

2nd International Workshop on Metrology for Virtual Measuring Instruments (VirtMet2025)



3 December 2025

Time (CET)	Title	Speaker	Co-authors
10:00 – 10:15	Welcome and short introduction of VirtMet		
10:15 – 11:00	Keynote Lecture 1: The use of simulation models in semiconductor optical metrology	Hugo Cramer (ASML)	
11:00 – 11:20	Using virtual experiments for improving and evaluating the alignment and the measurement procedure in form measuring interferometry	Gregor Scholz (Physikalisch-Technische Bundesanstalt (PTB))	Christof Pruss (University Stuttgart), Andreas Brenner (University Stuttgart), Alois Herkommer (University Stuttgart), Ines Fortmeier (Physikalisch-Technische Bundesanstalt (PTB))
11:20 – 11:40	Uncertainty evaluation using virtual experiments with the example of the tilted-wave interferometer	Manuel Stavridis (Physikalisch-Technische Bundesanstalt (PTB))	Ines Fortmeier (Physikalisch-Technische Bundesanstalt (PTB)), Finn Hughes (Physikalisch-Technische Bundesanstalt (PTB)), Manuel Marschall (Physikalisch-Technische Bundesanstalt (PTB))
11:40 – 12:00	Virtual X-Ray Interferometer for Estimation of Systematic Effects in The Determination of The Lattice Parameter of Si-28	Birk Andreas (Physikalisch-Technische Bundesanstalt (PTB))	
12:00 – 12:10	Discussion		
12:10 – 13:30	Lunch		
13:30 – 14:15	Keynote Lecture 2: Numerical measurement uncertainty estimation for industrial computed tomography - from basic qualified software for X-ray radiographic simulation tools to numerical measurement uncertainty estimation using a virtual CT system	Tino Hausotte (FAU Erlangen-Nürnberg)	
14:15 – 14:35	From Design of Experiments to Digital Twins: Machine Learning-Based Uncertainty Evaluation in Coordinate Metrology	Alireza Mollaei Ardestani (Technical University of Denmark)	Gianfranco Genta (Politecnico di Torino), Giacomo Maculotti (Politecnico di Torino), Emanuele Barini (Hexagon Metrology S.p.A.), Guido Tosello (Technical University of Denmark)
14:35 – 14:55	Investigation of optical sensors to derive D-MT models for advanced manufacturing applications	Lea-Jean Frömel (Physikalisch-Technische Bundesanstalt (PTB))	Daniel Heißelmann (Physikalisch-Technische Bundesanstalt (PTB)), Adam Gaska (Cracow University of Technology), Wiktor Harmatys (Cracow University of Technology), Lorenzo Didonè (University of Padua), Charles Maupou (ENS Paris-Saclay), Katharina Janzen (Physikalisch-Technische Bundesanstalt (PTB)), Ulrich Neuschaefer-Rube (Physikalisch-Technische Bundesanstalt (PTB))
14:55 – 15:15	A closer look on uncertainty evaluations using Virtual Experiments and VCMMs	Gertjan Kok (VSL)	Marcel van Dijk (VSL)
15:15 – 15:25	Discussion		
15:25 – 15:55	Coffee Break		
15:55 – 16:15	Uncertainty-Aware Multi-Fidelity Surrogate Modelling for Flow Field Predictions in Pipe Systems	Nursen Bayazit (Physikalisch-Technische Bundesanstalt (PTB))	Martin Straka (Physikalisch-Technische Bundesanstalt (PTB)), Sonja Schmelter (Physikalisch-Technische Bundesanstalt (PTB))
16:15 – 16:35	Development of a Digital Counterpart for the Internal Arc Testing	Matias Alberto Aguirre (Instituto Nacional de Tecnología Industrial (INTI))	Marcos E. Bierzychudek (Instituto Nacional de Tecnología Industrial (INTI)), Héctor M. Laiz (Instituto Nacional de Tecnología Industrial (INTI))
16:35 – 16:55	Automated Anomaly Detection in Quantum Voltage Standards Using Feature-Based Time Series Classification	Guillermo Schneider (Instituto Nacional de Tecnología Industrial (INTI))	Mehedin Arifovic (TÜBİTAK Ulusal Metroloji Enstitüsü (UME)), Ricardo Iuzzolino (Instituto Nacional de Tecnología Industrial (INTI))
16:55 – 17:05	Discussion		

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4 December 2025

Time (CET)	Title	Speaker	Co-authors
10:00 – 10:45	Keynote Lecture 3: VirtMet in the wild: virtual metrology and virtual testing	Louise Wright (National Physical Laboratory (NPL))	
10:45 – 11:05	Optimizing Phototherapy Efficiency: An Innovative Design for a Narrowband UV Phototherapy Device and the Role of Virtual Measurements	Samaa Faramawy (National Institute for Standards (NIS))	
11:05 – 11:25	Simulation-Enhanced Soft Sensors for Industrial-Grade Virtual Sensing: From Concept to Compliance	Piotr Strauch (Siemens AG)	Thomas Bierweiler (Siemens AG)
11:25 – 11:45	Simulating Reflectance Transformation Imaging in a virtual environment for Metrology Applications	Samanta Piano (University of Nottingham)	Mojtaba A. Khanesar (University of Nottingham), Hannah Corcoran (University College London), Lindsay MacDonald (University College London), Vijay Pawar (University College London), Stuart Robson (University College London)
11:45 – 12:05	Digital twin of robotic 3D scanning system: providing metrological traceability	Brahim Ahmed Chekh Oumar (TEKNIKER)	
12:05 – 12:15	Discussion		
12:15 – 12:30	Final Discussion and Goodbye		