits and Systems Society, Singapore Chapter. He served as a member of Singapore Digital Television Technical Committee from 1998 to 1999. He served as an associate editor for IEEE Transactions on Multimedia, and is currently serving as an associate editor for IEEE Transactions on Circuits and Systems for Video Technology, an associate editor for IEEE Transactions on Broadcasting and an associate editor for IEEE Signal Processing Letters. His research citation count is more than 1000 (the figure is obtained by Google Scholar). Dr. Lap-Pui Chau is a Distinguished Lecturer of BTS.
Time:	6:30 - 7:00pm - Networking/Refreshments 7:00 - 8:30pm - Lecture and Q&A
Location:	11525 Sorrento Valley Rd, San Diego, CA 92121
Cost:	Member – $0 Non-Member – $5
Contact:	Murat Karsi, mkarsi@ieee.org, (760)-419-8524

Designing Low-Power Integrated Circuits for Neural Sensing Applications

Date:	**June 14th 2012 (Thursday)**
Time:	6:00 pm – Food and Networking 7:00 pm – 8:00 pm Talk
Location:	Lakeview Senior Center in Woodbridge Community Park. Free parking is available close by in designated spaces. www.cityofirvine.org/cityhall/cs/commparks/cparks/cparks_lakeview.asp Address: 20 Lake Road, Irvine CA 92604 (Located at Lake Road between Barranca and Alton)
Speaker:	**Reid Harrison**
Talk Title:	Designing low-power integrated circuits for neural sensing applications
Institution:	Intan Technologies, LLC
Webpage:	http://www.intantech.com
Abstract:	Monitoring the electrical potentials produced by the body can provide a wealth of information for both scientific and clinical endeavors. Recent advances in microelectrodes have enabled the development of fully integrated electrophysiological recording systems. Designing integrated circuits to observe many biological signals in situ presents significant technological challenges. Power must be minimized to allow for the limited power sources available and to prevent local tissue heating that could kill cells. Since multi-electrode arrays monitor weak extracellular voltages, amplifiers must be able to resolve ac signals in the microvolt range while rejecting large dc offsets present at the electrode-tissue interface. In some applications low frequency signals are important, yet few off-chip components can be tolerated in implantable devices or small scientific instruments. I will present custom integrated circuits developed for a wide variety of state-of-the-art neural recording applications, including interfaces for high density silicon microelectrode arrays and tiny wireless telemetry systems for observing brain activity in flying insects.
Biography:	Reid Harrison received the BS degree in electrical engineering from the University of Florida in 1994 and the PhD degree from the California Institute of Technology in 2000. He joined the University of Utah in 2000, where he was an Associate Professor of Electrical and Computer Engineering and an Adjunct Associate Professor of Bioengineering through 2010. In 2003, he founded Intan Technologies, LLC and joined the company full time in 2010 in Los Angeles. His research interests include low-power analog and mixed-signal CMOS circuit design; integrated electronics for neural interfaces and other biomedical devices; and hardware for biologically inspired computational systems. Dr. Harrison has served on the technical program committees of the International Solid-State Circuits Conference (ISSCC) and the International Symposium on Circuits and Systems (ISCAS).
Note:	It is organized by the EMBS Chapter of IEEE Orange County Section http://sites.ieee.org/ocs/engineering-in-medicine-and-biology-society/
Registration:	Please register in advance http://ocsembs.eventbrite.com/

IEEE Fellow Profile: Prof. Fan-Gang Zeng
Class of 2011 for Contributions to Auditory Prostheses

Fan-Gang Zeng, PhD, is the new chairman of the Hearing Journal's editorial board, marking a renewed commitment to publish breaking news, trends in hearing care, and the latest science and research.

Dr. Zeng is the director of the Center for Hearing Research, the research director of otolaryngology-head and neck surgery, and a tenured professor of anatomy and neurobiol¬ogy, biomedical engineering, cognitive sciences and otolaryngology at the University of Cali¬fornia, Irvine.

He is also a leading researcher in auditory science and technology, unraveling brain mecha¬nisms in loudness coding and speech recognition while translat¬ing research into commercial products, including Nurotron 26-electrode cochlear implant (Chinese SFDA approval in 2011) and SoundCure tinnitus suppressor (FDA clearance and CE Mark in 2011).

Dr. Zeng has published 100 peer-reviewed articles, with 3000 citations and an h-index of 27 (Thomson Reuters Web of Knowledge Report, 2011). As a principal investi-gator, he has maintained continuous funding of more than $20 million for 20 years. He has consulted for the National Institutes of Health, the National Science Foundation, the Department of Defense, the National Natural Science Foun-dation and Min¬istry of Education of China, the Natural Sciences and Engi¬neering Research Council of Canada, and numerous other public and private agencies.

He has been on the editorial board for Hearing Research, IEEE Transactions on Biomedical Engineering, the Journal of Association for Research in Otolaryngology, the Journal of Speech Language Hearing Research, Audiology and Neurotology, and the Journal of Otology. He served as the chair of the 2005 International Conference for Audi¬tory Prostheses, and edited two volumes on cochlear implants (2004, 2011) and another on tinnitus (2012) for the Springer Handbook of Auditory Research. He holds 12 patents, and has been on the Advisory Board, and helped raise $50 million for five medical device companies in the United States and China.

Dr. Zeng received the Syracuse University Doctoral Prize in 1991, the FIRST Award from the NIH in 1994, the Employee of the Year Award from the House Ear Institute in 1997, the Outstanding Overseas Chinese Youth Award in 2004, and the Innovation Award from University of Cali-fornia in 2005. He was elected as a fellow of the American Institute for Medical and Biological Engineering (2007), Collegium Oto-Rhino-Larygologicum (2008), IEEE (2010), and the Acoustical Society of America (2011).

He received his bachelor's of science degree from the Uni¬versity of Science and Technology of China in 1982, a master's from Academia Sinica in 1985, and a doctorate from Syracuse University in 1990. He worked as research associate and the director of the Auditory Perception Laboratory at House Ear Institute from 1990 to 1998), as an adjunct associate profes¬sor at University of Southern Cali-fornia from 1996 to 1998, and a tenured professor at the University of Maryland, Col¬lege Park, from 1998 to 2000.

More info at http://www.healthaffairs.uci.edu/hesp/

IEEE GLOBECOM 2012
The Magic of Global Connectivity

The 2012 IEEE Global Communications Conference (GLOBECOM) will be held December 3 – 7, 2012 at the Disneyland Hotel Conference Center in Anaheim, CA.

It will feature a comprehensive technical program including 12 Symposia and a number of Tutorials and Workshops. GLOBECOM 2012 will also include an attractive industrial and forum program including keynote speakers, various Business, Technology and Industry fora, and vendor exhibits.

Prospective authors are invited to submit original technical papers for presentation at the conference and publication in the Proceedings. Proposals for Tutorials, Workshops, and Fora are also invited. Please visit the GLOBECOM 2012 website: http://www.ieee-globecom.org/2012 for details about the conference and submission information;

If you are interested in volunteering for the conference, please contact Shelley-Grace Herman, Conference Operations Chair at s.g.herman@ieee.org.

Cancer Prevention in the Year 2025: An Anticipation Using Engineering Tools

OC Section Awards Banquet Speaker
Frank L. Meyskens, Jr., M.D., F.A.C.P.
The Daniel G. Aldrich, Jr., Endowed Chair
Professor of Medicine, Biological Chemistry and Public health
Director, Chao Family Comprehensive Cancer Center

College of Health Sciences
University of California, Irvine

- Dr. Meyskens explored the anticipation for 2025 by looking at the reality of 1975.
- In 1975 there were no microwave ovens or automatic coffee makers.
- In 1975 there were no fax machines, Xerox copiers, video conferencing, personal computers, the internet or e-mail.
- In 1975 there were no automated telling machines (ATMs), personal global positioning devices, pagers, laser pointers, liquid crystal display (LCD) projectors, mobile phones, compact discs, digital watches or cameras, or Palm Pilots.
- In 1975 there were no pipettemens, Northern or Western blots, phosphorimagers, ESTs, polymerase chain reaction (PCR) or gene blasts; no automated DNA sequencing and no kits (of any kind).
- In 1975 oncogenes were just surfacing. There were no tumour suppressor genes (at least we didn't think of them that way), no gene cloning and no Dolly.
- In 1975 there was no filgrastim (Neupogen) or epoetin alpha (Epogen) or serotonin inhibitors. No interferon or paclitaxel (Taxol) trastuzumab (Herceptin) and so on.
- In 1975, computer tomography (CT) scans were primitive. There were no magnetic resonance imagers (MRIs) or positron emission tomography (PETs).

- In 1975 fibreoptic endoscopy had not been developed and prostate specific antigen (PSA) was undiscovered. We also still debated whether screening mammography gave you more or fewer breast cancers.

Since 1975 all levels of modern society have been transformed: easier, faster, better, and … unexpected. In the year 2025 who really knows what the world will be like. In the words of one colleague in commenting about 1975, ``It's hard to think of things that are still in use.'' I agree, and with the accelerated pace of discovery in all the sciences, predictions are hard to make, but I think anticipations, however fanciful sounding today, are reasonable. The major advances of society and civilization as a whole in the 20th century were driven by discoveries in physics and chemistry and the selection of Einstein by Time as the Man of the Century rejects that reality. In the 21st century, civilization and society will be transformed by advances in the biomedical sciences brokered by the power of technological advances in computers and information analysis and implementation.

The concept of health will be transcended any Disease in 2025. Prevention and screening and early detection are a public health mandate for all, not just for the affluent.

Dr.Meyskens concluded to see the world of quantum computers, Maglev 5's and clinically applied artificial genomes in the year 2025.

Reference: F.L. Meyskens Jr / European Journal of Cancer 36 (2000) 1737-1740

Check the presentation at the OC Section Youtube Channel
http://www.youtube.com/user/OCCSieee

Professor Mark Bachman's Talk On Micro/Nano System at Lakeview Senior Center, Irvine

Check the presentation at the OC Section
Youtube Channel
http://www.youtube.com/user/OCCSieee

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collins.at.ieee.org

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alvin.at.ieee.org

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manansala.at.ieee.org

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(949) 258-3243
shireesh.at.gmail.com

Past Chair
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RussellH.at.Computer.org

IEEE-OC Technical Society Chapters:

Communications / Signal Processing Joint Society (COMSIG)
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(714) 701-1031
gfogarty.at.earthlink.net

Components, Packaging and Manufacturing Technology Society (CPMT)
Sam Karikalan
(949) 413-0029
samkarikalan.at.ieee.org

Computer Society (OCCS)
Dr. Don V Black
(949) 548-1969
dblack.at.ieee.org

Consultants' Network(OCCN)
Bob Gauger
(949) 559-9148
rhgauger.at.cox.net

Engineering in Medicine and Biology Society (EMBS)
Dr. Bill Tang
(949) 824-9892
wctang.at.uci.edu

Electromagnetic Compatibility Society (EMC)
Jeff Klinger
(714) 579-0500
jeff.at.celectronics.com

Microwave Theory Techniques / Electron Devices Joint Society(MTT/ED)
Dr. Héctor J. De Los Santos
(310) 259-0767
hector.delossantos.at.ieee.org

Power & Energy / Industry Applications Society (PES/IAS)
John Briones
(714) 593-5100
jbriones.atcarollo.com

Product Safety Engineering Society (PSES)
Thomas Ha
(714) 628-1020
tom.at.gmcompliance.com

Robotics & Automation Society (RAS)
Kumar Ramajayam
(949) 422 5497
rkumar.at.mathobotix.com

Solid-State Circuits Society (SSCS)
Farhad Mafie
(949) 851-1714
FarhadMafie.at.Gmail.com

GameSIG
Dr. Don V Black
(949) 548-1969
dblack.at.ieee.org

Orange County Entrepreneurs Network (OCEN) SIG
Farhad Mafie
(949) 851-1714
FarhadMafie.at.Gmail.com

Student Chapter Chairs:

Student Sponsor
Dr. David Cheng
(714) 278-3734
dcheng.at.exchange.fullerton.edu

CSUF Student Chapter
Mathew Poole
matthewpoole87.at.yahoo.com

EMBS Student Chapter
Wesley Moy

UCI Student Chapter
Derrick Lo
ieee.ucirvine.at.gmail.com

UCI Students Chapter Faculty Advisor
Dr.Pai Chou
(949) 824-3229
phchou.at.uci.edu

Committee Chairs:

Advisory Board
Dr. Raman M. Unnikrishnan
(657) 278-3362
runnikrishnan.at.exchange.fullerton.edu

Awards/Recognition
Russell Hunter
(714) 697-5540
RussellH.at.Computer.org

AutoTestCon Liaison
Phil Wheeler
plwheeler.at.ieee.org

Community Partnerships
Dr. Goran Matijasevic
goran.at.uci.edu

Conference
Farhad Mafie
(949) 851-1714
FarhadMafie.at.Gmail.com

Corporate Relations
Abdi Ahmed
(949) 752-6788
abdi.at.netserversystems.net

CTO
Naveen Reddy
naveen.reddy.at.ieee.org

Engineers-in-Transition (EIT)
Dr. Shireesh Verma
(949) 258-3243
shireesh.at.gmail.com

Government Activities
Vacant

Humanitarian Technology Initiative
R Sampath
(323) 908-4306
rsampath.at.ieee.org

Listserve/Email Manager
Christine Ruther
c.ruther.at.ieee.org

Membership Development
Vacant

Newsletter Coordinator
Hooman Kankashour
)949) 202-7677
hkankashour.at.gmail.com

Newsletter Editor
Dr. Héctor De Los Santos
(310) 259-0767
hector.delossantos.at.ieee.org

OCS History committee
Dr. Stanley White
(949) 498-5519
sawhite.at.aol.com

PACE & Student Activities
Dr. David Cheng
(714) 278-3734
dcheng.at.exchange.fullerton.edu

Programs
Dr. Ciaran O'Donnell
ciaran.at.josephmediatools.com
(949) 200-2111

Project Engineers-2-Educators, OC
Vacant

Tutorial Chair
Raymond Koosha
858-401-9688
raymondkoosha.at.yahoo.com

vTools Coordinator
Lin Crampton
562-243-4574
lin.crampton.at.gmail.com

Volunteer Coordinator
Vacant

Webmaster
Sharon Forsberg
(714) 315-8178
me.at.sharonforsberg.com