

nanoSeminar Series 2021

Institute for Materials Science

Dr. Alexander Nerowski

terranets bw GmbH

“Gas Supply: Challenges in Metering”

Thursday, September 2nd 2021

13:00 – 14:00

Normal: Seminar Room 115, Hallwachsstr. 3 (HAL)

Pandemic version: <https://tinyurl.com/nanoSeminar-GA>

Gas supply is a part of the critical infrastructure. A large part of the industry, power plants as well as utilities generating heat rely on its availability. This presentation sheds light on the necessity of the measurement, as well as the diverse metering system. To illustrate the complexity of each of the measurement devices in the system, the technology of volumetric flow measurement using ultrasound is introduced exemplarily. Consequences of the accuracy requirements of the authorities on the meter design are discussed.

Limitations of ultrasonic meters with respect to flow velocity, gas composition and others, are presented.

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Alexander studied Environmental Engineering at Bayreuth University (Germany) from 2003 to 2008. From December 2008 to February 2010 he worked at MTU Aero Engines in the Special Measurement Department. Alexander then joined the group of Prof. Gianaurelio Cuniberti as a PhD student, where he graduated three years later. In his PhD thesis, he investigated the growth of nanowires using dielectrophoresis experimentally as well as theoretically.

After that he joined the basic research group of the company SICK, where his work comprised innovative metering technologies for the gas industry using ultrasound. In 2017, he changed to the product maintenance department, developing customer-specific solutions. Since March 2021 he is Head of Measurement Technology and Energy Data Management at terranets bw, a gas supplier. There, he is responsible for the reliable measurement of energy transported by natural gas and prepares his group for upcoming changes in energy supply.