

International Symposium Metrology of Complex Nanosystems

12 October 2017

Metrology of Complex Nanosystems

International Symposium

Complex nanosystems consist of many interacting nanometer sized elements. Such nanosystems are investigated everywhere from cells with biomolecular interactions to nanoparticle suspensions with fascinating electromagnetic properties and from nanoLEDs as light sources to ultrafast electronic chips with highly packed active devices.

The measurements of the macroscopic and microscopic properties are accompanied by the problem that sometimes a large number of parameters with corresponding measurement uncertainties has to be covered. In this research training group we investigate methods to apply and extend the rules from the guide to the uncertainty of measurements GUM to measurements of properties of complex nanosystems.

This international symposium at the TU Braunschweig brings together international experts in measurement science and metrology with the principal investigators and student members to discuss the state of the art in the metrology of complex nanosystems.

All interested scientific guests are welcome to participate in this symposium.

Schedule | Symposium

Venue BRICS, Rebenring 56, 38106 Braunschweig

09:00	Meinhard Schilling Anke Kaysser-Pyzalla Welcome
09:15	Cornelia Denz Optical micromanipulation – empowering bio- and nanophotonics by the force of light
10:00	Philip Tinnefeld Self-Assembled Functional Nano-Devices
10:45	Coffee Break
11:15	Antti Manninen Single-Electron and Single-Microwave-Photon Nanocircuits for Metrology
12:00	Lunch
13:00	Stefanie Kroker Metamaterials for Metrology
13:45	Rolf J. Haug Twisted Bilayers in Graphene
14:30	Coffee Break
15:00	Andrew Yacoot Dimensional Nanometrology at NPL
15:45	Andreas Waag Nano LEDs for Nanometrology
16:30	Meinhard Schilling Closing Words

13 October 2017

Anniversary

10 Years



B-IGSM – Ten Year Anniversary

Ten years ago, in 2007, Germany's oldest and renowned technical university Technische Universität Braunschweig and one of the top measurement institutions in the world, the Physikalisch-Technische Bundesanstalt (PTB), joined forces to establish an international metrological training centre – the Braunschweig International Graduate School of Metrology (B-IGSM) to foster metrological knowledge in all areas of science and engineering.

B-IGSM offers a structured doctorate in cutting edge research combined with a metrological qualification program where a metrological certificate can be earned. The graduate school supports its PhD students in acquiring key competences in metrology by offering a curriculum on metrological concepts and research as well as on structures of metrology and regulatory activities. The curriculum is complemented by summer schools, topical as well as soft skill courses, social events and field trips.

In the last ten years 70 PhD students have participated in B-IGSM. They were supported conjointly by TU Braunschweig and PTB and finished their theses in average after 4 years of work. The 30 active principal investigators of the B-IGSM are working in many institutes and departments throughout TU Braunschweig and PTB.

The long successful cooperation in metrology research between TU Braunschweig and PTB helped to establish the Metrology Initiative Braunschweig, which now operates the DFG Research Training Group 1952 "Metrology for Complex Nanosystems", the QuanoMet project and will start nanometrology related work in the new research facility LENA in 2018.

On October 13th B-IGSM celebrates the ten year anniversary with principle investigators, alumni and currently active PhD students. All guests are very welcome!

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09:00	Meinhard Schilling Welcome
09:15	Anke Kaysser-Pyzalla Jörn Stenger Greetings
09:30	Meinhard Schilling Ten Years B-IGSM
10:15	Ernst-Otto Göbel Cooperation of PTB and TU Braunschweig: A Review
10:45	Coffee Break
11:15	Fatemeh Yaghobian Measurable Great Moments in (B-)IGSM
11:30	Maryna Galovska Following the Metrology Path
11:45	Benedikt Hampel Current Activities at the B-IGSM
12:00	Klaus-Dieter Sommer Tackling the new challenges faced by digitally networked measurement systems
12:45	Lunch
14:00	Labtour LENA
15:30	Coffee and Cake for Alumni and Friends of B-IGSM