

**AMEREM – EUROEM – ASIAEM Memos**

Memo 12

15 August 2017

(India's 70th Anniversary of Independence)

## **Carl E Baum Medal**

**D. V. Giri**

**Pro-Tech, 11-C Orchard Court, Alamo, CA 94507 USA  
Dept. of ECE, University of New Mexico, Albuquerque, NM 87131 USA**

and

**Z. Sholapurwala**

**Zeonics Systech Defence & Aerospace Engineers Pvt. Ltd.  
"ADAR" #3, 10th Main, 7th Cross, Maruthinagar,  
New Thippasandra P.O., Bangalore – 560075, India**

In this Memo, we outline the initiation of a new Carl E. Baum Medal in memory and honour of Dr. Carl E. Baum who was an iconic figure in the field of High-Power Electromagnetics encompassing Nuclear Electromagnetic Pulse, High-Power Microwaves, Lightning and Short Pulse Technologies.

The idea of instituting this medal to be awarded at AMEREM/EUROEM/ASIAEM Conferences starting with ASIAEM 2017 originated from the second author (ZS) of this Memo. In his own words, Dr. Sholapurwala said:

*"I met Carl E. Baum in around 2008-9 after 28 years of personal experience in the field of Practical Pulse Power. I realised that when I showed him my various models of Rail gaps, he could immediately picturise the electromagnetic profiles and static fields through his fabulous hold over mathematics. When tested at my end, his mathematical figures and my measured values had an error of only 0.8%. I was amazed with his grasp over mathematics and electromagnetism. At that very moment I fell in love with his capability. The day he passed away, and I received the news of his demise, I decided to spearhead the concept of instituting a medal in his name, so that he is remembered forever throughout the electromagnetic community."*

Dr. Baum visited Zeonics in India along with Dr. Giri and Mr. Cliff Giles (EG& G and Los Alamos National Laboratory) and we present some photographs from that visit.



**Photographs from the visit of Dr. Baum, Dr. Giri and Mr. Giles to Zeonics, Bengaluru, India (Circa 2008-2009)**

In 2016, Dr. Sholapurwala approached Dr. Giri to initiate the concept of “Carl E Baum Medal” to persons for their long standing accomplishments in the field of Applied Electromagnetics. Dr. Giri then approached the Board of Directors of SUMMA Foundation in Albuquerque, NM., USA. SUMMA Board accepted this proposal. The two authors of this Memo also donated \$ 1000 each to SUMMA Foundation to facilitate this award. In consultation with the members of SUMMA Board, Dr. Giri designed and got 25 medals made. Photographs of front and back sides of this medal are shown below.



**Front and Back sides of Carl E. Baum medal**

The donors of this medal requested that the SUMMA Board be responsible to choose the Medal recipients and that the Medals be awarded at AMEREM / EUROEM / ASIAEM Conferences starting with ASIAEM 2017 in Bengaluru, India. The number of awards at any conference can be N (= 0 or 1 or 2 or 3 or 4). SUMMA Board deliberated and awarded 4 Medals during the Awards Banquet at ASIAEM 2017 on 26 July 2017.

The four winners of the newly-minted Carl. E Baum Memorial Medal were announced at the banquet of ASIAEM2017 in Bengaluru, India. The certificate citations that accompanied the bold, brass medals read as follows:

***D. Venkata Giri***

***“For major contributions to EMP and HPM and for ensuring the legacy of Carl E. Baum”***

***Kelvin S.H. Lee***

***“For seminal contributions to EMP”***

***Frederick M. Tesche***

***“For contributions to electromagnetic topology and EMC”***

***William A. Radasky***

***“For contributions to understanding EMP generation and computation”***

It is noted that the inaugural medals were given out on 26 July 2017 by Prof. Edl Schamiloglu, President of SUMMA Foundation. Drs. Giri and Radasky were present and received their medals and made short speeches reminiscing about their interactions with the Late Dr. Baum (1940-2010). Dr. Giri also received the medal on behalf of Dr. F. M. Tesche and his statement (see next page) was read out as well. Dr. K. S. H. Lee was informed of his award after the conference. Some photographs from this Medal award ceremony are also included in this Memo.

Statement by F. M. Tesche  
26 July 2017

*I am deeply honored to be one of the first recipients of the Carl E. Baum Medal in Applied Electromagnetics. I would like to thank the Board of Directors of the SUMMA Foundation for considering me for this award, the judges and reviewers for their acceptance, and my friend and colleague, Dr. D. V. Giri for receiving this medal for me.*

*I first met Carl Baum in 1971 at Kirtland Air Force Base in New Mexico, where I had traveled as a newly graduated Ph.D. student. I was seeking his permission to work on an EMP contract that my employer, the Northrop Corporate Laboratories, had with the Air Force Weapons Laboratory. He said "whatever" and I took this as a "yes". And thus began my 46 year career in Applied Electromagnetics. Working with Carl was not easy, but it was always rewarding. He had expertise in a wide array of technical subjects, ranging from nuclear physics to system-level testing. He could formulate a problem, visualize a solution and design an experiment or numerical verification, seemingly with ease. It usually took me much longer to understand what he had said and how to implement it. But Carl's interests were much wider than just in the technical domain. He was well versed in history and philosophy. He played the piano and composed classical music. He was deeply religious and wrote music for the church choir. He championed the free exchange of information and publications and organized short courses and conferences for continuing education. And he created the SUMMA foundation to further some of these interests.*

*For me, and I am sure for the many others here at ASIAEM 2017 that have known Dr. Baum personally, working with him has been a gift and a pleasure.*

*I am grateful for this medal and I am sorry that I cannot be here Bangalore to accept this in person. I hope you are having a good and productive meeting.*

*Thank you.*

**F. M. Tesche**  
**Lakeville, Connecticut, USA.**



**Dr. Giri receiving Carl E. Baum Medal**



**Dr. Radasky receiving Carl E. Baum Medal**



**Dr. Giri reading Dr. Tesche's Statement**