



# EMC Personality Profile

**Frank Sabath, Associate Editor**

## Introducing Noel B. Sargent

During my personal preparation for the 2016 IEEE International Symposium on EMC in Ottawa, our immediate past president of the EMC Society made me aware that we would have a participant who has continually attended all of our EMC symposia for more than 40 years. Immediately, I decided that someone who showed such a strong commitment to the EMC discipline and his unflinching support of the IEEE EMC Society must be the subject of this Personality Profile. The person I would like to introduce to you in this profile is Noel Sargent.

Noel himself characterizes his career in EMC as quite varied. It started at the age of 15 in amateur radio (K8QQQ), continued as a 1st class commercial broadcast (AM, FM, TV) engineer and finally Noel was with NASA as an electronic technician, instrumentation engineer, electric vehicle power electronics R&D, and lastly was involved in launch vehicle programs including Shuttle-Centaur. Noel believes that the fact that he 'came up through the ranks' as a technician has given him a special edge in many circumstances during his career.

His boosted his professional career by studying physics at Cleveland State University. After he received the B.S. Engineering Science degree in 1970, he left the university and was by no means a 'fresh-out' in EMC. During the first years EMI engineering was more of an interest to Noel than a responsibility. Over the years he became the go to person for people with 'noisy' measurement systems. In this period of his career Noel spent considerable time in aeronautics during the development period of the high-bypass ratio fan and research phase on the various jet noise reduction techniques (1970s) and on vectored thrust techniques.



Since 1965 Noel has been with the NASA Glenn Research Center in Cleveland, Ohio. He started as an electronic technician and after he received his B.S. degree he continued as an instrumentation engineer. As Noel considers himself a 'measurements guy' he became a student of EMI test methods. Since his work on electric vehicle drive systems R&D he has been involved in EMI standards activities. Since at that time (early 1980s) the IEEE EMC Society focused on commercial and digital electronics, Noel decided that the Society of Automotive Engineers (SAE) scope of work was more akin to his standards interest.

Consequently, he became executive secretary of SAE AE4R, a national committee responsible for developing EMC standards leading to a draft advisory circular for the FAA on EMC certification of fly-by-wire commercial aircraft. Also, most of the papers he has written on EMC have been presented at the SAE, AIAA, or Power Systems conferences, as he much preferred educating others on the need for EMC in those disciplines, rather than preaching to the choir of the EMC Society.

During his time with NASA Noel Sargent served on various technical and standardization committees where he successfully guided and drove the development of new policies and requirements which impacted the space systems EMI community. NASA headquarters appointed him as the U.S. delegate to the International Organization for Standardization, Technical Committee 20 (ISO TC-20) responsible for developing international EMC standards for space systems, resulting in the negotiation of new international standards among all participating countries. Noel served as the NASA delegate to the National Atmospheric Electricity Hazard Protection Interagency Coordinating Group, which provides oversight, consultation, and coordination of issues of common benefit among Agencies (DOD, Federal Aviation Administration (FAA), NASA, and National Oceanic and Atmospheric Administration (NOAA)) relative to lightning and static electricity research.

On the technical side he has lead efforts to resolve technical issues associated with the integration of spacecraft, launch facilities, space station and numerous space experiments. He conceived the concept of and advocated for the design, development, and operation of a lightning transient measurement system that was later adopted for use at numerous launch facilities, allowing the analysis of lightning strike impact on electronics. He also developed techniques to quantify the effect of plasma arcing on space station solar arrays that resulted in significant design changes.

Near the time of his retirement from NASA Glenn in late 1999, NASA awarded Noel the Exceptional Service Medal for a lifetime of achievements. Since his retirement from NASA Glenn in 1999, he has consulted to NASA on EMI design and qualification of space experiments at Glenn Research Center for the Interna-



PHOTO BY JERRY RAMIE

*EMC Society President Frank Sabath (right) presented Noel Sargent with a Certificate of Appreciation for "His commitment to the EMC discipline and his unflinching support of the IEEE EMC Society as demonstrated by 40 years of continuous annual attendance at the IEEE EMC Symposia."*

tional Space Station, and to the Kennedy Space Center Launch Services Program providing EMC-specific expendable launch vehicle integration services on planetary and interplanetary spacecraft missions.

Summarizing his EMC related work, Noel regrets not contributing more directly to the EMC Society over the years. However, he recognized early on that the EMC Society held the greatest collection of EMC educators on the planet, and to grow intellectually, it was

mandatory for him to attend each and every symposium. For the last 41 years he has held himself to that promise. The Board of Directors showed how much it valued this long time commitment by presenting a Certificate of Appreciation to Noel Sargent at the 2016 IEEE International Symposium on Electromagnetic Compatibility in Ottawa, Canada.

We, the EMC Society, are looking forward to welcoming Noel Sargent to his 42nd EMC Symposium next year in Washington (DC). **EMC**



## IEEE.tv Serving Up EMC Delicacies Online

*By Mike Violette, EMC Society Marketing Chair*

I'm a big fan of "Drive-in Diners and Dives" but my long-suffering spouse won't let me put it on the tube. Guy Fieri's show doesn't bother her; the problem is that watching all that food "makes me too hungry," she says.

So, instead, I surf over to IEEE.tv to fill my cravings (and...usually end up watching it alone). That's OK, because there is an ever-growing amount of technical content that one can while away the late night hours feasting on Signal Integrity, Good Grounding, Board Design Goodies, and a 21st Century spin on the current "Opiate of the Masses."

The series of videos feature Distinguished Lecturers (D/Ls) from our community; these are pros that have tackled the thorny EMC issues of our day and share their insights and techniques in lecture-style form.

The topics on-hand feature direct application of technique and theory to expand the knowledge base of the engineering community, targeted to hard-core EMC practitioners and to general engineering disciplines. These lectures are accessible to IEEE members and non-members. IEEE members enjoy a discount on the offerings and EMC Society members can access the content for free!

Delivery from this buffet is easy and fast - quicker than you can get a pizza - so your cravings for electromagnetic simulation techniques and applications won't have to wait long! You don't even have to leave your desk (or couch).

If you need a good recipe for Guy's "Trashcan Nachos" navigate over to the Food Network. If you want to solve more important

The EMC Society Board of Directors continues to try new things to provide more value to you as a member of the EMC Society! The latest addition is the ability to view specially selected videos on-line at NO COST to EMC Society members. There are numerous videos to view, and more will be added as time progresses. I hope you find them useful!

*- Bruce Archambeault, Vice-President Conferences, EMC Society Board of Directors*

issues than your late night munchies, head over to <https://ieeetv.ieee.org/ondemand/emc>. (Come to think of it, munching nachos is a perfect accompaniment to soaking up the skinny on Reverberation Chamber testing on the EMC Channel.)

EMC Society on IEEE.tv. Bon Appetit!

**EMC**

