2017 ESAS Award for Excellence in Applied Superconductivity

Laudation by Herbert C. Freyhardt at the 13th European Conference on Applied Superconductivity at Geneva on Monday, September 18, 2017

Let me introduce myself: Herbert Freyhardt, now retired from the University of Göttingen, and part time with the Texas Center for Superconductivity at the University of Houston.

It's my honor and pleasure to present the 2017 ESAS Award for Excellence in Applied Superconductivity. This happens at the beginning of the 13th EUCAS, the European Conference on Applied Superconductivity, which I had the privilege to found in October 1993 at the University of Göttingen, my *alma mater*. Now, we convene in the beautiful Geneva, very near to CERN, the base of our chairmen Lucio Rossi & Luca Bottura … who were most eager to set up an utmost attractive conference.

The ESAS Award for Excellence in Applied Superconductivity is presented to a colleague from our international community to "recognize excellence in advancing the knowledge of applied superconductivity over the past five years".

The ESAS Awards Committee had to find the winner by evaluating and recognizing the candidate's significant contributions and impact to the field of applied superconductivity comprising all realms of *Materials, Large Scale & Electronics.*

The Award Committee had to come up with an honest appraisal, a fair and unbiased evaluation.

"You gotta to kiss a lot of frogs … before you find a prince" … the 2017 ESAS-Award prince. Though, this time it turned out to be a little faster and easier.

We felt that our peer evaluation provided a most reliable judgment, and we can now announce the winner of the 2017 ESAS Award for Excellence in Applied Superconductivity. It is:

Dr. Ronny Stolz from the **Leibniz Institute of Photonic Technology (IPHT)**, Jena / Germany**.**

The certificate reads: *In recognition of his outstanding contributions in developing advanced Superconducting Quantum Interference Detector (SQUID) systems. Novel instruments evolved like in transient electromagnetic or airborne full tensor gradiometry, which offer unique properties and extreme sensitivity. Ronny Stolz gained international broad recognition through his thorough understanding of complex theoretical and practical issues, and his innovative thinking, which enabled the development, perfecting, and practical field implementation of geomagnetic exploration of mineral ores using SQUID magnetometry.*

Ronny Stolz studied, from 1985 -1990, math and physics at the Martin-Luther University of Halle/Wittenberg. He then continued studying physics at the Friedrich-Schiller University of Jena, wherefrom he also earned his PdD degree, and where he is preparing his *"Habilitation"*.

Ronny Stolz is awarded this ESAS prize for his unmatched contribution to the development of LTS and HTS SQUID sensors, in particular current sensors,

magnetic field sensors, including high-resolution gradiometers … which means different sensor families. He quickly realized that these sensors can only be implemented into useful devices if it's complemented by suitable readout electronics and an efficient data acquisition system. His tireless effort, which was part of a concerted team effort, where Ronny Stolz was the innovative mind behind, brought a real breakthrough in highest level geophysical magnetometry … particularly during the last five years. In-field survey measurements now became possible, as well as prospecting of the exploration and mining industry. Upon revolutionizing the conventional magnetic survey industry, ground-based systems can differentiate an ore from other conductive materials in deep deposits, which enabled the detection of mineral deposits worth billions of US $. With the worldwide first successful demonstration of an airborn Full Tensor Magnetic Gradiometer a large-area prospecting became feasible; it's now in commercial operation.

I don't know whether the name givers of the two universities Ronny Stolz was studying at, Martin Luther and Friedrich Schiller, two eminent geniuses of the German language, were an omen of his success or whether it was his thorough understanding of complex theoretical and practical issues combined with innovative thinking that gained him international recognition.

On behalf of the ESAS Board it's now our great pleasure to present this **ESAS 2017 Award for Excellence in Applied Superconductivity** to Ronny Stolz.