Practical Papers, Articles, and Application Notes was written by Robert G. Olsen, Technical Editor. Three practical papers were presented in his section. The first was "Verification and Validation of Computational Electromagnetics Software" by Edmund K. Miller, Los Alamos National Laboratory (retired). The second was "Transmission Line Fault Analysis Using a Matlab-Based Virtual Time Domain Reflectometer Tool" by Levent Sevgi, Dogus University, Electronics and Communication Engineering Department, Istanbul-Turkey. The third paper was "The Sandia Lightning Simulator – Recommissioning and Upgrades" by Michele Caldwell and Leonard E. Martinez, Applied Accelerator and Electromagnetic Technologies, Sandi National Laboratories, Albuquerque, New Mexico.

The Editor of the Newsletter was Janet O'Neil. **EMC**

Carl Baum and David Giri: A Rare and Unique Combination

Dan Hoolihan, EMC Society History Committee

Introduction

This article is a historical review of the professional relationship between Carl Baum and Dave Giri. Both individuals are well-known in the Electromagnetic Pulse (EMP) area of EMC technology.

Carl Edward Baum

Carl Edward Baum was a towering technical figure in the area of Electromagnetic Pulse (EMP) Technology. Carl was born in 1940 in Binghamton, New York. He received his B.S., M.S., and Ph.D. degrees in electrical engineering from the California Institute of Technology in Pasadena, California in 1962, 1963, and 1969, respectively. During this time, he also found enough energy to play tackle for the CALTECH Beaver football team. He served eight years in the Air Force and was stationed at the Air Force Weapons Laboratory at Kirtland AFB in Albuquerque, New Mexico from 1963 to 1971.

In 1971, he accepted a civilian position at the Air Force Weapons Laboratory and he retired there as a Senior Scientist in 2005. He was also a Distinguished Professor in the Department of Electrical and Computer Engineering at the University of New Mexico.

His contributions to Electromagnetic Pulse theory and testing were legendary. He wrote innumerable technical notes, technical articles and books on EMP and High Power Microwaves (HPM). He also gave numerous presentations and presented short courses in his area of specialty all over the world.

It was a widely understood colloquial belief that the Soviet Union had several "English to Russian" translators that worked "full-time" on translating Carl's prodigious literary output on EMP.

David V. Giri

David V. Giri was a professional associate of Carl Baum who spent 38 years working for and with Carl on numerous EMP assignments and challenges. David was born in British India in 1946 and came to the United States in 1969 as a graduate student at Harvard University. He earned his Ph.D. at Harvard in 1975 and began working with Carl Baum as a National Research Council Post-Doctoral Fellow in August of that year.

ATLAS I (TRESTLE) was being planned and built at that time and David was quickly initiated into Nuclear Electromagnetic Pulse (NEMP) simulator analyses and design.

A quote from Carl Baum relative to David Giri is significant: "Many HEMP simulators were built in Western Europe with Britain, France, Germany, The Netherlands, Sweden, Switzerland and Italy being the major ones. Besides my own involvement, great credit is due to D. V. Giri (my alter ego) for many of the detailed calculations and working with United States pulser manufacturers."

Carl and David taught many short courses around the world on EMP and its corollary topics. The first one was held at New Mexico Tech in Socorro (New Mexico) in 1983. Additional courses were taught on EMP Interaction and Hardening (EMP 201) from 1983 to 1989.

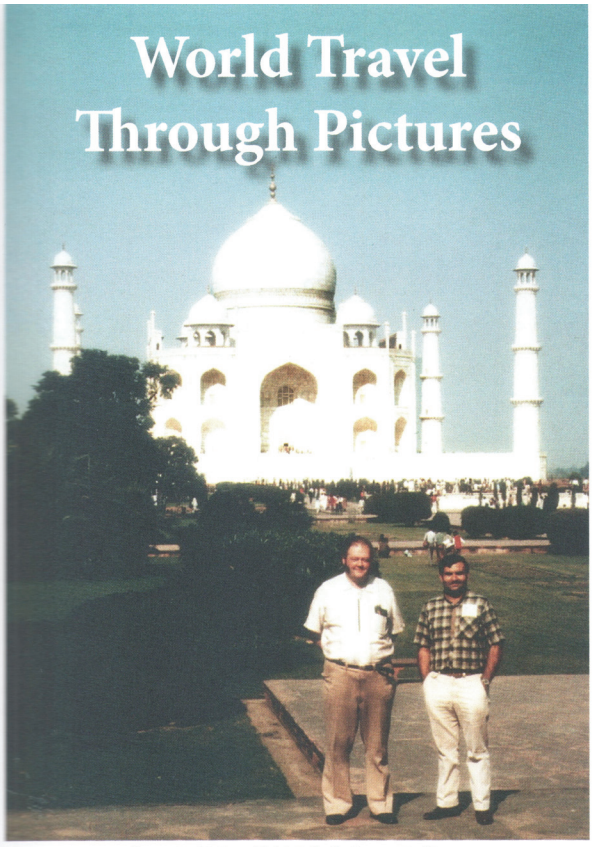
After the dissolution of the Soviet Union, the short-course content was changed to reflect the new criteria for high-power microwaves (HPM) and high-power impulses (HPI). This course was called High-Power Electromagnetics (HPE 201). The last course taught by Carl was HPE 201-2009 and it was taught in Switzerland.

Over 100 Notes and Memos were published on EMP and its effects; many of them co-authored by Carl Baum and David Giri.

Most of these publications can be downloaded from: http://www.ece.unm.edu/summa/notes.

AMEREM/EUROEM Meetings

The first Nuclear Electromagnetic Pulse Meeting (to be abbreviated NEM) was organized by Carl Baum in 1978 in Albuquerque,



C. E. Baum and D. V. Giri — Taj Mahal, Agra, India 1987

New Mexico. The meetings were held every even year since 1978; when they are held in the USA, they are called AMEREM and when they are held in Western Europe they are called EUROEM. The meetings now address High-Power Electromagnetics (HPE). Additional publications have flowed from these meetings and have been published in Proceedings of the IEEE, IEEE Transactions on Plasma Science, IEEE Transactions on Electromagnetic Compatibility, and other Conference Records. A Special Issue of the IEEE Transactions on Electromagnetic Compatibility was published in August of 1992. The Editor-in-Chief was Motohisa Kanda and the Guest Editor was David Giri.

Conclusion

Carl Baum passed away on December 2, 2010 at the relatively young age of 70 years. David Giri is alive and well and living in Alamo, California. He can be reached at gori@dvgiri.com.

NOTE – Much of the above material was learned from a small book written by David Giri called: "My Journey with Carl" by D. V. Giri, a Memoir. The accompanying photo in this column was taken from the memoir. For copies of the book, contact David Giri. **EMC**