IEEE Buenaventura Section

JUNE 2014 NEWSLETTER

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EVENTS

Tuesday 10th June 6:30 PM-8:00 PM	**ComSoc**	**Title: Wavefront Multiplexing and Its Applications** **Speaker: Dr. Donald C. D. Chang** **Location: Skyworks Conference Room, Newbury Park, CA 91320** **RSVP Requested:** https://meetings.vtools.ieee.org/meeting_view/list_meeting/26493
Wednesday 18th June 6:30 PM-8:00PM	**MTTS**	**Theory of Nano-Electron-Fluidic Logic (NFL): A New Digital "Electronics" Concept** **Speaker: Dr. Héctor J. De Los Santos** **NanoMEMS Research, LLC, Irvine, California 92604 USA** **Location : Skyworks (Conference Room), 649 Lawrence Drive, Newbury Park, CA 91320 Agenda: 6:30PM Reception & Networking; 7PM Presentation**
Monday 25th August 11:00 AM	**Upcoming Special Event!**	**IEEE Buenaventura presents "Fairways to Scholarships"** **Location:** Los Robles Greens Golf course Shotgun start at 1PM, Registration begins at 11:00 AM **Contact Mike Nicholls mnicholls@a-m-c.com**
Monday 30th June 6:30 PM	**OpCom**	**Operating Committee Meeting** 6:30 pm China Buffet, Thousand Oaks

Membership News

Hi Everyone!

For Region 1-6 which IEEE-BV is a part of, 179 more Higher Grade Members have joined us this year till April 2014. I welcome everyone into our IEEE community.

We are still continuously trying to reach out and attract the best talents to further enrich our community. In this effort, IEEE-USA and MGA have partnered to pilot a campaign building on the existing *Member-Get-a-Member* program. Higher-grade members in the US are eligible to submit referrals though a special online form. An automated email invites the referral to join and offered a US$25 discount on their first year through 28 February. After that, new members are eligible to join at the special half year dues rate.

For each successful new recruit, the referring member can select an IEEE-USA branded merchandise item including a hat, cooler, backpack, golf balls, pen sets, solar charger, tablet case, umbrella and more. The pilot will run through the end of the 2014 membership year.

Members: Please be sure to update and share your information at the IEEE Member Portal and set up your IEEE email alias. Please also introduce yourselves at meetings; networking starts here in the IEEE.

--- Bridge Carney
IEEE Buenaventura Section Chair 2014

Computer Society

The Computer Society Chapter is seeking new volunteers for officers and presentations. Please contact Craig Reinhart, CS Chapter Chair to volunteer or to speak at an upcoming meeting.

-- Craig Reinhart
CS Chair
craig@ieee-bv-cs.org

SECTION NEWS

Some moments from IEEE-BV Social Event Enigma Code Day Mixer

Enigma Code Day Social Event – 9 May 2014 – IEEE Buenaventura Section


Zak Cohen presented a short background on the capture of the Enigma Coder on May 9, 1944,



Jim Leatham & son Chris Regina Quddus John Wright



Victor Lin & Mohammed Tehrani Bridge Carney & Zak Cohen Christian Ziegler & Li


Debbie & Don Cutler and Rori & Tom Campbell

IEEE Buenaventura presents "Fairways to Scholarships"

Bringing together Ventura County Hi-Tech Corridor Industry to support local students*

Monday August 25 2014 Los Robles Greens Golf course Shotgun start at 1PM, Registration begins at 11:00 AM

Contact Mike Nicholls mnicholls@a-m-c.com

- Tournament Partners Package ($1000)
  - Tournament fees for a Foursome of golfers.
  - Golf hole sponsorship, to include your firm's sign on a tee box.
  - Public recognition at the lunch following the tournament.
  - Special recognition in the advertising used to promote the tournament
- Tournament Sponsors Package ($750)
  - Tournament fees for a Foursome of golfers.
  - Golf hole sponsorship, to include your firm's sign on a tee box
  - Public recognition at the lunch following the tournament.
- Super Donor Package ($500)
  - Tournament fees for a Foursome of golfers.
  - Public recognition at the lunch following the tournament.
- Golf Hole Sponsor Package ($100)
  - Golf hole sponsorship, to include your firm's sign on a tee box
- Tournament Registration ($99 per person)
  - Includes 18 holes, golf cart, breakfast, lunch, and chances to win great prizes!
- Straight Donation (Any amount appreciated)
  - Public recognition at the lunch following the tournament.

***Proceeds from the tournament will support but not limited to:**

- **College Scholarships to outstanding students in Colleges and University in Ventura County**
- **Sponsorship of Robotics program for high school students**
- **Sponsorship for First Lego league Robotics tournament for Elementary and Middle School Students.**

JOB OPPORTUNITIES

Contact Pat Jacobs -- 805-579-0630 pat.jacobs@advancedpersonnelprofiles.com →

- **ASIC MANAGER**
  Manage staff of 3 for next generation ASIC development. 9-80 schedule, great benefits and people.

- **2 Quality Engineers needed at Second Sight, Sylmar**
  Experienced Quality Engineers with medical device experience. Positions focused on quality systems, CAPA/ETQ and Principal Engineer.

- **Regulatory Affairs Specialist**
  Bioness (www.bioness.com), Valencia
  Experience with IDEs, PMAs, 501(k)s, FDA and foreign regulatory submission.

- **Financial Analyst: Bioness (www.bioness.com), Valencia**
  Accounting experience for providing financial planning and analysis. 3-5 years experience.

- **Software Engineer at Second Sight**
  Software engineer with design and development experience with web-based applications / software systems. Proficiency with JavaScript.

Contact: Abby Hairabedian 805-388-1711 ext. 332 ahairabedian@dex.com →

- **CONTRACT ELECTRICAL ENGINEER**

Camarillo company looking for an Engineer to successfully complete tooling projects for electronic assemblies such as wind turbine control systems and computer networks used in the medical equipment industry. Will be paid upon successful completion of projects. Good knowledge of high-power RF.

Looking for Academic, Scientific, or Engineering Talent?
Advertise with the IEEE Buenaventura Section Placement ads are $25/month and appear in both newsletter and online. Sponsorships available for website and Section. Contact newsletter@ieee-bv.org or see our Ad Placement information to advertise or sponsor the Section.

IEEE

IEEE COMMUNICATIONS SOCIETY

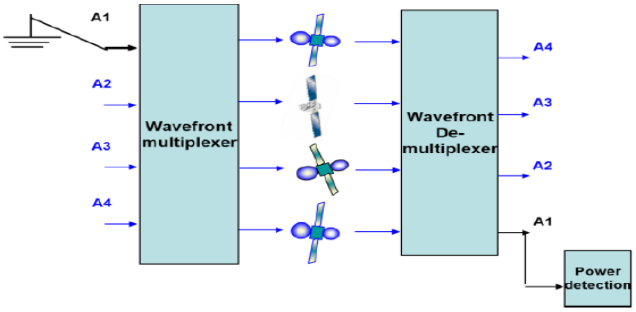
BV-COMSOC Chapter

MEETING NOTICE

Date/ Time: Tuesday June10th, 2014
6:30 PM Pizza & networking
7:00 PM Presentation

Location: **Skyworks Conference Room**
Newbury Park, CA 91320
(See RSVP/Directions Below)

Speaker: **Dr. Donald C. D. Chang,**
CEO Spatial Digital Systems
Senior Life Member I.E.E.E. & P.E.



Title: Wavefront Multiplexing and Its Applications

Speaker: Dr. Donald C. D. Chang

Abstract: Multiplexing (muxing) is a method by which multiple analog message signals or digital data streams are combined into one signal over a shared medium, according to Wikipedia. Therefore, multiple low data rate signals are muxed over a single high data rate link, then de-muxed at the other end. On the other hand, wavefront multiplexing (WF muxing) is about pre-processing multiple low data rate signals before sending them over multiple parallel links and then re-constituting the multiple signals via post processing or WF de-muxing in a destination. WF has a multitude of applications, including space communications, power amplifiers and data storage. WF mux techniques are not FDM, TDM, or CDM. WF muxing is not OFDM. Antennas featuring WF muxing and demuxing are not MIMO, even both taking advantages of multiple spatial communications paths. WF muxing /demuxing may be implemented, among other techniques, by Fourier transforms, or Hadamard transforms digitally in S/W or H/W. They are also realizable via Butler Matrix, microwave passive networks of 3-dB hybrids and/or magic-T.

Biography: Dr. Chang is the CEO for Spatial Digital Systems (SDS) in Camarillo CA, developing smart antenna technologies that enhance wireless communications. He retired from Hughes Electronics Company in 2002 as a Chief Technologist after more than twenty years of service. He participated in many commercial and military spacecraft designs, and was responsible for a multitude of advanced communications satellite systems and spacecraft antenna initiatives. At Hughes Electronics he served as the chief architect on telecommunications for broad-band fixed wireless and 3G mobile communications systems utilizing stratospheric platforms. Dr. Chang holds over 100 U.S. patents with more than 70 additional patents pending on smart antennas, digital/optical beam formers for imaging and communications. He earned his Ph.D. & MSEE from Stanford University in 1978, completed his MSEE & BSEE at National Cheng-Kung University, Taiwan, in 1972 and 1969, respectively, and did his post-MS studies at Johns Hopkins University in 1973. He also graduated from Strategic Leadership Institution, Anderson School, UCLA in the summer of 2000.

Skyworks, Intersection of West Hillcrest Drive and Lawrence Drive, Newbury Park, CA 91320
(not the main building, please use link below to green arrow that pinpoints building)
http://maps.google.com/maps?q=34.187542,-118.930994&num=1&t=h&vpsrc=0&ie=UTF8&z=18&iwloc=A

RSVP Requested: https://meetings.vtools.ieee.org/meeting_view/list_meeting/26493

IEEE **MEETING NOTICE Buenaventura MTT-S ,AESS,EDCA LMAG Chapters**

Date and Time: Wednesday, June 18th, 2014 (6:30PM)

Location : Skyworks (Conference Room), 649 Lawrence Drive, Newbury Park, CA 91320 **Agenda**: 6:30PM Reception & Networking;
7PM Presentation

Theory of Nano-Electron-Fluidic Logic (NFL): A New Digital "Electronics" Concept

Presenter : Dr. Héctor J. De Los Santos

NanoMEMS Research, LLC, Irvine, California 92604 USA

Abstract:

As predicted by Gordon Moore more than 40 years ago, the number of transistors able to fit on a computer chip has doubled approximately every 18 months. But if the trend is to continue for the years to come, it will have to be with technology other than the conventional CMOS design. As the size of transistors gets down to the nanoscale, CMOS devices begin to suffer from several issues, in particular, increased resistance, decreased channel mobility, and increased manufacturing costs. To overcome the challenges involved with scaling, researchers from around the world have begun to look for alternatives to CMOS technology. Our recently introduced concept, called nano-electron-fluidic logic (NFL), is based, not on electron particle transport, but on the generation, propagation, and manipulation of surface plasma waves (plasmons) in an electron fluid. NFL gates are projected to exhibit femtojoule power dissipations and femtosecond switching speeds at finite temperatures, while taking full advantage of established semiconductor manufacturing infrastructure. NFL represents a paradigm shift in digital technology, and is poised as a strong candidate for "beyond-CMOS" digital logic. This talk presents the theory, physics and design principles of NFL.

Speaker Biography : Héctor J. De Los Santos was born in Santo Domingo, Dominican Republic. He received the Ph.D. degree in electrical engineering (Mayor Field: *Solid State Devices and Materials*; Minor Fields: *Physics, Mathematics*) from Purdue University, West Lafayette, IN, in 1989.

He is President and CTO of NanoMEMS Research, LLC, Irvine, CA, a company engaged in Nanoelectromechanical Quantum Circuits and Systems (NEMX) and RF MEMS (NanoMEMS) research, consulting, and education, where he focuses on discovering fundamentally new devices, circuits and design techniques to implement NanoMEMS Systems-on-Chip.

Prior to founding NanoMEMS in 2002, he spent two years as a Principal Scientist, RF MEMS, at Coventor, Inc., Irvine, CA. From 1989 to 2000, he was with Hughes Space and Communications Company, Los Angeles, CA, where he served as Principal Investigator and the Director of the Future Enabling Technologies IR&D Program. Under this program he pursued research in RF MEMS, quantum functional devices and circuits and photonic bandgap crystal devices and circuits. He holds over 30 U.S., European, German and Japanese patents and is author of bestseller textbooks, including *Introduction to Microelectromechanical (MEM) Microwave Systems,* Norwood, MA: Artech House, 1999 [This book was the first in the RF MEMS field and has become an Artech House classic, now being in their IPF® (In-Print-Forever®) program], *RF MEMS Circuit Design for Wireless Communications,* Norwood, MA: Artech House, 2001, and *Principles and Applications of NanoMEMS Physics*, Dordrecht: The Netherlands: Springer, 2005. His research interests include, theory, modeling, simulation, design and applications of emerging electronic devices and systems, including, photonic crystals, plasmonics, mechanical systems in the quantum regime and NEMX.

During the 2010-11 academic year he held a German Research Foundation (DFG) *Mercator Visiting Professorship* at Institute for High-Frequency Engineering and Electronics, Karlsruhe Institute of Technology/University of Karlsruhe, Germany, where his activities included teaching, and conducting research on his DFG-funded project "Nanoelectromechanical Interferometric Tuning with Non-Equilibrium Cooling for Microwave and mm-Wave Electronics". From 2001-2003 he lectured worldwide as an IEEE Distinguished Lecturer of the Microwave Theory and Techniques Society. Since 2006 he has been an IEEE Distinguished Lecturer of the Electron Devices Society. He is an IEEE Fellow.

Speaker Contact : ***E-mail: hjd@nanomems-research.com*** ***URL: www.nanomems-research.com***

IEEE Buenaventura Section

Buenaventura Section and Chapter Info

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