

Seminar on Coordinate Metrology

DECEMBER 3, 2024

ROOM 226, CENTRAL ADMINISTRATION BUILDING | NATIONAL INSTITUTE OF METROLOGY (THAILAND) |
PATHUMTHANI | THAILAND

Program Schedule

TIME	SPEAKER	TITLE
08:30 – 09:00	Registration	
09:00 – 09:10	Welcoming and Opening Remarks, Pol.Lt.Gen. Pornchai Suteerakune, Director of NIMT	
09:10 – 09:30	Anusorn Tonmueanwai, Deputy Director of NIMT	National measurement standard for freeform measurement [TH]
09:30 – 10:00	Dr. Frank Keller Div.5 Precision Engineering Physikalisch-Technische Bundesanstalt, PTB	Traceability of laser trackers and the current ISO 10360-10:2021 [EN]
10:00 – 10:20	Dr. Makoto Abe Chief Corporate Metrologist, Mitutoyo, Japan	Contribution toward ISO development for optical 3D CMS, and simultaneous geometric error identification of CMM [EN]
10:20 – 10:40	Refreshment Break	
10:40 – 11:00	Dr. Wiroj Sudathan Dimensional Metrology, NIMT	Establishing NIMT's reference wall for laser trackers verification [TH]
11:00 – 11:20	Watcharin Jaruschotikul Sales Manager Hexagon, Thailand	Evolution of Coordinate Metrology, the science of measurement [TH]
11:20 – 11:50	Ekachai Sripanyanuch Product Specialist Hexagon, Thailand	3D Scanners Driven Innovation, and Laser Tracker Applications [TH]
11:50 – 13:00	Lunch Break	
13:00 – 13:20	Dr. Thammarat Somthong Dimensional Metrology, NIMT	3D Freeform Surface Measurement on Coordinate Measuring Machine using Photometric Stereo Method [TH]
13:20 – 14:00	Dr. Frank Keller Div.5, PTB	Error mapping of CMMs and the Virtual CMM [EN]
14:00 – 14:10	Closing Seminar, Head of Dimensional Metrology Department, NIMT, Samana Peingbangyang	
14:10 – 14:30	Refreshment Break	
14:30 – 16:00	Discussion, Demonstration, and Laboratory tour (option)	

SPECIAL GUEST SPEAKER



Dr. Frank Keller

Research interests:

- Gear metrology
- Testing of Laser tracker and Laser scanner
- Error mapping of CMMs and rotary tables
- Error separation methods
- Virtual CMM
- Testing of metrological software

Education

- 1998 – 2005 Study of Physics at the University of Freiburg, Germany
2005 – 2009 Ph.D. in Mathematics at the University of Luxembourg, Luxembourg

Occupation

- 2010 – 2011 Postdoctoral position at the Institute of Mathematics,
Polish Academy of Sciences, Warsaw, Poland
since 2013 Research associate at Physikalisch-Technische Bundesanstalt, PTB, Germany
Division of Precision Engineering, Coordinate Metrology

SPECIAL GUEST SPEAKER

Dr. Makoto Abe



Research interests:

- Simultaneous error identification and associated error propagation analysis of CMM
- Self-calibration and error decoupling
- Geometric error estimation of CMM
- Constrained Monte Carlo simulation for CMM uncertainty modelling
- Performance evaluation of CMM/CMS
- Metrological X-ray CT

Education

Dr. of Engineering (The University of Tokyo)

Occupation

1987-1992 Researcher, Mitutoyo Measurement Laboratory
1992-1998 Researcher, Mitutoyo Metrology Laboratory in Europe (The Netherlands)
1998-2001 Guest researcher, The University of Tokyo
2001-2011 Senior Chief Researcher, Mitutoyo Tsukuba Laboratory
2012-2019 Research Group Leader of Length Standard and Dimensional Standard, National Metrology Institute of Japan (NMIJ/AIST)
2020-2022 Executive Officer, Mitutoyo
2023- Chief Corporate Metrologist, Mitutoyo
2020- Japanese Delegate, ISO/TC213/WG10 (CMM), WG4 (Uncertainty), and WG6 (Measuring equipment)