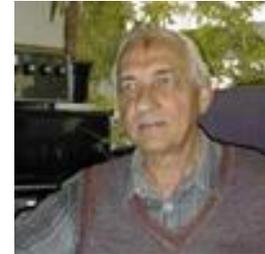


## Hubert Trzaska Interview

We asked authors, of our esteemed [IET eBook publications](#), a series of questions ranging from their career, body of work, challenges – to their ideas on how to get kids interested in math and science. Below you can read honest answers as from this author who gives an exclusive glimpse into this wide ranging thoughts.



### Biography

Hubert Trzaska is a Professor in the EM Environment Protection Lab at the Technical University of Wroclaw, Poland where he is involved in researching electromagnetic field measurements and standards. He was born in 1939 in Wilno, Poland (presently Vilnius, Lithuania). After World War II he was deported to Wroclaw, Poland (formerly Breslau, Germany). He is a Charter Member of the Bioelectromagnetic Society and is author or co-author of over 300 publications and symposia presentations and over 50 patents.

### **1. What factors, passions, preferences, influences, etc. lead you down your current career path? In other words, why do you choose to do what you do and how did you get here?**

During my studies in a secondary school I became involved in hamradio. Thus, studies at the technical university, in area of radiocommunication, were for me evident. My first, homemade transmitters there were rather “flying schemes” than real constructions. As a result I was able to say that I was intensive irradiated form my childhood. It was fascinating for me when I was proposed to stay at the university and to work in the area of the environment protection against unwanted exposure and related topics. In early 70s, within frames of Kosciuszko foundation and then Sklodowska-Curie foundation, we started a cooperation with Natl Bureau of Standards in Boulder (now NIST). It has made me an opportunity to visit Boulder for many times and to know fascinating people there: drs Wacker, Baird, Altschuler and many others. Many inspiring talks with them in Boulder, in Wroclaw and in many other places during Intl meetings and symposia have opened to me a mysterious world of electromagnetics.

### **2. What do you find to be the most interesting or intriguing aspects of your work?**

It seems to me it was a discovery of misunderstanding and misinterpreting of electromagnetic phenomena not only by biomedics, but even by people educated in physics and engineering. In my opinion above half of biomedical experiments in area of bioelectromagnetics is done in conditions far away of metrological correctness. It results in different results of “identical” experiments performed in different labs. Not errore, but gross errors are often done by people performing measurements for labor safety or environment protection purposes (eg. Indoor measurements using resonant antennas). All of it may be seen in publications and symposia presentations. Thus: we became “a voice crying in the wilderness”. This is the most important subject of our books. Unfortunately, without remarkable results.

**3. Right now our country faces some challenges in getting kids interested in math and science and, as a result, careers such as engineering that depend on both. Do you have any thoughts on how to create a stronger interest in these areas?**

In my opinion the most important mistake in education is strong stress on the math education. I'm not against the mathematics, but it requires understanding. People are unable to understand physical phenomena. Engineering is something like applied physics and always any consideration MUST start from understanding of phenomena, not inversely! Example: you may see many presentations in which you see curves illustrating a phenomenon. However, when you start to understand it you'll find that it is all false. When you ask a question to the author he'll answer OK, I used the most sophisticated and accurate codes (to add: with no understanding for what a purpose they were prepared).

**4. What is the primary focus of your current work?**

Trying to popularize phenomenologic approaches in theory and practice of wide understood bioelectromagnetics.

**5. What have been some of your most rewarding professional experiences?**

There was one? "All is vanity", as said in Cohelets book.

**6. If you could wake up tomorrow morning knowing one thing that you don't know today, what would it be?**

I wonder when our civilization will disappear. We are in similar position as ancient Romans. "We have enough bread, we would like to have plays! The end you know from the history.

**7. Without giving too much away, what do you think is the biggest takeaway from your book?**

Tutorial one.