

Taiwanese-German Exchange about Nanometrology in Taipei



Abbildung 1: [Titelbild] Prof. L.-C. Chen (center) invited Prof. E. Manske, Prof. T. Kissinger and J. Belkner to a workshop about optical metrology in Taipei.

As part of the long-standing cooperation and the current exchange projects, Prof. Eberhard Manske, Prof. Thomas Kissinger and Johannes Belkner were invited by Prof. Liang-Chia Chen to Taipei in the week from 4 March 2024 to 8 March 2024 to present current research results on nanomeasurement technology. The convincing presentations led to positive confirmation of the current academic exchange programmes and the initiation of joint research projects.

Following the workshop on optical metrology at the 60th IWK in Ilmenau last year, a workshop was held on Monday 4 March 2024 at the National Taiwan University (NTU), Taiwan's top university. In addition to the talks from Ilmenau, presentations were given by the host Prof. Chen, Dr. Wei-En Fu (ITRI Taiwan), Prof. Kuang-Yuh Huang (NTU) and Prof. Chao-Ching Ho (National Taipei Univ. of Tech.). In the subsequent discussion round, new opportunities for cooperation were initiated on the basis of the thematic overlaps identified.

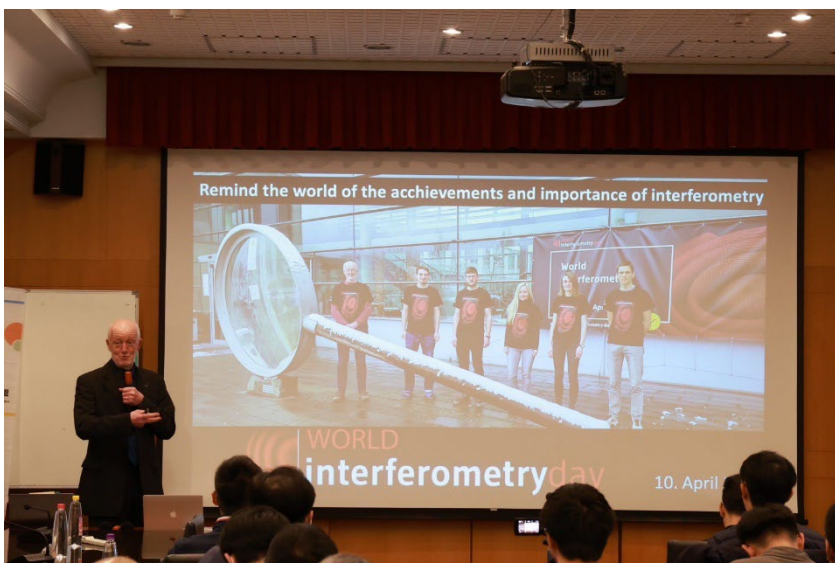


Abbildung 2: Prof. Manske refers to the upcoming world interferometry day during the workshop at NTU.

On the following Tuesday, the aforementioned Dr. Fu invited the guests to his institute, the Center for Measurement Standards (CMS) of the Industrial Research Institute (ITRI). There, the latest achievements in range-resolved interferometry and nano-positioning and nano-measurement technology were also presented to an audience of experts on the topics of semiconductor metrology. During a subsequent tour of the laboratory, direct interfaces to existing challenges were identified as well.

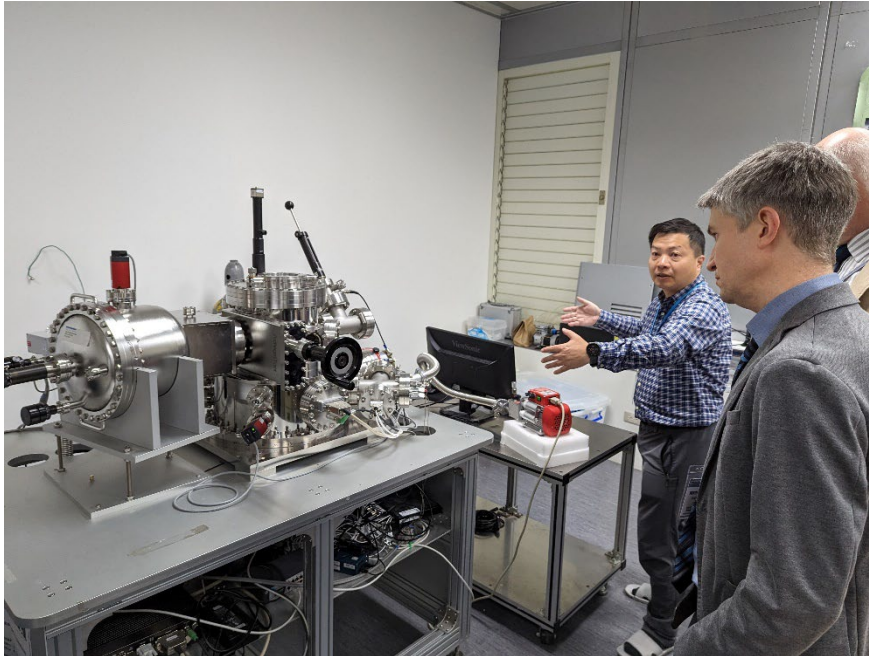


Abbildung 3: Dr. Fu (ITRI CMS) introduces his new x-ray scatterometer for semiconductor metrology of GAA-transistors.

On Wednesday, Prof. Manske and Prof. Kissinger also gave lectures on the application of nano-positioning and nano-measurement technology in manufacturing to representatives from research and industry in Taiwan as part of the Automated Optical Inspection Equipment Coalition (AOIEC) Forum at NTU. The audience with delegations from TSMC, TRI Innovation, Gallant Precision Machining, Chroma and others were interested and impressed by the presented research results and their potential application in their products.

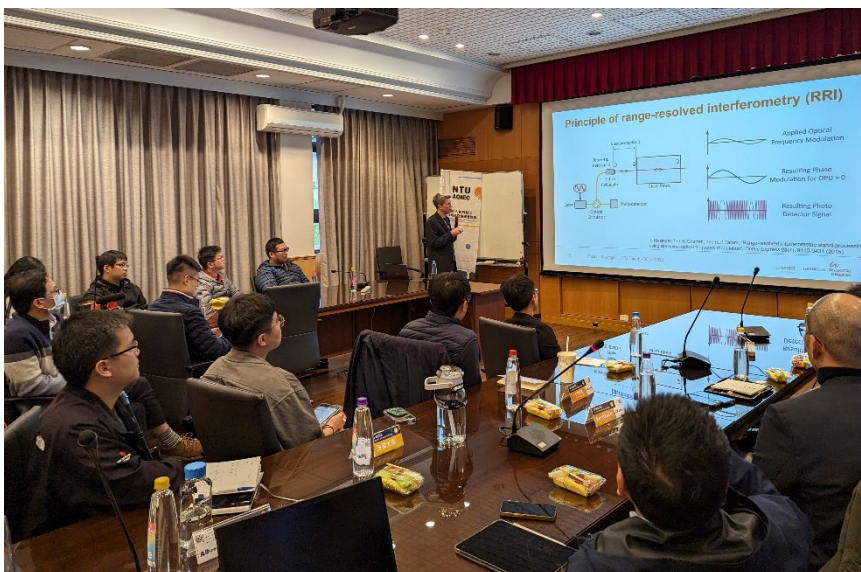


Abbildung 4: Prof. Kissinger at the AOIEC Forum suggesting applications of range-resolved Interferometry.

Finally, on Thursday, there was a meeting with Prof. Jywe (now NTU) and his long-standing cooperation partners from National Formosa University (NFU). Together with Prof. Shen, Prof. Wang (National Yunlin University of S. & T.) and Prof. Sun (National Taipei University), current challenges in the manufacturing industry and the role of measurement technology in the transition to Industry 4.0 were discussed.



Abbildung 5: At the meeting with Prof. Jywe (center) and Dr. Chen, Prof. Kissinger, Prof. Shen, Prof. Manske und Prof. Wang (from left to right).

The small delegation from Ilmenau returned with excellent prospects for further joint research projects and a wealth of new ideas for their own research. Dedicated students also always have the opportunity to spend a semester abroad or complete a thesis on measurement technology topics with our cooperation partners at NTU and NFU.