SAHA in the eyes of Antenna Industry Leaders:
Prepared by Debatosh Guha
Professor P. K. Saha
a pioneer contributor to the development of corrugated horns
I became familiar with Professor Saha’s work on corrugated horns during my graduate studies at IIT, Kharagpur. His name became more relevant to me when I joined Hughes Space and Communications Company and became very involved in designing corrugated horns for shaped Reflector feeds. I was highly motivated by his pioneering work that was published in Proceedings of Institute of Electrical Engineers (IEE), UK, one of the most prestigious journal in the academic world.
Professor Saha’s contributions to corrugated horn design is outstanding. His works revealed many interesting properties of corrugated waveguides and horns, which were not known before. In particular, he and his colleague, for the first time, modeled the groove of a corrugated wall as a “parallel resonant circuit” that identify a clear mechanism of the “soft and hard” boundaries that produce symmetrical patterns with negligible cross polarizations. The model facilitated a proper design direction, including optimum groove depth to create a balanced hybrid mode, slot-to-tooth ratio, and other important parameters. His treatment of the problem with high-level mathematics is very elegant and illuminating for engineers. Today, when most of the design engineers rely on commercial software, Professor Saha’s work provides direction for obtaining an initial structure, which is invaluable for a fast design process.
My Tribute to Professor Saha

Professor Saha’s works enable the modern communication industry to develop high quality antenna systems. In a reflector system, wide-band high level cross-polar isolation is impossible without a corrugated horn feed. For today’s satellite industry, the corrugated horn is the primary feed component for a reflector system. Although corrugated horns have evolved over the past several decades, the basic principle of operation that Professor Saha elegantly illustrated in his publications is highly valued by the antenna community.

I humbly offer my sincere gratitude for the lessons I learned from his works. On his 75th birth year, I wish Professor Saha a long, healthy, and peaceful life for the years to come.
Sudhakar Rao, IEEE Fellow

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Prof Saha was the "brain" behind the famous work
Thanks Debatosh for asking me to write a message on 75th birth year of Prof. Saha. I am very honored and here it is:

"Prof. P.K. Saha is the first to provide detailed hybrid-mode analysis of corrugated horns through two original papers published in the Proceedings of the IEEE. These papers were written when he was at Queen Mary College, London and were co-authored with Prof. Clarricoats.

Prof. Clarricoats visited University of Trondheim, Norway in 1981 where I was doing my post-doctoral research and privately told me that Prof Saha was the "brain" behind the famous work. Prof Saha's work was original and millions of corrugated horns are used as feeds for ground-station reflector antennas and satellite antennas because of wide bandwidth, low cross-polar radiation, and circularly symmetric radiation patterns.
I personally consider Prof. Saha as an outstanding researcher with strong analytical background and feel sometimes that he did not get the recognition that he deserved for his outstanding contributions in the field of antennas and electromagnetics. Although I never met Prof Saha personally, he was and still is an inspiration to me and several of my colleagues.”

"May you live life to the fullest is what I wish wholeheartedly and happy 75th birthday!"

Sudhakar