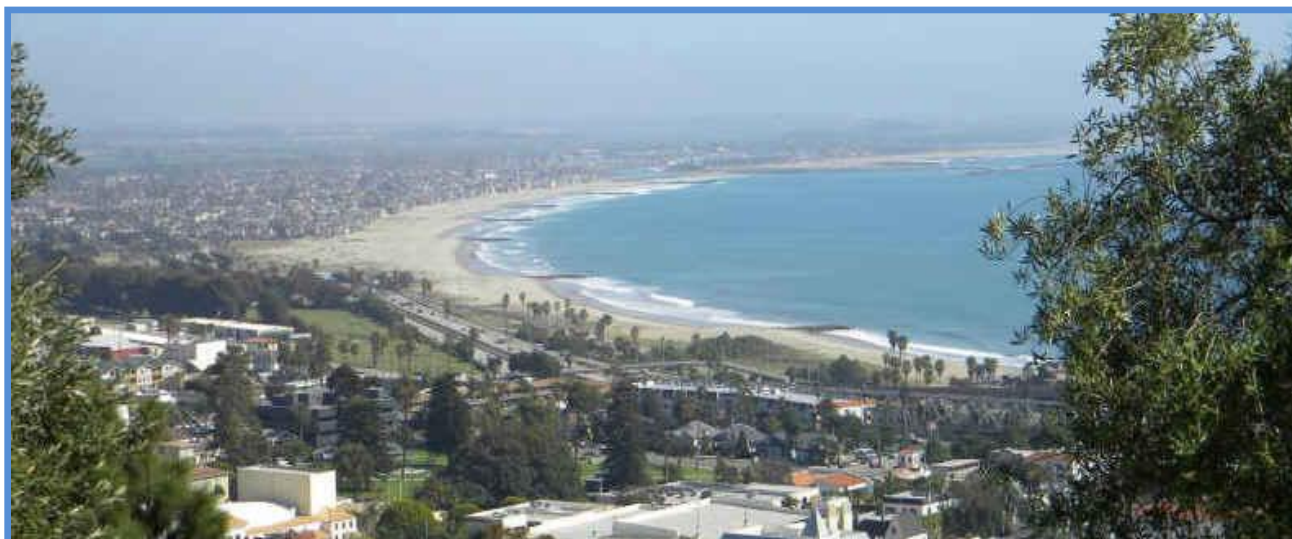




IEEE BUENAVENTURA SECTION

DECEMBER 2014 NEWSLETTER



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EVENTS

Wednesday 3rd December 6:30 PM	Robotics & Automation Industry Applications	Self-Reconfigurable Robots and Digital Hormones by Prof. Wei-Min Shen, USC Location: CLU Ahmanson Richter Hall
Wednesday 10th December	EMBS	Frontiers of Upper Extremity Prosthetic Care - From Clinical Techniques to Innovative Interface Designs Speaker: Randall Alley, CEO and Chief Prosthetist for Biodesigns Location: CLU - Ahmanson Science Building
Thursday 11th December 7 PM	MTTS/ ComSoc/ Electron Devices/ CAS	Communication System Design for Launch Vehicles Speaker: Dr. Keyvan Bahadori, Responsible Engineer Location: Skyworks Conference Room, Newbury Park, CA 91320
Thursday 18th December 6:30 PM	OpCom	Operating Committee Meeting 6:30 pm Pickles Deli, Newbury Park

MEMBERSHIP NEWS

Hi Everyone!

Please check some interesting events and spread the news about the job opportunities that we have in our area as we move into the holidays. Wish you all a very Merry Christmas and hope you all have a Great Holiday season!

As on membership, this year in August 2014 we have added 68 members which is 25% more than member who joined us in August 2013. For the Prospective members who will also like to join the IEEE local chapter and get involved, New members who join now not only get membership through the end of 2015, they also get **\$25 off their first year dues**. The discount only applies to first-year dues, and is not applicable toward student membership.

http://www.ieee.org/membership_services/membership/join/mga2013mv.html?utm_campaign=IEEE+Membership+2014+-+2015+-+Branded

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.

--- **Albert Wolfkiel**
IEEE Buenaventura Section Chair 2014

JOB OPPORTUNITIES

APP

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

✚ **Quality Director- Medallion Therapeutics (www.medalliontx.com), Valencia**
This position is responsible for managing the Quality System and associated compliance activities for the design, development and manufacturing of medical devices in compliance with applicable quality and regulatory requirements, including FDA's Quality System Regulation, European Union Medical Device Directive and ISO 13485, ISO 14971 and other applicable standards and regulations.

✚ **Sr. Quality & Principal Quality Engineer
Medallion Therapeutics (www.medalliontx.com), Valencia**
Two positions requiring medical device experience. Experienced with drug delivery devices a plus.

✚ **Product Manager – Implantables , Bioness (www.bioness.com), Valencia**
Experience with medical device marketing. Key strategic partner of the Marketing team responsible for leading the commercial aspects of implantable products.
Manage critical processes related to business planning, marketing plans, product training, portfolio management and development, market research. Requires experience working in an operating room or surgical center.

✚ **Product Manager –Rehabilitation Technology Bioness (www.bioness.com), Valencia**
Experience with medical device marketing. Key strategic partner of the Marketing team responsible for upstream and downstream marketing. Must be a self-starter, able to resolve complex issues in the field and lead cross-functional teams.

✚ **Sr. Test Engineer - Alfred Mann Foundation (www.aemf.org), Valencia**
Conduct integration test for an electronic medical device system. This position will also lead collaboration efforts for requirements analysis and test documentation, including all related Requirements Specification, Design Description, Test Plan and Test Procedures. Facilitate System Design, System Verification and Validation Strategies in cooperation with other engineering functions. Identify, mitigate and manage technical risk as part of the design oversight process. Provide technical insight to Regulatory/Clinical to support regulatory/clinical strategies.

Contact Abby Hariabedian – 805-388-1711 ext 332 ahairabedian@dex.com →

✚ 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. Minimum 5 years' experience in test engineering, including designing and setting up of ATEs. Please go to dex.com for more info.

Jobs Opportunities at Naval Surface Warfare Center, Port Hueneme,CA
Additional questions can be addressed to Esperanza Arroyo, X6082
or esperanza.arroyo@navy.mil

In FY14 NSWC PHD filled 111 positions (mostly in the last 3 months). They are asking headquarters for permission to fill 301 in FY15 (1Oct2014-30Sep2015). All positions will be posted on USA Jobs.

On Thursday, October 2, 2014, vacancy announcement number NW408XX-05-1225157PP921239 will open for the position of Department Manager, Code L00. The announcement will close on October 16, 2014. The position will be filled as Manager, ND-801/830/854/855-05. The selecting official is Dr. William Luebke. The link to the announcement is below and will work starting tomorrow, October 2, 2014. The website for applications is www.usajobs.gov

Link to the job opportunity

announcement: <https://www.usajobs.gov/GetJob/ViewDetails/382431700>

Last Month at NSWC 30 positions filled (position titles only as below). 28 of new shipmates will work here at Port Hueneme and the remaining two will work at our Virginia Beach detachment. All have the backgrounds, knowledge, skills, and abilities we need to move our command forward. The titles include as below, many of these jobs will keep opening in the near future till all required positions are filled, so please keep a lookout on <http://www.usajobs.gov>

- Program Manager
- Systems Analyst
- Supply Technician
- Field Service Supervisor
- Administrator
- Financial Management Analyst
- Budget Analyst
- Mechanical Engineer
- Mechanical Engineer
- Mechanical Engineer

- Aegis Ballistic Missile/Fire Control Technician
- Operations Research Analyst
- Systems Engineer
- Engineer (Electrical)
- Mechanical Engineer
- Senior Training Specialist
- Engineer (Tech Manuals)
- Electronics Technician
- Computer Engineer
- Software Engineer
- Mechanical Engineer
- Resource Advisor
- Aerospace Engineer
- Senior Field Engineer
- Electronic Radar System Specialist
- Electronics Technician
- Technical Engineering Support Analyst
- Financial Technician
- Navy Test Officer
- Contract Administrator

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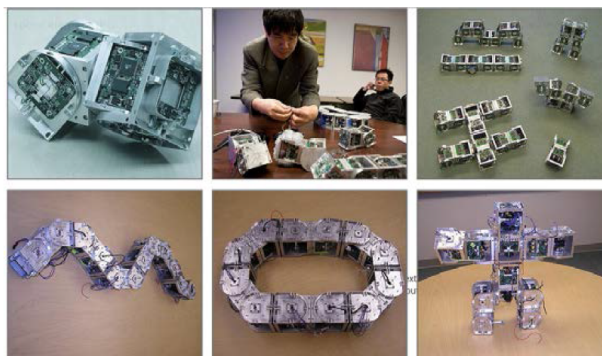
ROBOTICS AUTOMATION & INDUSTRIAL APPLICATIONS CHAPTER

Self-Reconfigurable Robots and Digital Hormones

Dec 3, 2014 6:30 pm
at CLU Ahmanson Richter Hall

Self-reconfigurable modular robots are metamorphic systems that can autonomously change their logical or physical configurations (such as shapes, sizes, or formations), as well as their locomotion and manipulation, based on the mission and the environment in hand. Because of their modularity, versatility, self-healing ability and low cost reproducibility, such robots provide a flexible approach for achieving

complex tasks in unstructured and dynamic environments. The construction and control of these robots, however, are very challenging due to the dynamic topology of the module network, the limited resource of individual modules, the difficulties in global synchronization, the preclusion of centralized decision makers, and the unreliability of communication among modules. This talk presents the SuperBot reconfigurable robotic system and a distributed and reliable control architecture and algorithms for such robots. The approach is inspired by the biological concept of hormones (thus the name "digital hormones") and it provides a unified solution for metamorphic systems' self-reconfiguration/assembly, locomotion, and manipulation. Modules are modeled as autonomous agents free from globally unique identifiers and they can physically connect and disconnect with each other and can communicate via content-based messages. In particular, the talk will present (1) SuperBot's capability for multifunctional locomotion, (2) a general representation for self-reconfigurable systems; (3) distributed solutions for "task negotiation," "topology-dependent behavior selection" and "synchronization"; (4) distributed detection and reaction mechanisms for topology changes and message loss; and (5) demonstrations of unique, online, self-reconfiguration capabilities of SuperBot for assembly, bifurcation, unification, behavior shifting, and shape-alterations. An application for self-assembly in space may also be presented when time permits.



Professor Wei-Min Shen is the Director of Polymorphic Robotics Laboratory, the Associate Director of the Center for Robotics and Embedded Systems, and a Research Associate Professor in Computer Science at University of Southern California. He received his Ph.D. under Nobel Laureate Professor Herbert A. Simon from Carnegie Mellon University in 1989. Dr. Shen has more than 20 years of research experience. His current research interests include self-reconfigurable and metamorphic systems, autonomous robots, Machine Learning, Artificial Intelligence, and Life Science. He has over 100 publications in these areas.



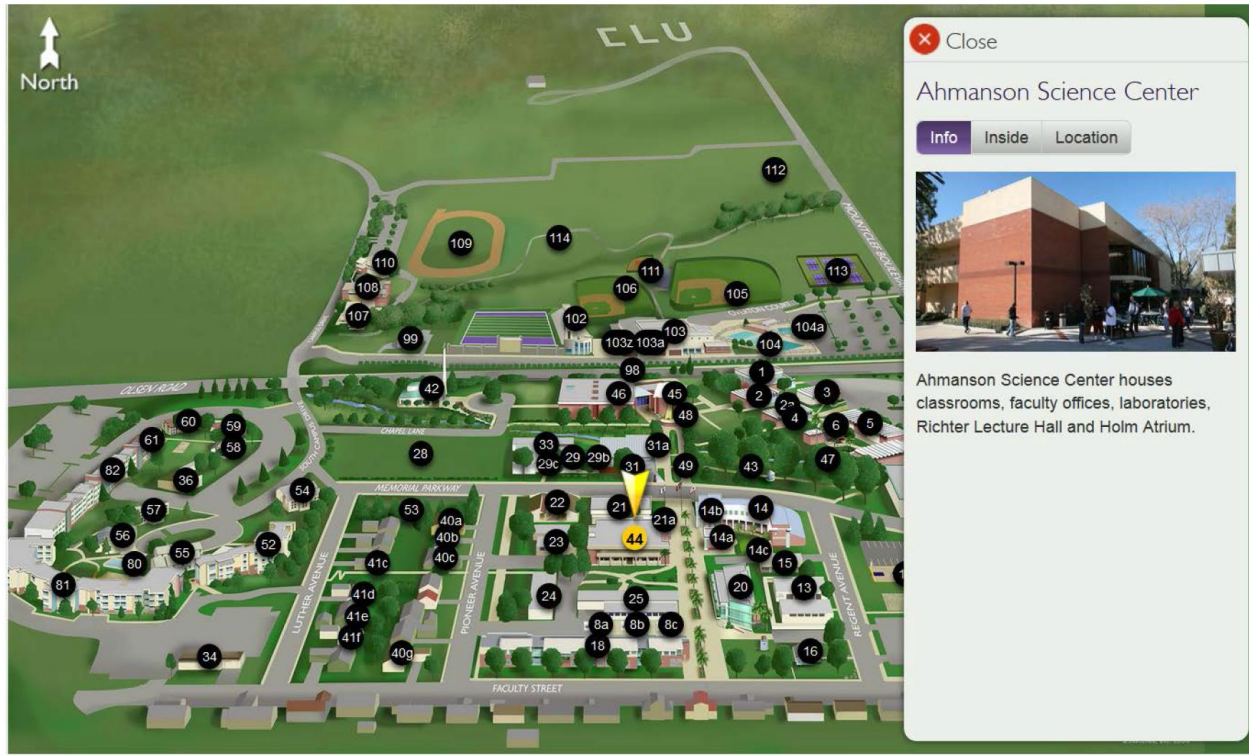
He is the recipient of a Silver-Medal Award in 1996 AAI Robotics Competition, a World Championship Award in 1997 Middle-sized RoboCup Competition, a Meritorious Service Award at ISI in 1997, a Phi Kappa Phi Faculty Recognition Award at USC in 2003, a Championship Award at the first ICRA planetary contingency robotic competition in 2008, and a Best Paper Award at the 26th Arm Science Conference in 2008. He is the author of "Autonomous Learning from Environment" (W.H.Freeman), a 360-page book on how machines learn from their environment based on "surprises". He is the PI for the SuperBot project for developing a modular, multifunctional and self-reconfigurable robotic system for space application, a co-inventor of CONRO, and the inventor of hormone-inspired distributed and decentralized control for self-reconfigurable systems. He has served as chairs and committee members for international conferences and workshops in Robotics, Machine Learning, and Data Mining, and as editorial board members for scientific books and research journals. His research activities have been reported by leading scientific journals such as SCIENCE (9/26/1997 and 8/8/2003) and NATURE (5/28/2004), and media press such as CNN, PBS, BBC, Fox, Discovery, NHK (Japan), Newsweek, New Scientists, and other newspapers and magazines in the world. His research has been supported by NSF, AFOSR, DARPA, ARO, NASA, and CiSoft. He is the conference program chair for the 7th International Conference on Autonomous Intelligent Systems, and has served on the program committee for AAI, AAMAS, KDD, ICRA, IROS, and other international technical conferences.

Meetings are free, open to the public, Pizza/networking starts at 6:30 pm, Talk starts at 7:00 pm

Contact: Doug Askegard, dougaskegard@ieee.org **Our Sponsors:** California Lutheran University, IEEE Buenaventura Section

Address

California Lutheran University
100 Ahmanson Science Building,
60 West Olson Road, Thousand Oaks



Directions from Ventura:

Take the Ventura Freeway 101 South.
Take Lynn Road Exit, turn left, drive 2.9 miles.
Lynn Road turns into Olsen Road, drive .9 miles.
Turn right onto Mountclef Boulevard - the University is on the right
Turn Right onto Memorial Parkway
Park on Memorial Parkway or adjacent streets.

Directions from Los Angeles:

Take the Ventura Freeway 101 North.
Take Lynn Road Exit, turn right, drive 2.9 miles.
Lynn Road turns into Olsen Road, drive .9 miles.
Turn right onto Mountclef Boulevard - the University is on the right.
Turn Right onto Memorial Parkway
Park on Memorial Parkway or adjacent streets.

VERY IMPORTANT: PRINT YOUR PARKING PASS - In general, visitor Parking is no longer permitted before 7 p.m. on Memorial Parkway and adjacent street. If you arrive before 7 p.m., please park in the large lot next to the corner of Olsen Road & Mountclef Blvd.

**CLU STREET PARKING
PERMIT
IEEE-RAS-IA MONTHLY
MEETING**

THIS VEHICLE IS AUTHORIZED TO PARK ON ANY CLU STREET BEFORE 7 PM ON THE 2ND OR 3RD WEDNESDAY OF EACH MONTH IN CONNECTION WITH THE IEEE-ROBOTICS AUTOMATION/INDUSTRIAL APPLICATIONS MEETING ON THE CLU CAMPUS.

NAME: _____

LICENSE PLATE: _____

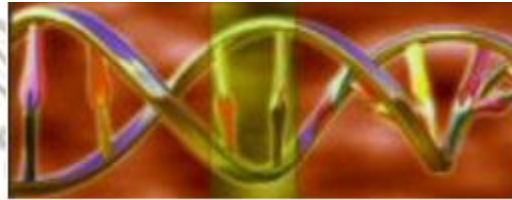
CONTACT PHONE NUMBER: _____

CURRENT DATE: _____

**Fred Miller
Director of Campus Public Safety
(805) 493-3960**



Buenaventura Chapter



Frontiers of Upper Extremity Prosthetic Care - From Clinical Techniques to Innovative Interface Designs

Randall Alley, CEO and Chief Prosthetist for Biodesigns

Wednesday, December 10 2014 7 PM

CLU - Ahmanson Science Building

The design of the interface between prosthesis and a limb or a bone plays a critical role in defining the range of activities that a patient can perform and the comfort level of wearing the rehabilitation device. Upper extremity technology can be expensive and the design of the interface should be optimized to fully leverage the system performance of the arm prosthesis. Innovative approaches of interface designs have advanced the state-of-the art of upper and lower limb patient care.

Randall Alley, Biodesigns

Randall Alley is CEO and Chief Prosthetist for Biodesigns, a technology-driven high performance prosthetic facility specializing in the most advanced upper and lower limb patient care and product development. Alley received his Bachelor of Science in Kinesiology and his prosthetic certificate from UCLA and is both a licensed and board certified prosthetist. Alley is the inventor of the revolutionary, patent-pending High Fidelity Interface (socket) system with Vector Enhanced Compression and Tissue Relief (VECTR) for both upper and lower limb prosthetic applications. This unique performance-enhancing interface system offers superior stability, comfort, range of motion, feedback and efficiency of movement, all while dissipating heat more effectively. He is also the creator of the widely used XFrame and Anatomically Contoured and Controlled Interface, two upper limb prosthetic interfaces that brought superior biomechanical principles to socket design. In addition to his lower limb prosthetic experience, Alley has nearly 20 years working with upper limb patients. As co-founder and former director for the world's largest upper limb prosthetic program, he traveled the U.S. and abroad working on complex upper limb cases and has trained hundreds of practitioners in upper limb prosthetic care, clinical techniques, and innovative interface designs. In conjunction with his practice, Alley is working with DEKA Research as their prosthetic interface design consultant for the Defense Advanced Research Projects Agency's (DARPA) "Revolutionizing Prosthetics Project" chartered to develop the next generation upper limb prosthesis for the military (a.k.a. the "Luke Arm"). In addition to his clinical expertise, Alley conceived and



helped developed Otto Bock's patented PushValve and MagValve for suction sockets (Red Dot Design Award 2009) and assisted in the development of TRS's BAHA and Sure-Lok for improved body powered harness control.

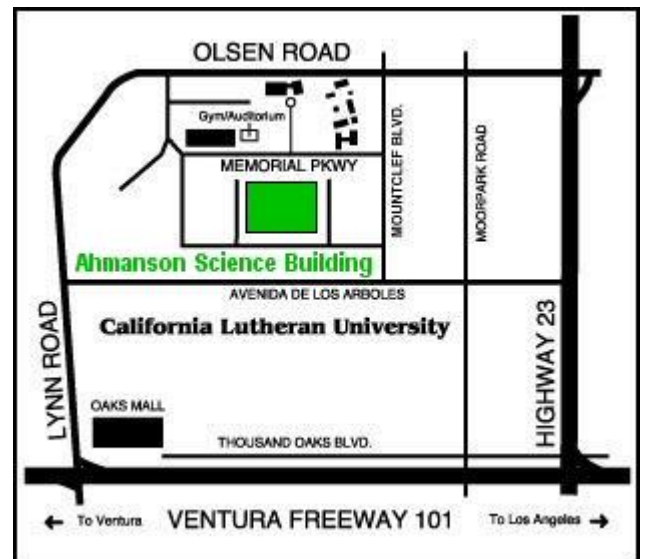
Alley serves on the boards of O&P Business News, the O&P Edge and the Amputee Coalition of America's (ACA) Upper Limb Loss Advisory Council. He is an adjunct professor at Cal State Dominguez Hill's Orthotic & Prosthetic program, is the former chair of the Academy's CAD/CAM and Upper Limb Prosthetic Society, a member of ISPO and a member of the National Athletic Trainer's Association. Alley is an international lecturer, clinical columnist, and has contributed to five upper limb textbooks. He received a Certificate of Appreciation from the Department of the Army for his upper limb training of military medical personnel, the Chairman's Award, the Excellence in Innovation Award, and most recently was awarded with the Clinical Creativity Award from the American Academy of Orthotists & Prosthetists (AAOP). Alley has appeared on national TV and in national and local magazines and newspapers.

Meeting Site: California Lutheran University
100 Ahmanson Science Building,
60 West Olson Road, Thousand Oaks
Meetings are free, open to the public

Dinner: Available at 6 p.m. for \$10 payable at the door, no RSVP needed.

Parking: In general, visitor Parking is no longer permitted before 7 p.m. on Memorial Parkway and adjacent street. However, CLU Public Safety has provided us with **parking passes** to download and use.

Contact: Steve Johnson, sfjohnso@ieee.org



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Dinner will be held in the Ahmanson Science Building.

Please note that the parking situation at California Lutheran University (CLU) has recently changed. Visitor parking is no longer available without a permit before 7 p.m. on streets shown in red on the map, link here http://www.callutheran.edu/safety_security/documents/Parking_Map_08.pdf. Please Park in "G" lots. If you would like a one-evening on-street parking permit (readily available at no cost), or desire assistance walking to / from the Ahmanson Science Center, ask at the CLU Welcome Center or call CLU Public Safety at 805-392-3208. For more information, please see our chapter web site <http://embs.ieee-bv-cs.org/>. There is a link to parking permits at <http://www.ieee-bv-embs.org/?p=286>

Our speaker events are free and open to the public, with no registration required.

Date/ Time: Thursday December 11th, 2014
6:30 PM Pizza & networking
7:00 PM Presentation

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

Speaker: Dr. Keyvan Bahadori,
Responsible Engineer

Title: Communication System Design for Launch Vehicles

Abstract:

Communication systems play a very critical role in the success of any launch vehicle operation. These systems have to operate in one of the harshest environment possible for any fast moving vehicle. Among several comprising components of a communication system, antennas designs are the most environmentally challenging as they are usually being exposed to the worst condition as the most forefront component of the chain.

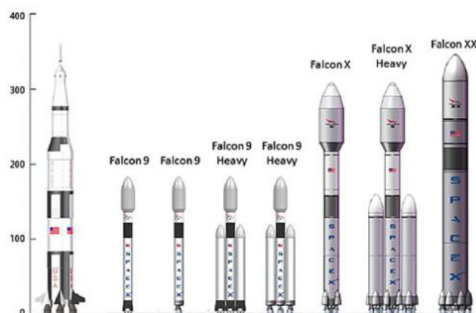
This presentation gives an overview of launch vehicles and the role of communication systems in their operations. Some fundamentals in modeling and design of the communication links are presented and special space-related terms are discussed. Antenna requirements and challenges to realize the designed system are then reviewed and finally some design guidelines to meet those requirements are suggested.

Bio:

Keyvan Bahadori received his MSEE and Ph.D from UCLA in 2004 and 2008 respectively. His research areas have included novel designs of reflector antennas for spacecraft applications, high frequency hybrid methods, and ultra wideband (UWB) antennas for wireless communications.

He Joined with Aeroantenna Technology, Inc. in Chatsworth, CA in July 2007 as a senior antenna design engineer and later as the RF director to lead leading several projects in developing advance aircraft antennas for avionics, GPS and GNSS applications and ultra wideband (UWB) systems.

He has been with Space Exploration Technologies (SpaceX) in Hawthorne CA, since June 2012, where he is the responsible engineer to deliver the next generation of communication systems and antennas for rockets and spaceships.



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,-](http://maps.google.com/maps?q=34.187542,-118.930994&num=1&t=h&vpsrc=0&ie=UTF8&z=18&iwloc=A)

[118.930994&num=1&t=h&vpsrc=0&ie=UTF8&z=18&iwloc=A](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/m/27803>

Buenaventura MTTs/ComSoc/EDS/CAS/Life Member Affinity Group Chapters



IEEE BUENAVENTURA SECTION

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