



# IEEE BUENAVENTURA SECTION

## July 2013 Newsletter

Sat. 13 July	All	Senior Member Elevation Workshop Goebel Adult Community Center Thousand Oaks
Thu. 25 July	AESS EDCAS LMAG MTTS	X-band active phased-array receiver using a silicon-germanium (SiGe) BiCMOS T/R module <i>Tushar Thrivikraman, JPL/CalTech/NASA</i> 6:30-8pm Vitesse Semiconductor, 741 Calle Plano, Camarillo RSVP: paisunils@ieee.org
July	ComSoc Computer EMBS EMC/PSES RAS/IAS PES	No local events planned this month. Check website for updates.
Mon. 29 July	OpCom	Operating Committee Meeting 6:30 pm China Buffet, Thousand Oaks
Thu-Sun 1-4 Aug.	All Region 6	IEEE-USA Meeting Portland, Oregon <a href="http://sites.ieee.org/ieeeusa2013/">http://sites.ieee.org/ieeeusa2013/</a>

<http://ieee-bv.org/>

## SECTION SPONSORS



Ciao Wireless, Inc.



The IEEE

## Membership News

### *New Members*

Please join us in welcoming our new Section members:

- Andrew Nathan Greenwood
- Chris Harman
- Gaurav Mahajan
- Joel Perez-Pacheco
- Marilyn Bianaca Arceo
- Melissa Darejeh
- Xin Cindy Ku
- Young-Youl Song



*New 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, Section Chair

## Section News

### *2013 Late Summer/Fall Events*

We're looking forward to seeing you at our upcoming events later this Summer and into Fall. Look for

- Mixer event, evening of Thursday, 29 August, at the Robles Greens County Club
- A special speaker event Wednesday evening, 23 October, featuring the future of motion picture technology

If you are interested in help with these events, please contact me, and please send your ideas to me at [bcarney@ieee-bv.org](mailto:bcarney@ieee-bv.org) or call me at 805-558-5097.

Bridge  
Chair, IEEE-Buenaventura 2013

## Job Opportunities



### **SR. ELECTRICAL ENGINEER**

**Congratulation to Second Sight ([www.2-sight.com](http://www.2-sight.com)) in Sylmar who were awarded FDA approval 14 Feb 2013!** SSMP is looking for a very experienced EE with RF and communication protocol experience. Medical device preferred.

Contact  
**Pat Jacobs**

805-579-0630  
[pat.jacobs@advancedpersonnelprofiles.com](mailto:pat.jacobs@advancedpersonnelprofiles.com)

### **PROCESS ENGINEER – Second Sight ([www.2-sight.com](http://www.2-sight.com)) in Sylmar, CA**

Mechanical Engineer with microelectronic packaging experience including die attach and wire bonding, silicone and epoxy. Experience is a regulated industry.

Contact  
**Pat Jacobs**

805-579-0630  
[pat.jacobs@advancedpersonnelprofiles.com](mailto:pat.jacobs@advancedpersonnelprofiles.com)

### **ASSOCIATE ELECTRICAL ENGINEER**

Pasadena Medical Device Company needs 3-5 years experience in low power, mix-signal design. Prefer MCU based signal acquisition and battery life optimization experience. BSEE.

Contact  
**Pat Jacobs**

805-579-0630  
[pat.jacobs@advancedpersonnelprofiles.com](mailto:pat.jacobs@advancedpersonnelprofiles.com)

## JOB SEEKERS CORNER

The IEEE Buenaventura Section (<http://www.ieee-bv.org/>) is proud to announce a new benefit to members. If you are a job-seeker, in-transition or just searching for a new opportunity, we are happy to help you advertise your skills.



Simply send two lines, including your contact information, to Pat Jacobs at [pat.jacobs@advancedpersonnelprofiles.com](mailto:pat.jacobs@advancedpersonnelprofiles.com). Pat will publish your information in our monthly newsletter at no cost to the job seeker.

If you prefer, you can advertise anonymously and simply provide your email address and the main points that detail your experience. Employers will contact you directly at the email address provided.

The newsletter is published monthly so please contact Pat by the 20th of the month.

The following IEEE members are searching for new opportunities. Please contact them directly:

**Bioengineer** with experience in research, development, & management. Contact: [beejal@blackboxlabs.us](mailto:beejal@blackboxlabs.us)

**Contract CIO**, Info strategies, BPMS SME, Info/Business Agility, Ent Arch, Bus Arch, Info ProgMgr 805-493-4186

**Embedded Software/Firmware developer.**

Implemented successful products using Assembly Language, C, C++, Shell scripts, Java, XHTML, JavaScript & Perl.

[James.L.Keeler@gmail.com](mailto:James.L.Keeler@gmail.com)

**B.S. in physics, strong math skills** looking for a role in any scientific or technological field that utilizes mathematical and problem solving skills. Working location is flexible. Contact: (206)375-2503 [gqiesber@clunet.edu](mailto:gqiesber@clunet.edu)

**Electronics Systems/Software Test Engineer** with 10 years experience. Skills include automated and manual software testing, environmental testing, Java and C++. Contact [aaronpoley9@gmail.com](mailto:aaronpoley9@gmail.com).

**Systems Administrator** with 8 years experience. Windows, Linux, VMWare, Hyper-V, AWS, Powershell, Python. Seeking professional growth Ventura County. [Rick@Runeq.net](mailto:Rick@Runeq.net)

### Sr. Electrical Engineer at Alfred Mann Foundation ([www.aemf.org](http://www.aemf.org)) in Valencia, CA

BS & 5+ years working on rigid & flexible PCB design. Analog & digital circuit design. Good knowledge of microcontroller, FPGA, RF and communication protocols.

Contact  
**Pat Jacobs**

805-579-0630

[pat.jacobs@advancedpersonnelprofiles.com](mailto:pat.jacobs@advancedpersonnelprofiles.com)



## 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](mailto:newsletter@ieee-bv.org) or see our [Ad Placement information](#) to advertise or sponsor the Section.



## **Technical Ventura**

*As part of our outreach and education program, IEEE Buena Ventura Section publishes a monthly general interest column in a local newspaper, The VC Reporter, under the by-line "Plugged In". These articles feature local technology businesses and inform the general public about people and technologies that would not usually see in their regular news. "Plugged In" items will be reprinted in the IEEE BV Section monthly newsletter.*

### **Titan LED – Lighting the Way**

By Bridgeman Carney

You may have noticed the rapid change from the incandescent light bulbs to LED lights in many applications such as flashlights, traffic signals, car turn and brake signals, home appliances. What's behind these changes and why are LEDs so good at this?

LED is short for 'Light Emitting Diode'. It is actually diode in which power goes into one of its electrodes, is conducted through a special material to a second electrode. When the energy passes through the special material it results in light. In an LED when light is created it is done in a much more efficient way resulting in less energy needed for the same amount of light than produced by fluorescent or incandescent bulbs.

For years LEDs were used only as indicators on electronic equipment panels. But over the past ten years significant new research, materials, and designs have changed LEDs a great deal with new color ranges and more brightness which have allowed them to move into new areas of use and are quickly becoming a mainstream replacement for incandescent, fluorescent, and sodium type lighting technologies.



*Titan LED's modules illuminate Moorpark High School's gymnasium cheaply and coolly*

TitanLED ([www.titanled.net](http://www.titanled.net)), located in Moorpark, has been leading the way providing LED-based light fixtures, mostly in commercial applications, for new installations and replacement of existing ones. Titan says that by using LED-based lighting, the lamp can be a better quality of light, last much longer, run cooler, and cost less to operate. Let's look at each of these general claims of LED lighting.

A filament and/or fluorescent based light bulb have often been referred to as a 'heater that happens to put out some light'. The heat you feel coming off these bulbs is actually wasted energy. LEDs, on the other hand, produce light with little heat. That saves energy, sometimes using 75% less energy to produce the same light



as incandescent light bulbs. Because LEDs themselves run much cooler than incandescent bulbs and fluorescent tubes, LED lighting reduces the need for the amount of air-conditioning needed to cool a building. As another way to save on energy, LED light fixtures can be directed to shine their light in a certain direction and don't need reflectors to capture the light coming from the top or sides of bulbs or tubes.

Light coming off a LED is more uniform than that off a light bulb. Referring to the example of a traffic signal, those using a filament bulb a traffic light tended to have a bright or 'hot spot' in the middle, which was the bulb itself and then fade out towards the outer edges which was actually light reflected off a mirror like bowl shape dish behind the bulb. These lamps had lenses to try to even out the dispersal of light from the bulb and reflector. Today's LED-based traffic signals use an array of about 120 individual LEDs on a disk to provide a brighter, uniform light and do not require the front diffuser lens and are much easier to see from a distance, in rain or in fog or snow.

Another attraction of LEDs in lights is that they last a lot longer than filament or fluorescent style bulbs. LEDs purchased for the home may last as much as 50,000 to 100,000 hours. In other words, if you leave your LED lamp on 4-hours every day, it will last for anywhere from 35 to 65 years! With such lifespan, LED lights nearly eliminate the frequent need to be replaced such as the case with filament bulbs, fluorescent tubes and sodium bulbs. In commercial installations where a single lamp head may contain hundreds of LEDs, should a single LED fail it will be hard to notice and does not cause the whole light fixture to fail.

As Titan LED points out, LED lights are environmentally friendly. Unlike fluorescent tubes or the CFLs style lights, LED do not need special disposal as they do not contain mercury or other toxic materials.

TitanLED has a very broad range of LED based commercial lighting solutions for parking lots, outdoor courts and sport fields, gymnasiums, auditoriums, parking lots, and more. Its most active sales are the installation of new and retrofitting the classic 4-foot fluorescent fixtures found in most every office and industrial space today. 70% of Titan LED's lamps and 100% of its 4-foot LED fluorescent tube replacement lamps are manufactured in the United States.



*This item was originally published in the 13 June 2013 edition of the VC Reporter:*

[http://vcreporter.com/cms/story/detail/moorpark\\_s\\_titan\\_led\\_is\\_lighting\\_the\\_way/10958/](http://vcreporter.com/cms/story/detail/moorpark_s_titan_led_is_lighting_the_way/10958/)

*If you would like your company featured in Plugged-In, please contact Bridge Carney, [bcarney@ieee-bv.org](mailto:bcarney@ieee-bv.org), or Karl Geiger, [karl@ieee-bv.org](mailto:karl@ieee-bv.org).*

## **Upcoming IEEE Buenaventura Section Events**



### **Senior Member Elevation Clinic July 13, 2013**

The 2013 Senior Elevation Event for the section has been scheduled for Saturday, July 13 at the [Goebel Adult Community Center](#), 1385 E Janss Rd, Thousand Oaks, CA 91362 (on Janss Road adjacent to the library).

Senior Membership is an honor!

It is recognition and validation by your peers that you have attained a high level of performance in your profession that deserves recognition.

The criteria for Senior Membership in part requires you to have

- Ten years of professional experience or less depending on your educational experience.
- Five years of significant performance
- Active Membership status
- Three referrals that can validate your experience (this events provides interviews with senior members to validate your experience)

See the complete criteria at

[http://www.ieee.org/membership\\_services/membership/senior/senior\\_requirements.html](http://www.ieee.org/membership_services/membership/senior/senior_requirements.html)

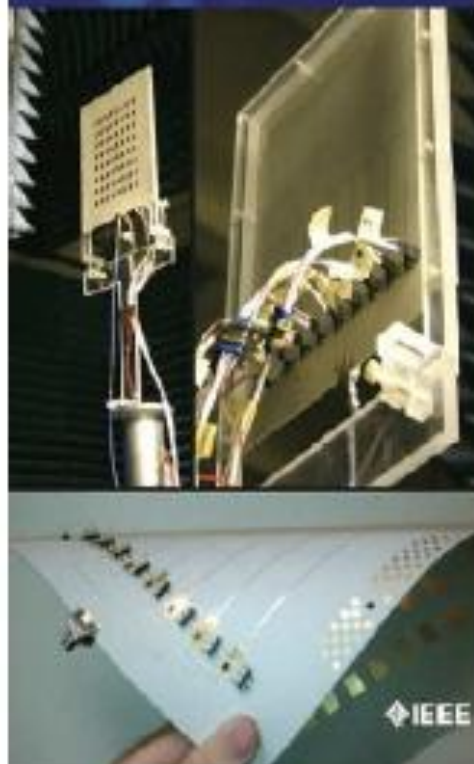
Even though you have not received an invite to the event you may still qualify!

We have sent email announcements to those based on cumulative service years with IEEE which is only an indication. You can become a Senior Member with only one year of service.

To be sent an invitation, more information, or to help prepare for the event, contact me.

Christian Ziegler  
Membership Development Chair  
[Christian.Ziegler@ieee-BV.org](mailto:Christian.Ziegler@ieee-BV.org)





Date and Time: Thursday, July 25th, 2013 (6:30PM)

Location: Vitesse Semiconductor Corp.

741 Calle Plano, Camarillo, CA 93012

Agenda: 6:30PM Reception & Networking;  
7PM Presentation

Presenter: Tushar Thrivikraman  
JPL/Caltech/ NASA

## X-band active phased-array receiver using a silicon-germanium (SiGe) BiCMOS T/R module

**Topic:** This work presents a X-band active phased-array receiver using a silicon-germanium (SiGe) BiCMOS T/R module on a multilayer organic antenna for snow related measurement systems. Designs for a full array and the measured results for an 8x8 element subarray panel are presented. The SiGe T/R module contains an LNA, PA, T/R duplexer switch, and phase shifter. The module is measured to have over 7 dB of gain, less than 2.5 dB noise figure, while only consuming 35 mW in receive mode. The subarray antenna panel contains 8 of these chips, one per column, and was measured to have over 27 dB of peak gain. The array can scan more than  $\pm 20^\circ$  in the azimuth direction with sidelobes at least 10 dB below the main beam. This antenna demonstrates that the use of technologies such as SiGe and low temperature organics can help meet the demands of high performance antenna systems while achieving low-cost, high-integration, and compact size.

### BIO

Tushar Thrivikraman received his PhD in Electrical and Computer Engineering from the Georgia Institute of Technology in 2010. His research under Dr. John Cressler in the SiGe Devices and Circuits Research Group at Georgia Tech focused on SiGe BiCMOS radar front-ends for extreme environment applications. For his research, he designed and characterized transmit / receive modules for phased array antenna systems and analyzed their effects over temperature and radiation environments. Dr. Thrivikraman joined JPL in 2011, where he has been assisting with the development of RF hardware for both airborne and space-borne SAR imaging systems. He is currently the high-power amplifier design lead for use in a future L-band SAR mission.

## **Neighboring Section, Professional Society, and Regional Events**

### **Recommended Practice for Determining the Reliability of 7 x 24 Continuous Power Systems**

**Robert Schuerger, Speaker**

Robert Schuerger a registered Professional Engineer with over 35 years of experience in electrical power generation and distribution. For the past 12 years he has worked for EYP Mission Critical Facilities/HP CFS with his focus on reliability analysis and design of 7 x 24 critical facilities. He is the Chair of the Working Group that created IEEE Std. 3006.7-2013 and primary author for much of it. He will present the fundamentals of reliability engineering as it applies to 7 x 24 continuous power systems, a comprehensive overview of the draft standard and present the typical designs for critical facilities that are provided in the standard.

Make your reservation today!

**WHERE:**

Eaton Electrical Group's office  
13039 Crossroads Parkway South  
City of Industry, CA 91746

**WHEN:**

8am-12pm Saturday, July 20, 2013

**Fee:**

\$75 (advanced registration for members by June 30th)

\$85 (advanced registration for non-members by June 30th).

Continuing Education Units (CEU) are also available. IEEE Processing fee: \$20.00 each person

**Contact:**

[Annette.Malekandrasians@WorleyParsons.com](mailto:Annette.Malekandrasians@WorleyParsons.com)





## Buenaventura Section and Chapter Info

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Electron Dev./Circuits and Systems	Sunil Pai	<a href="mailto:chair@edcas.ieee-bv.org">chair@edcas.ieee-bv.org</a>
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Be sure to check the Section's websites for the latest updates, meeting flyers, and newsletters. Some event details may change. Sites:

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

<http://comsoc.ieee-bv.org/>

<http://www.ieee-bv-cs.org/>

<http://www.ieee-bv-embs.org/>

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