



Region 6 Awards and Recognition Program 2009-2010 Awards Nomination Package

IEEE Region 6 gives a total of 6 Awards per year recognizing the outstanding contributions and accomplishments of IEEE members, Sections, Student Branches, and Corporations within each Area and also the Region 6 as a whole. This package provides an overview of these 6 annual awards, along with nomination form to cover all categories of these awards. The six annual awards of Region 6 are as follows:

Region 6 Awards:

- 1. Region 6 Outstanding Engineer Award**
- 2. Region 6 Outstanding Leadership and Professional Service Award**
- 3. Region 6 Outstanding Section Award**
- 4. Region 6 Outstanding Corporate Service to Engineering Community Award**
- 5. Region 6 Outstanding Student Branch Award**
- 6. Region 6 Director's Special Award (Maximum of 4 Awards per year)**

The same categories of 6 Awards are given to each of the 5 Areas of Region 6. The 5 Areas are the (1) Central Area, (2) NE Area, (3) NW Area, (4) Southern Area, and (5) SW Area. The 6 Award Categories for each of the 5 Areas are as follows:

Area Awards:

- 1. Area of Region 6 Outstanding Engineer Award**
- 2. Area of Region 6 Outstanding Leadership and Professional Service Award**
- 3. Area of Region 6 Outstanding Section Award**
- 4. Area of Region 6 Outstanding Corporate Service to Engineering Community Award**
- 5. Area of Region 6 Outstanding Student Branch Award**
- 6. Area Chair's Special Award in Region 6**

The descriptions of these six Awards of Region 6 are as follows:
(The description of the Area Awards are similar to the Region 6 Awards):

1. Outstanding Engineer Award:

Award is designed to recognize IEEE members of Region 6 who through their technical abilities have made outstanding contributions to their profession. It recognizes the development of new technical concepts, significant patents, development of new devices, development of applications, new designs, significant cost reductions using known techniques, etc.

2. Outstanding Leadership and Professional Service Award:

Award is designed to recognize IEEE members of Region 6 who through their professional and technical abilities have made outstanding and noteworthy contributions to the Institute, their communities, fellow professionals and fellow man. The award is not designed to recognize a single achievement, but rather collective contributions complemented by singular works exemplifying the objectives and attributes of IEEE.

3. Outstanding Section Award:

Award is designed to recognize the outstanding IEEE Section based on its success in carrying out the objectives of IEEE through the implementation of Section programs. In this evaluation, recognition will be given to the successful maintenance of ongoing efforts designed to sustain the basic core activity of the Section and its components as well as recognizing innovative and creative efforts to develop and implement new programs or new entities such as Chapters and Subsections among others.

4. Outstanding Corporate Service to Engineering Community Award

Organizational awards are provided to those companies, or divisions of a company that encourage volunteerism through its practices. In particular, the atmosphere created by the company to facilitate the IEEE volunteer(s) to do his or her job, or supporting the volunteers by permitting free or discounted use of company resources.

5. Outstanding Student Branch Award:

Award is designed to recognize the outstanding IEEE Student Branch based on its success in carrying out the objectives of IEEE through the implementation of programs. In this evaluation, recognition will be given to the successful maintenance of ongoing efforts designed to sustain the basic core activity of the student branch and its components as well as recognizing innovative and creative efforts to develop and implement new programs.

6. Director's Special Award:

This Award is presented to an individual or group who volunteered or served with distinction as determined by the Region 6 Director. **A maximum of 4 Director's Special Awards may be awarded in a year.** (These awards can be given at any time during the year. Those awards can be plaques or corporate trophy style awards. Each award may cost a maximum of \$200.)

Awards Procedure Guidelines:

Process Overview

The nomination form is the same for the Area Awards and for the Region 6 Awards.

The nominations for all 6 award categories are submitted by the Section Awards Chairs, or the Section Chairs directly to the respective Area Awards Chairs, with copies to the Area Chairs. The Area Awards Chair compiles all the submittals and forward those to the **Area Awards Committee** to review the nominations and to select the winners. Following the selection process, the Area Awards chair formally notifies the award winners, with copies to the Area Chair, all the Section Awards Chairs within that Area, and also the Region 6 Awards Chair.

The Area level winners in all 6 Award categories are automatically the qualified nominees for the Region 6 Awards for all 6 categories. So, at this stage, the Area Awards Chairs will forward the nomination papers of the Area winners to the Region 6 Awards Chair for the Region level competition. The Region 6 Awards chair will compile the submittals and forwards those to the **Region 6 Awards Committee** to review the nominations and to select the winners. After the selection process, the Region 6 Awards chair formally notifies the award winners, with copies to the Region 6 Director, all 5 Area Chairs, all 5 Area Awards Chairs, and optionally to all the Section Chairs of the Region 6.

Awards Committees

Area Awards Committee:

The Area Awards Chair, and all the Section Awards Chairs within that Area.

Region 6 Awards Committee:

The Region 6 Awards Chair, and all 5 Area Awards Chairs.

2009-2010 Awards Schedule

Area Call for Nominations:	March 15
Area Nomination Submittal Deadline:	April 30
Area Recipients Selected	May 15
Area Recipients Notified	May 30
Area Winners Submitted to Region	May 30
Region Winners Selected	June 15
Region Winners Notified	June 20
Region Annual Awards Presentation	September, Region 6 OpCom Meeting

Award Instruments and Cost

One award of each kind annually, except the Director's Special Award which can be up to 4 Awards in a year.

The award shall be a suitably inscribed plaque, or a commemorative instrument along with a certificate describing the accomplishments made by the individuals or companies.

The cost of the Area Awards is a maximum of \$50 per Award, with a total maximum cost of $(6 \times \$50) \times 5 = \$1,500$ for all 5 Areas combined. The cost of the Region 6 Awards is a maximum of \$200 per Award, with a total maximum cost of $5 \times \$200 + 4 \times \$200 = \$1,800$.

Award Presentation

The Region 6 Awards are given to the Region level winners at an Awards ceremony during a Region 6 OpCom meeting in the Fall. These Region 6 Awards can also be given at the Area meetings or Section meetings in specific cases with special prior arrangements.

The Area level Awards are given to the winners at the Area meetings. These Area Awards can also be given at the Section meetings in specific cases with special prior arrangements.

Important Notes on Nominations

Nomination Form is to be completed by the nominator (Section Awards Chair or Section Chair) and submitted directly to the Area Awards Chairs with a copy to the Area Chairs. Additional long resume or informational document may be submitted at the discretion of the nominator. Also, prior-year submittals may be re-submitted (updated as appropriate or necessary) for current consideration.

Supporting information on the nominee is a key ingredient in a successful nomination process. While a fully completed Award nomination form is the base requirement to submit your nominee, the inclusion of summary information (along with the form) allows the section to provide greater depth and detail regarding the nature of their nominee's achievements and contributions. In the nomination form you will find specific mention of supporting items that can be included in your nomination submittal. When there are several competing submittals from various sections, this additional detail can be the difference.

Contact Information of Awards and Advancement Chairs:

For any questions regarding awards, please contact your Area Awards and Advancement Chair or the Region 6 Awards and Advancement Chair:

2009-2010

Region 6 Awards and Advancement Chair

Dr. Mahbub Khan

IEEE Region 6

Region 6 Awards and Advancement Chair

3463 Sagewood Lane, San Jose, CA 95132, Phone: 408-859-3566

e-Mail: mahbubkhan@ieee.org, mahbubkhan35@hotmail.com

[**Region 6 States (12 States):** Alaska, Hawaii, Washington, Oregon, California, Arizona, Nevada, Utah, Idaho, Montana, Western Colorado, and Northern New Mexico]

Area Awards and Advancement Chairs for all 5 Areas

Roger F. Hoyt, PhD, Fellow IEEE

IEEE Region 6

Central Area Awards and Advancement Chair

6613 Tam O'Shanter Drive, San Jose, CA 95120-4022, USA

Phone: 408 997 1826, email: roger.hoyt@sbcglobal.net

(**Central Area Sections:** Hawaii, Northern Nevada, Oakland-East Bay*, Sacramento, San Francisco*, Santa Clara Valley* & Monterey Bay Subsection). *Participating Sections of the San Francisco Bay Area Council.

Dr. Elisa H. Barney Smith

IEEE Region 6

NE Area Awards and Advancement Chair (Acting)

Dr. Elisa H. Barney Smith

Associate Professor, Electrical and Computer Engineering Department, MEC 202C

Boise State University, Boise, ID 83725-2075

Phone:

e-Mail: EBarneySmith@boisestate.edu

<http://coen.boisestate.edu/EBarneySmith>

(**NE Area Sections:** Boise, Eastern Idaho, Eastern Montana, Montana, Utah, and Western Montana sections)

Mr. Ocie Mitchell

IEEE Region 6

NW Area Awards and Advancement Chair

AT&T

505 e Bluff Dr., Anchorage, AK 99501, Phone: 907-271-1965

e-Mail: omitchell@ieee.org

(**NW Area Sections:** Alaska & Fairbanks Subsection, Central Washington, Oregon, Palouse, Richland, Seattle, and Spokane sections)

Doug Askegard

IEEE Region 6

Southern Area Awards and Advancement Chair (Acting)

545 Green Mountain St, Simi Valley, CA 93065

Phone: 805-373-3396-0, 805-522-2188, 408-425-3060-cell, 1 805-522-1788 (Fax)

e-Mail: dougaskegard@ieee.org

Note that Central Coast & Coastal LA have dropped out of the Los Angeles Council.

(**Southern Area Sections:** Buenaventura*, Central Coast, China Lake*, Coastal LA, Foothill*, Metropolitan LA*, Orange County, and San Fernando Valley* sections).

* Participating Sections of the Los Angeles Council (LAC)

Dr. George Karady

IEEE Region 6

SW Area Awards and Advancement Chair

Salt River Chair Professor

Department of Electrical Engineering

Arizona State University, 1711 S Rural Rd., Tempe, AZ 85287-5706

Phone: 480-965-6569, Fax: 480-965-0745, e-mail: karady@asu.edu

Home page: <http://www.eas.asu.edu/~karady>

(**SW Area Sections:** Alamogordo-Holloman, Albuquerque, Fort Huachuca, Las Vegas, Los Alamos/Northern New Mexico, Phoenix, San Diego, and Tucson sections)

IEEE Region 6 Awards – 2009-2010

NOMINATION FORM

(for Area Awards, and also for Region 6 Awards)

(This Nomination form is to be used by Sections for Area Award Nominations for all categories. This form is also to be used by Sections-via-Areas for Region 6 Award Nominations. Please use one form per Nomination.)

Area → Central, NE, NW, Southern, SW

Award Category of the Nomination:

- Outstanding Engineer Award
- Outstanding Leadership and Professional Service Award
- Outstanding Section Award
- Outstanding Corporate Service to Engineering Community Award**
- Outstanding Student Branch Award
- Director's Special Award / Area Chair's Special Award

Name (Individual/Section/Student-Branch/Company): Dr. Charles E. Weitzel

Address: 2222 W. Naranja Avenue, Mesa, AZ - 85202

Phone: 480-345-6089 e-Mail: c.weitzel@ieee.org

Occupation: Engineer

Title/Position: Chief Technology Officer, Renavitas Technologies, Scottsdale, Arizona

IEEE Grade: Senior Date of Grade: 1983

Company: Type of Business, # of employees, etc. Engineering and Technology Services for Sustainable Energy, and Semiconductors; # of employees: 7, New Start-Up Company

Proposed Citation: Contributions to Compound Semiconductor Technology and Devices

Supporting information to be attached, as appropriate and applicable:

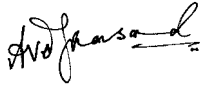
- (a) Engineering Career (Brief Summary), (b) Education, (c) Research/inventions, (d) Contributions to engineering literature, (e) Contributions to IEEE activities, (f) Contributions to the community
- Outstanding accomplishments of the Section
- (a) Company contributions to engineering, (b) Company support of IEEE activities, (c) Company contributions to the community (monetary and other relevant contributions)
- Outstanding accomplishments of the Student Branch
- Region 6 Director's Special Award / Area Chair's Special Award

IEEE Phoenix Section

Section Name

Dr. Vasudeva P. Atluri

Name of Nominator (Section Awards Chair or Section Chair)



Signature of Nominator (Section Awards Chair or Section Chair)

Section Awards Chair

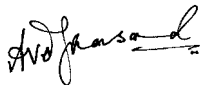
Title of Signer/Nominator

480-563-0891 / vpatluri@ieee.org

Phone / e-Mail

May 20th, 2009

Date



Signature of Area Awards Chair or Area Chair (for Region Awards)

May 20th, 2009

Date

Note: This nomination form with attached summary and description of service and accomplishments must be submitted by the Section Chair to the respective Area Awards and Advancement Chair, by April 30, 2008. Nominations received after this deadline may not be considered for awards.

Dr. Charles (Chuck) Weitzel has made significant technical contributions in the areas of RF and power switching device technologies over his career with a primary focus on compound semiconductor devices fabricated using GaAs, SiC or GaN. For most of his career, Chuck has acted as a project leader and/or manager and has always made real, significant, individual contributions to the technologies he worked on. He has been issued 42 US patents and published over 70 technical publications.

Chuck started work in the GaAs area in the late 1970's, when he joined Motorola. He made lasting contributions through that work, including building some of the first GaAs device ever made at Motorola. Later in his career (2001-2008), Chuck was responsible for all RF GaAs device development: InGaP HBT's and E-mode FET's for cell phone power amplifiers, and PHEMT's for RF switches and base-station power amplifiers. Chuck's work in the GaAs area is widely published and patented, and includes:

- Work that showed that GaAs should never be rinsed in high purity water, due to accelerated Galvanic etching around contacts.

- Project leader for development of Motorola's first GaAs product, the MRFG966, which is still on the market today.

- Developed a method for using multiple layers of metals and dielectrics to build on-wafer passive components on a semi-insulating substrate, a technique still widely used in the GaAs industry today. This technique was used in Motorola's first GaAs MMIC technology, which included resistors, capacitors, and inductors.

- Development of the ohmic contact metallization scheme that has been used by Motorola/Freescale for over 15 years.

- Inventor on the first patent (US5119149) issued describing use of a field plate to enhance the RF gain of field-effect transistors. Field plates are now widely used in a wide variety of FET technologies, including LDMOS power FET's.

- Further development of the field plate into a self-aligned process that resulted in greatly improved gain for GaAs PHEMT's at 5.8GHz.

- In addition to the field plate, patent for and use of a step-gate structure to increase the breakdown voltage of RF GaAs PHEMTS to a point where they could operate at 26V drain bias and achieve power density of 1.8W/mm.

- Improvement of the PHEMT epi structure so that the device did not show degraded linearity at -40C, by placing the Si planar doping layer within a thin layer of GaAs in the AlGaAs barrier.

- Significant contributions to technology benchmarking through appropriate RF performance comparisons among GaAs FET's, InGaP HBT's, SiGe HBT's, Si CMOS, Si LDMOS, SiC MESFET's and GaN HFET's, and working with the ITRS to develop technology roadmaps (RF and Analog/Mixed-Signal Technologies for Wireless Communications) that included these technologies.

Chuck's lasting impact on GaAs microwave device technology over the past 30 years is most evident from the fact that many of the technologies he developed

are still in use today, from the MRFG966 to on-wafer passives for MMIC's to wafer cleaning and ohmic contact processes, to device (field plate, step gate) and epi structures.

Chuck started working in wide bandgap semiconductors in the early 1990's by starting Motorola's first SiC program, which included both RF and power switching devices. A number of contributions were made from that program:

- Started the first SiC MESFET work at Motorola, jointly with Cree Research via a government contract. This work lasted approximately 6 years, and resulted in SiC MESFET's with 1.8GHz power density of 2.8W/mm. SiC RF power devices today achieve about the same power density that was demonstrated during this project in 1994.

- Started SiC-based power switching device work at Motorola (diodes and MOSFET's), including the use of an accumulation mode MOSFET, rather than the industry-standard inversion mode device that suffered from lower mobility.

- Extended wide bandgap power device work into GaN materials through fundamental patent describing how a RESURF layer could be used under the channel layer in a GaN HFET.

- Started Freescale's first intensive effort for RF GaN devices in 2005. This development project at Freescale achieved in 2 years RF performance that matched that from companies who had been working in GaN technology for many years. These devices are now being targeted for high frequency, high linearity base-station applications.

- Extensively published technology benchmarking for RF and power switching wide bandgap devices, including both SiC and GaN technologies. Chuck's lasting impact in wide bandgap technology is also clear, including a record for device performance that is still relevant 15 years later, and several novel device structures and their patents.