

### Schedule-at-a-Glance

ISMTII-2011							
29th June (Wed)		30th June (Thu)		1st July (Fri)		2nd July (Sat)	
		08:30-10:30	Registration	08:30-10:30	Registration	08:00-11:00	Technical Tour
		08:30-09:00	Opening Ceremony				
		09:00-10:30	Keynote Speech I	09:00-10:30	Keynote Speech III		
			Keynote Speech II		Keynote Speech IV		
		10:30-10:45	Coffee Break	10:30-10:45	Coffee Break		
		10:45-12:10	Oral Sessions I	10:45-12:10	Oral Sessions IV		
		12:10-13:30	Lunch Break	12:10-13:30	Lunch Break	11:00-17:00	Seoul Tour
		13:30-14:55	Oral Sessions II	13:30-14:55	Oral Sessions V		
		14:55-15:15	Coffee Break	14:55-15:15	Coffee Break		
		15:15-16:40	Poster Sessions	15:15-16:40	Oral Sessions VI		
		16:40-17:00	Coffee Break	16:40-17:00	Coffee Break		
16:30-18:30	Registration	17:00-18:25	Oral Sessions III	17:00-18:25	Oral Sessions VII		
18:30-20:00	Welcoming Reception	18:25-20:30	Banquet	18:25-20:30	Farewell Party		
	ICMI member meeting		Transfer *		Transfer *		

Time for presentation  
(including the question-and-answer period)

Keynote Speech	45 min
Invited Talk	25 min
Ordinary Presentation	15 min

\*Shuttle buses will be provided from hotel to  
symposium hall at the morning and evening

## Agenda of Sessions

		Room A (Main Hall)	Room B (Seminar Room 1)	Room C (Seminar Room 2)	Room D (Seminar Room 3)	Room E (Cube 1)	Room F (Cube 2)
30th June (Thu)	08:30-10:30	Registration					
	08:30-09:00	Opening Ceremony (Room A)					
	09:00-09:45	Keynote Speech I (Room A); <i>Wei Gao, Tohoku University, Japan,</i> "Sensors and Measuring Instruments for Precision Positioning"					
	09:45-10:30	Keynote Speech II (Room A); <i>Kuang-Chao Fan, National Taiwan University, Taiwan,</i> "Applications of Abbé Principle to Precision Machines"					
	10:30-10:45	Coffee Break					
	10:45-12:10	A1. Interferometry and optical testing - I	B1. Advanced sensor technology - I	C1. Online and in-process measurement - I	D1. Micro/nano positioning and measurement of machining errors - I	E1. Uncertainty, traceability and calibration - I	F1. Image, signal processing and algorithm - I
	12:10-13:30	Lunch Break					
	13:30-14:55	A2. Interferometry and optical testing - II	B2. Advanced sensor technology - II	C2. Online and in-process measurement - II	D2. Micro/nano positioning and measurement of machining errors - II	E2. Uncertainty, traceability and calibration - II	F2. Image, signal processing and algorithm - II
	14:55-15:15	Coffee Break					
	15:15-16:40	Poster Session					
	16:40-17:00	Coffee Break					
	17:00-18:25	A3. Interferometry and optical testing - III	B3. Advanced sensor technology - III	C3. Online and in-process measurement - III	D3. Micro/nano positioning and measurement of machining errors - III	E3. Uncertainty, traceability and calibration - III	F3. Image, signal processing and algorithm - III
	18:25-20:30	Banquet					
1st July (Fri)	08:30-10:30	Registration					
	09:00-09:45	Keynote Speech III (Room A); <i>Kaoru Minoshima, AIST, NMIJ, Japan,</i> "High Accuracy Length Metrology using Fiber-based Optical Frequency Combs"					
	09:45-10:30	Keynote Speech IV (Room A); <i>Xiangqian Jiang, University of Huddersfield, UK,</i> "Freeform/structured Surface Characterisation"					
	10:30-10:45	Coffee Break					
	10:45-12:10	A4. Interferometry and optical testing - IV	B4. Optical metrology - I	C4. Online and in-process measurement - IV	D4. Advanced sensor technology - IV	E4. Surface and film thickness metrology - I	F4. Material metrology and characterization - I
	12:10-13:30	Lunch Break					
	13:30-14:55	A5. Interferometry and optical testing - V	B5. Optical metrology - II	C5. Online and in-process measurement - V	D5. Advanced sensor technology - V	E5. Surface and film thickness metrology - II	F5. Material metrology and characterization - II
	14:55-15:15	Coffee Break					
	15:15-16:40	A6. Interferometry and optical testing - VI	B6. Optical metrology - III	C6. Micro/nano positioning and measurement of machining errors - IV	D6. Advanced sensor technology - VI	E6. Surface and film thickness metrology - III	
	16:40-17:00	Coffee Break					
	17:00-18:25	A7. Online and in-process measurement - VI	B7. Optical metrology - IV	C7. Micro/nano positioning and measurement of machining errors - V	D7. Measurement and metrology for the humanitarian fields - I		
	18:25-20:30	Farewell Party					

# ISMTII2011 Technical Program

	Room A	Room B	Room C	Room D	Room E	Room F	
	<p><b>09:30 -10:15</b> (keynote, Room A) <i>Wei Gao, Hokuyo University, Japan, "Sensors and Measuring Instruments for Precision Positioning"</i></p>						
	<p><b>10:15 -10:45</b> (keynote, Room A) <i>Kuang-Chao Fan, National Taiwan University, Taiwan, "Applications of Abbé Principle to Precision Machines"</i></p>						
<p><b>Oral Sessions I</b></p> <p><b>10:45 -12:10</b></p> <p><b>30th June (Thu)</b></p>	<p><b>A1. Interferometry and optical testing</b> <i>Masato Aketagawa, Nagaoka Univ. of Technology, Japan, Session Chair</i></p>	<p><b>B1. Advanced sensor technology</b> <i>Volker Herbert Hans, University of Duisburg-Essen, Germany, Session Chair</i></p>	<p><b>C1. Online and in-process measurement</b> <i>H. Bosse, PTB, Germany, Session Chair</i></p>	<p><b>D1. Micro/nano positioning and measurement of machining errors</b> <i>Kuang-Chao Fan, National Taiwan Univ., Taiwan, Session Chair</i></p>	<p><b>E1. Uncertainty, traceability and calibration</b> <i>Jing Wang, Dalian Univ. of Technology, China, Session Chair</i></p>	<p><b>F1. Image, signal processing and algorithm</b> <i>Xiangqian Jiang, University of Huddersfield, UK, Session Chair</i></p>	
	<p><b>A1-1. 10:45 am</b> <i>(invited) Guido Bartl, Michael Krystek and Arnold Nicolaus, PTB, Germany, "A stitching approach for the interferometric determination of absolute topographies of spherical surfaces"</i></p>	<p><b>B1-1. 10:45 am</b> <i>(invited) Yimin Han, Zhenjiang Hu, Xuesen Zhao, Jinghe Wang, Juichun Yan and Jing Wang, Harbin Medical Univ., China, "Study on morphology of human ovarian cancer cells by the AFM and cell imprints technique"</i></p>	<p><b>C1-1. 10:45 am</b> <i>(invited) Robert Schmitt, Maria Nau and Susanne Nisch, RWTH Aachen Univ., Germany, "Challenges and methods of measurement process validation for machine integrated product inspection"</i></p>	<p><b>D1-1. 10:45 am</b> <i>(invited) Chun-Jen Chen, Wenyuh Jywe Psang Dain Lin, Chih-Ming Pan and Hsin-Hong Jwo, Natl. Applied Res. Lab., Taiwan, "The development of a multi-degree-of-freedom rotary table tested system"</i></p>	<p><b>E1-1. 10:45 am</b> <i>(invited) Teresa Werner, Wito Hartmann, Ridiger Kessel and Albert Weckenmann, Univ. of Erlangen-Nuremberg, Germany, "Supporting analysis of measurement uncertainty via a user-centered assistance system"</i></p>	<p><b>F1-1. 10:45 am</b> <i>(invited) Hubing Du, Hong Zhao, Bing Li, Zhengwei Li, Liang Zheng and Leilei Feng, Xi'an Jiao tong Univ., China, "General method for phase shifting shadow moiré by iterative least-squares fitting"</i></p>	
	<p><b>A1-2. 11:10 am</b> <i>Zhenjiang Hu, Yongda Yan, Bowen Zhang, Xuesen Zhao, Juacun Yan and Shen Dong, Harbin Inst. of Technology, China, "Study on artificial strain induced by AFM scanning parameters using digital image correlation analysis"</i></p>	<p><b>B1-2. 11:10 am</b> <i>Qiaoyun Liu, Enming Miao, Xin Wang, Xianrui Ji, Hefei Univ. of Technology, Xi'an Jiaotong Univ., China, "Accuracy improvement method of eddy current sensor"</i></p>	<p><b>C1-2. 11:10 am</b> <i>Yanlong Cao, Yuanfeng He, and Jiangxin Yang, Zhejiang Univ., China, "A method of locating loose parts in nuclear power plant based on empirical mode decomposition"</i></p>	<p><b>D1-2. 11:10 am</b> <i>Jung-Jae Kim, Young-Man Choi, Dahoon Ahn, Moon G. Lee and Jaehwa Jeong, KAIST, Rep. of Korea, "A new self-guided displacement-amplification flexure mechanism for a millimeter-range motion in a nano-positioning stage"</i></p>	<p><b>E1-2. 11:10 am</b> <i>Kosuke Iimura, Eiichiro Kataoka, Miyu Ozaki and Ryosyu Furutani, Tokyo Denki Univ., Japan, "The uncertainty of parallel model coordinate measuring machine"</i></p>	<p><b>F1-2. 11:10 am</b> <i>Xiaobo Yang, Weiping Yan, Hongfeng Lv, Zhihuan Liu and Lubing Xie, Dalian Univ. of Technology, China, "Design of high-voltage power supply for capillary electrophoresis microchip based on ARM"</i></p>	
	<p><b>A1-3. 11:25 am</b> <i>Ming Wang, Qun Hao, Qidong Zhu, Yao Hu, Beijing Inst. of Technology, China, "Best relative sampling frequency of time-frequency-domain interferometry"</i></p>	<p><b>B1-3. 11:25 am</b> <i>Volker Hans, Univ. of Duisburg-Essen, Germany, "Some remarks to correlation measurements in gas flow"</i></p>	<p><b>C1-3. 11:25 am</b> <i>Ziran Chen, Donglin Peng, Xiaokang Liu, Yong Zheng, Fangyan Zheng, Hefei Univ. of Technology, China, "Research on dynamical model of time grating CNC turntable based on time series"</i></p>	<p><b>D1-3. 11:25 am</b> <i>Myung K. Cho, Kwijong Park, Young-Soo Kim and Il Kweon Moon, Natl. Opt. Astronomy Observatory, U.S.A., "Opto-mechanical analysis of a fast steering secondary mirror prototype for the giant magellan telescope"</i></p>	<p><b>E1-3. 11:25 am</b> <i>Fei Zhigen, Guo Junjie, Ma Xiaojun, Gao Dangzhong, Zhengzhou Univ. of Light Industry, China, "The self-calibration method of geometrical parameters for non-contact five-coordinate measuring machine"</i></p>	<p><b>F1-3. 11:25 am</b> <i>Hongtao Wang, Weishi Li, Dajun Gao and Yetai Fei, Hefei Univ. of Technology, China, "Automatic feature recognition in coordinate metrology"</i></p>	
	<p><b>A1-4. 11:40 am</b> <i>Chang Haitao, Ye Xiaoyou, Gao Hongtang and WANG Zhongyu, Beihang Univ., China, "A novel electronic subdivision method of automatic interference comparator"</i></p>	<p><b>B1-4. 11:40 am</b> <i>Tobias Beutel, Christoph Boese and Stephanus Büttgenbach, IMT, Technology Univ. Braunschweig, Germany, "Analysis of a closed wheatstone bridge consisting of doped piezo resistors"</i></p>	<p><b>C1-4. 11:40 am</b> <i>LIU Shugui, TANG Shaliang and DONG Yinghua, Tianjin Univ., China, "Estimation of probe position for portable 3D vision coordinate measuring system"</i></p>	<p><b>D1-4. 11:40 am</b> <i>Shih-Ming Wang, Han-Jen Yu and Hung-Wei Liao, Chung Yuan Univ., Taiwan, "A low cost &amp; efficient volumetric-error measurement method for five-axis machine tools"</i></p>	<p><b>E1-4. 11:40 am</b> <i>Jingchi Huang, Jiubin Tan, Wei Gu and Tao Sun, Harbin Inst. of Technology, China, "Real-time correction of nonlinear error of ultra-precision form measuring system"</i></p>	<p><b>F1-4. 11:40 am</b> <i>Rencheng Zhang, Jianhua Du and Jianhong Yang, Huaqiao Univ., China, "Statistical algorithm of early fire based on improved time-series test"</i></p>	
	<p><b>A1-5. 11:55 am</b> <i>Chen Hongfang, Shi Zhaoyao and Lin Jiachun, Beijing Univ. of Technology, China, "Error sources analysis of nonlinearity in laser heterodyne interferometry"</i></p>	<p><b>B1-5. 11:55 am</b> <i>Wonhak Cho, Jong-Kwan Lee, Sung-Ho Hwang and Hyeonki Choi, Sungkyunkwan Univ., Rep. of Korea, "An investigation of the influences of pure-tone noise on multi-variable bio-signals for product design with human sensibility engineering"</i></p>	<p><b>C1-5. 11:55 am</b> <i>David Fleischle, Wolfram Lyda, Frederik Schaal and Wolfgang Osten, Universität Stuttgart, Germany, "Chromatic confocal sensor for in-process measurement during lathing"</i></p>	<p><b>D1-5. 11:55 am</b> <i>Masato Hayashi and Makoto Fukuda, Hirotsaki Univ., Japan, "Generation of nanometer displacement using reduction mechanism consisting of torsional leaf spring hinges"</i></p>	<p><b>E1-5. 11:55 am</b> <i>Claudia Giusca, Richard Leach, Markus Fabich and Tadas Gutauskas, National physical Lab., UK, "Calibration of the areal metrological characteristics of scanning confocal microscopes"</i></p>	<p><b>F1-5. 11:55 am</b> <i>Du Jian-hua, Zhang Ren-cheng, Huang Hong-wu, Huaqiao Univ., China, "Algorithm for early fire detection based on neural network and FT-IR using feature extraction"</i></p>	
		<p><b>A2. Interferometry and optical testing</b> <i>Hagyong Kihm, KRIST, Rep. of Korea, Session Chair</i></p>	<p><b>B2. Advanced sensor technology</b> <i>Tsukasa Watanabe, AIST, Japan, Session Chair</i></p>	<p><b>C2. Online and in-process measurement</b> <i>Robert Schmitt, RWTH Werkzeugmaschinenlabor WZL, Germany, Session Chair</i></p>	<p><b>D2. Micro/nano positioning and measurement of machining errors</b> <i>K. Takamasu, Univ. of Tokyo, Japan, Session Chair</i></p>	<p><b>E2. Uncertainty, traceability and calibration</b> <i>R. Leach, NPL, UK, Session Chair</i></p>	<p><b>F2. Image, signal processing and algorithm</b> <i>Doo-Song Gil, KEPCO Res. Inst., Rep. of Korea, Session Chair</i></p>
	<p><b>Oral Sessions II</b></p> <p><b>13:30 -14:55</b></p>	<p><b>A2-1. 1:30 pm</b> <i>(invited) Yoon-Shik Ahn, Harald Bosse, David Flack, Bjorn Henning, Marco Pisani, and Ruedi Thalmann, PTB, Germany, "A comparison of sensitivity standards in form metrology - final results of the EURAMET project 649"</i></p>	<p><b>B2-1. 1:30 pm</b> <i>(invited) Yoon-Shik Ahn, Doo-Song Gil and Sang-Ki Park, KEPCO Res. Inst., Rep. of Korea, "The remaining life time assessment for magnetic gas turbine rotor using eddy current inspection method and stress analysis"</i></p>	<p><b>C2-1. 1:30 pm</b> <i>(invited) Christian Schrader and Rainer Tutsch, Technische Universität Braunschweig, Germany, "Calibration of a micro probe array"</i></p>	<p><b>D2-1. 1:30 pm</b> <i>(invited) Muhammad Madden, Masato Aketagawa, Jaratsri Soetapitum and Eiki Okayama, Nagaoka Univ. of Technology, Japan, "Concurrent measurement method of spindle radial, axial and angular motions using concentric grating interferometers"</i></p>	<p><b>E2-1. 1:40 pm</b> <i>V.V. Grigoriev, V.Ye. Kravtsov, A.K. Mityayev, A.B. Pnev and S.V. Tikhomirov, All-Russian Sci. Res. Inst. for Optical and Physical Measurements, Russia, "Standards and traceability for measurements of chromatic and polarization mode dispersion in optical fiber"</i></p>	<p><b>F2-1. 1:30 pm</b> <i>(invited) Doo-Song Gil, Yoon-Shik Ahn and Sang-Ki Park, Engineering Center, KEPCO Res. Inst., Rep. of Korea, "Signal processing method of super stainless steel condenser tube using guided wave sensor"</i></p>
		<p><b>A2-2. 1:55 pm</b> <i>Torsten Mai, Guido Bartl and Arnold Nicolaus, PTB, Germany, "A new interferometer for the absolute diameter determination of silicon spheres"</i></p>	<p><b>B2-2. 1:55 pm</b> <i>Yulong Zhao, Xuefeng Zhang, and Erpeng Zhang, Zhejiang Univ., China, "Design, fabrication and test of a thin and low-cost flexible force sensor"</i></p>	<p><b>C2-2. 1:55 pm</b> <i>Chao-Ching Ho, Tsung-Ting Tsai, and Chih-Hao Lien, YUNTECH, Taiwan, "Sensor system for monitoring the cutting signals of CNC milling machine in real time"</i></p>	<p><b>D2-2. 1:55 pm</b> <i>Yi-Hua Fan, Yi-Lin Liao and Ying-Tsun Lee, Chung Yuan Univ., Taiwan, "Development of an increment high-resolution optical displacement encoder"</i></p>	<p><b>E2-2. 1:55 pm</b> <i>Lin Jiachun, Shi Zhaoyao, Chen Hongfang, and Tang Jie, Beijing Univ. of Technology, China, "Form error evaluation criteria and its mechanical interpretation"</i></p>	<p><b>F2-2. 1:55 pm</b> <i>Riby Abraham Boby, Ana Perez Grassi, M. Singaperumal, B. Ramamoorthy and Alexander W. Koch, IIT Madras, India, "Thresholding techniques for detection of defects using dark-field illumination"</i></p>
		<p><b>A2-3. 2:10 pm</b> <i>Xia Haojie, Fei Yetai, Chen Xiaohuai, Hefei Univ. of Technology, P.R.China, "Tolerances analysis of planar diffraction grating interferometer for precise displacement measurement"</i></p>	<p><b>B2-3. 2:10 pm</b> <i>Wen Wang, Zhu Zhu, Yao He and Zi-chen Chen, Zhejiang Univ., China, "Experimental investigation on relationship of preload and displacement output for piezoelectric actuator"</i></p>	<p><b>C2-3. 2:10 pm</b> <i>Shih-Ming Wang, Ji-Jun Lin, Chung Yuan Univ., Taiwan, "A vision-based on-machine micro-cutter positioning error measurement and compensation system for micro milling machines"</i></p>	<p><b>D2-3. 2:10 pm</b> <i>Jeong Seok Oh, Jeong Soo Oh, Gyungho Kihm and Chun Hong Park, KIMM, Rep. of Korea, "A study on the measurement of the profile errors of guide rails in hydrostatic feed tables"</i></p>	<p><b>E2-3. 2:10 pm</b> <i>Michael P. Krystek, PTB, Germany, "Calculation of the measurement uncertainty for the substitution measurement method"</i></p>	<p><b>F2-3. 2:10 pm</b> <i>Won Gi Lee, Jin Woo Lee, Sung-Ho Nam, Bo-Hyun Kim and Moon G. Lee, Ajou Univ., Rep. of Korea, "A study on dynamic signal processing and analysis to monitor positioning system with ball screw"</i></p>
<p><b>A2-4. 2:25 pm</b> <i>Takashi Harada, Ke Dong and Tomoyuki Itoigawa, Kinki University, Japan, "Optimum design of active scanning probe using parallel link mechanism"</i></p>		<p><b>B2-4. 2:25 pm</b> <i>Jinzhong Hu, Xiaofen Yu and Jiawen Hu, SISOE, HFUT, China, "Self-organization combination measuring system for large geometric parameters measurement based on wireless sensor networks guiding"</i></p>	<p><b>C2-4. 2:25 pm</b> <i>David Fleischle, Wolfram Lyda, Florian Mauch and Wolfgang Osten, Universität Stuttgart, Germany, "Conceptual consideration for the integration of optical sensors for in-process monitoring"</i></p>	<p><b>D2-4. 2:25 pm</b> <i>Peng-jun Yao, Jing Wang, Hai-jing Du, Mei-ying Su and Jin-qing Qi, Dalian Univ., China, "An Automatic static test system for gas sensor array"</i></p>	<p><b>E2-4. 2:25 pm</b> <i>Lihua Lei, Lihua Wang, Yuan Li, Xin Lu, and Yi Liu, Shanghai Inst. of Measurement and Testing Technology, China, "Research on Traceability System of Nanometer Measurement"</i></p>	<p><b>F2-4. 2:25 pm</b> <i>W. Zeng, X. Jiang, P. Scott, Univ. of Huddersfield, UK, "Diffusion filtration for the evaluation of MEMS surface"</i></p>	
<p><b>A2-5. 2:40 pm</b> <i>Yu.N. Kulchin, O.B. Vitrik and A.A. Kuchmichuk, IACP FEB RAS, Russia, "Fabri-perot scanning probe for near-field optical microscopy"</i></p>		<p><b>B2-5. 2:40 pm</b> <i>Cédric Margo, Jérôme Lucas, Thierry Düchi, Emmanuel Géron, Stéphane Holé and Jacques Lewiner, LEG, ESPCI-ParisTech, France, "Wood-chip water content sensor with capacitance tomography"</i></p>	<p><b>C2-5. 2:40 pm</b> <i>Marc Fischer, Marcus Petz and Rainer Tutsch, Technische Universität Braunschweig, Germany, "Estimation of phase noise in structured illumination measurement systems"</i></p>	<p><b>D2-5. 2:40 pm</b> <i>Tomohiko Takamura, Ping Jang, Satoru Takahashi, Kiyoshi Takamasu, Osamu Sato, Sonko Osawa and Toshiyuki Takatsuki, Univ. of Tokyo, Japan, "Development of high precision Coordinate Measuring Machine - Uncertainty analysis of multi-probe method"</i></p>			

30th June (Thu)	Oral Sessions III 17:00-18:25	<b>A3. Interferometry and optical testing</b> <i>Oto Jasko, PTB, Germany, Session Chair</i>	<b>B3. Advanced sensor technology</b> <i>Herbert F. Schweinzer, Vienna Univ. of Technology, Austria, Session Chair</i>	<b>C3. Online and in-process measurement</b> <i>F. J. Shiu, Natl. Taiwan Univ. of Science and Technology, Taiwan, Session Chair</i>	<b>D3. Micro/nano positioning and measurement of machining errors</b> <i>Jeong Seok Oh, KIMM, Rep. of Korea, Session Chair</i>	<b>E3. Uncertainty, traceability and calibration</b> <i>Kaoru Minoshima, National Institute of AIST, Japan, Session Chair</i>	<b>F3. Image, signal processing and algorithm</b> <i>Mingwei Li, Dalian Univ. of Technology, China, Session Chair</i>
		<b>A3-1. 5:00 pm</b> <i>(invited) Arjan J.H. Meskers, Jonathan D. Ellis, Jo W. Spronck, and Robert H. Munnig-Schmidt, Delft Univ. of Technology, Netherlands. "Fiber coupled sub nanometer displacement interferometry without periodic nonlinearity"</i>	<b>B3-1. 5:00 pm</b> <i>(invited) Tobias Beutel, Christoph Boese, Christoph Lucemann, Ansgar Holte, Monika Leester-Schädel and Stephanus Büttgenbach, IMT Germany. "Characteristics of micro hot-film probes for aeronautical purposes"</i>	<b>C3-1. 5:00 pm</b> <i>(invited) Schmitt, R., Nisch, S., Heitzmann, M., Bosse, H. and Inkamp, D. RWTH Aachen Univ., Germany. "Production metrology – future trends and challenges"</i>	<b>D3-1. 5:00 pm</b> <i>(invited) Tsukasa Watanabe, Agustinus Praba Dirjarkara, Watcharin Samit, Ketsaya Vacharanukul and Anasorn Tommuemwal, Natl. Metrology Inst. of Japan, Japan. "Self-calibratable rotary table for angular standards"</i>	<b>E3-1. 5:10 pm</b> <i>Xin Chen, Guoqing Ding, Satoru Takahashi and Kiyoshi Takamasu, Shanghai Jiao Tong Univ., China. "Self-calibration for two-dimensional stage using least squares solution"</i>	<b>F3-1. 5:00 pm</b> <i>(invited) Yuanfeng He, Yanlong Cao and Jiangxin Yang, Zhejiang Univ., China. "Mass estimation of loose part in nuclear power plant based on multiple regression"</i>
		<b>A3-2. 5:25 pm</b> <i>Roman V. Romashko, Michael N. Bezruk and Yuri N. Kulchin, FEB RAS, Russia. "Six-channel adaptive fiber-optic interferometry system for nano-metrology"</i>	<b>B3-2. 5:25 pm</b> <i>Nazim Lechéa, Thierry Ditchi, Céline Filloy, Stéphane Holé, Jérôme Lesueur and Jérôme Lucas, ESPCI-ParisTech, France. "Magnetic sensor sensitivity map: application to low field NMR gradiometer"</i>	<b>C3-2. 5:25 pm</b> <i>Zhenya He, Jianzhong Fu, Xinhua Yao and Zichen Chen, Zhejiang Univ., China. "A novel non-contact method for circular path test of NC machine tool"</i>	<b>D3-2. 5:25 pm</b> <i>YANG Jing, FENG Qi-bo and Gao Zhan, Inst. of optoelectronic measurement and control Technology, China. "A new method for measuring subgrade settlement in high-speed railway by using a linear CCD"</i>	<b>E3-2. 5:25 pm</b> <i>S.Zahwi, M.Amer, M.A.Abd, A.El-Meley, National Inst. of Standards, Egypt. "A laser microscope for the calibration of setting rings"</i>	<b>F3-2. 5:25 pm</b> <i>Baoping Tang, Shaojiang Dong, Tao Song, Chongqing Univ., China. "Morphological filter optimized by particle swarm optimization for noise removal"</i>
		<b>A3-3. 5:40 pm</b> <i>Kim WooJae, Akihiko Kimura, Yuki Shimizu, Gao Wei, Tohoku Univ., Japan. "Fast evaluation of pitch deviation and out-of-flatness of a linear scale by using a Fizeau interferometer"</i>	<b>B3-3. 5:40 pm</b> <i>Zheng Yong, Liu Xiaokang, Chen Ziran, Peng Donglin, Chen Xihou and Zheng Fangyan, Chongqing Univ. of Technology, China. "Research on dynamic measurement system of sensor's transmission error based on time series prediction method"</i>	<b>C3-3. 5:40 pm</b> <i>Donglin Peng, Jisen Yang, Xihou Chen, Tianheng Zhang, Ziran Chen, Fangyan Zheng, Chongqing Univ. of Technology, China. "Research on the principle and structure of novel high-precision linear time grating displacement sensor"</i>	<b>D3-3. 5:40 pm</b> <i>Yan-qiong Shi, Rong-sheng Lu, Shuai Li and Rui-xue Xia, Hefei Univ. of Technology, China. "Coarse-to-fine sub-pixel edge localization for dimensional measurement based on radial basis function"</i>	<b>E3-3. 5:40 pm</b> <i>I. Widdershoven, R.L. Donker and H.A.M. Spaan, IBS Precision Engineering, Netherlands. "Calibration of the Isara 400 ultra-precision CMM"</i>	<b>F3-3. 5:40 pm</b> <i>Zurong Qiu, Yajuan Zhang and Wenlei Chen, Tianjin Univ., China. "A fuzzy PID controller for laser tracking system under low speed and high friction condition"</i>
		<b>A3-4. 5:55 pm</b> <i>Kenaro Sugawara, Osamu Sato, Ichiko Misumi, Satoshi Gonda and Mingzi Lu, National Metrology Institute of Japan (NMIJ), AIST, Japan. "Scanning tip evaluation using a needle-shape artifact"</i>	<b>B3-4. 5:55 pm</b> <i>Fang yan Zheng, Dong lin Peng, Zi ran Chen and Xi hou Chen, Chongqing Univ. of Technology, China. "Research on a novel electrical gear-type grating sensor"</i>	<b>C3-4. 5:55 pm</b> <i>Carlos Hernández, Marc Fischer and Rainer Tutsch, Technische Universität Braunschweig, Germany. "Dynamic specifications by forward-looking controlling"</i>	<b>D3-4. 5:55 pm</b> <i>JungChul Lee, Wei Gao, Yuki Shimizu, Jooho Hwang, Jeong Seok Oh and Chun Hong Park, Tohoku Univ., Japan. "Spindle error motion measurement of a large precision rot lathe"</i>	<b>E3-4. 5:55 pm</b> <i>C.F. Cheung, M.J. Ren and L.B. Kong, The Hong Kong Polytechnic Univ., China. "A study of task specific uncertainty for least square based form characterization of ultra-precision freeform surfaces"</i>	<b>F3-4. 5:55 pm</b> <i>(invited) Wolfram Lyda, Avinash Burla, Tobias Haist, Marc Gronle and Wolfgang Osten, Stuttgart Univ. Germany. "Implementation and analysis of an automated multiccale measurement strategy for waver scale inspection of micro electromechanical systems"</i>

	Room A	Room B	Room C	Room D	Room E	Room F
1st July (Fri)	09:30-10:15 (keynote, Room A) <i>Kaoru Minoshima</i> , "High Accuracy Length Metrology using Fiber-based Optical Frequency Combs"					
	10:15-10:45 (keynote, Room A) <i>Xiangqian Jiang</i> , "Freeform/structured Surface Characterisation"					
	<b>A4. Interferometry and optical testing</b> <i>Guido Bartl, PTB, Germany, Session Chair</i>	<b>B4. Optical metrology</b> <i>ByungChang Kim, Kyungnam Univ., Rep. of Korea, Session Chair</i>	<b>C4. Online and in-process measurement</b> <i>Wei Gao, Tohoku University, Japan, Session Chair</i>	<b>D4. Advanced sensor technology</b> <i>K. Sapozhnikova, D.L.Mendeleyev Inst. for Metrology, Russia, Session Chair</i>	<b>E4. Surface and film thickness metrology</b> <i>Zhaoyao Shi, Beijing Univ. of Technology, China, Session Chair</i>	<b>F4. Material metrology and characterization</b> <i>Qibo FENG, Beijing Jiaotong Univ., China, Session Chair</i>
	<b>A4-1. 10:45 am</b> <i>(invited) Masato Aketagawa, Nobuhiko Azuma, Morimasa Takata, Ryota Sugawara, Reo Ito, Kazuki Anno, Takahiro Kogure and Yasuharu Ohba, Nagaoka Univ. of Technology, Japan. "Ultra-low strain rate measurement system for ice using phase modulation homodyne interferometer"</i>	<b>B4-1. 10:45 am</b> <i>(invited) Narin Chanthawong, Satoru Takahashi, Kiyoshi Takamasu, Hirokazu Matsumoto, Univ. of Tokyo, Japan. "High accuracy gauge block measurement using 2-GHz repetitions mode of a mode-locked fiber laser"</i>	<b>C4-1. 10:45 am</b> <i>(invited) Woonki Shin, Joonho An, Hobin Jeong, Seongsoo Kim and Haedo Jeong, Pusan Natl. Univ., Rep. of Korea. "Friction Force Monitoring System in Post-CMP Cleaning for Correlations with Process Issues"</i>	<b>D4-1. 10:45 am</b> <i>(invited) Libo Zhao, Enze Huang, Zhuangde Jiang, Guiming Zhang, Yulong Zhao, Xiaopo Wang, Bo Song and Zhigang Liu, Xi'an Jiaotong Univ., China. "A MEMS fluid density sensor based on silicon rectangular microcantilever"</i>	<b>E4-1. 10:45 am</b> <i>(invited) Chuanwei Zhang, Shiyuan Liu, Xiuguo Chen, Tielin Shi, and Yiping Wu, Huazhong Univ. of Science and Technology, China. "Model-based infrared reflectometry for measurement of high aspect-ratio through-silicon vias"</i>	<b>F4-1. 10:45 am</b> <i>(invited) Ming Chang, Feng-Cheng Chang, Jui R Deka, Hong-Wen Wang, Chung Yuan Christian Univ., Taiwan. "Mechanical characterization of gold nanowires"</i>
	<b>A4-2. 11:10 am</b> <i>Wen-Tung Chang, Shui-Fu Chuang, De-Yi Hong, Yi-Shan Tsai, Yeong-Shin Tarn, Geo-Ry Tang and Fang-Jung Shiao, Natl. Taiwan Univ. of Sci. &amp; Technology, Taiwan. "An improved laser-based method and system for measuring web thickness of microdrills considering runout compensation"</i>	<b>B4-2. 11:10 am</b> <i>Luciano Selva Ginani and René Theska, Ilmenau Univ. of Technology, Germany. "A novel approach to laser scanning microscopy using error correction algorithms"</i>	<b>C4-2. 11:10 am</b> <i>Fang-Jung Shiao, Chao-Jung Chen, Jun-Da Huang, Huay-Chung Lion, Natl. Taiwan Univ., Taiwan. "Research on the Closed Loop Micro-Nano-Positioning Stage for Z-axis Scanning Using the Real Time Control System"</i>	<b>D4-2. 11:10 am</b> <i>Chul-Ju Kim, Wonhak Cho, Seong-Ryool Ryoo and Hyeonki Choi, Sungkyunkwan Univ., Rep. of Korea. "The variation of surface electromyography due to different metabolism and skin temperature during exposure to cold air"</i>	<b>E4-2. 11:10 am</b> <i>A. J. Mohammad, X. Liu, E. M. H. Dominic, A. Marsh, E. M. H. Wellington and W. H. Gaze, Univ. of Warwick, UK. "Effect of hydrophobicity of metal-based surfaces on bacterial adhesion"</i>	<b>F4-2. 11:10 am</b> <i>Lei Shi and Lijiang Zeng, Tsinghua Univ., China. "Fabrication of large mosaic gratings by locking the exposure fringes to the latent gratings"</i>

1st July  
(Fri)

A5. Interferometry and optical testing <i>M. Krystek, PTB, Germany, Session Chair</i>	B5. Optical metrology <i>Hirokazu Matsumoto, Univ. of Tokyo, Japan, Session Chair</i>	C5. Online and in-process measurement <i>Byron R. Knapp, Professional Instruments Company, USA, Session Chair</i>	D5. Advanced sensor technology <i>P. Cai, Shanghai Jiaotong Univ., China, Session Chair</i>	E5. Surface and film thickness metrology <i>Jo Spronck, Delft Univ. of Technology, Netherlands, Session Chair</i>	F5. Material metrology and characterization <i>L. J. Zeng, Tsinghua Univ., China, Session Chair</i>
<p><b>A5-1. 1:30 pm</b> <i>(invited) Guo-Dung Chen, Yong-Qing Chang and Wei-En Fu, Industrial Technology Research Inst., Taiwan, "Nanoscale grating evaluation with small angle X-ray scattering"</i></p> <p><b>A5-2. 1:55 pm</b> <i>Eiki Okuyama, Akita Univ. Japan, "Virtual datum based on least uncertainty criterion for cross-axis motion measurement"</i></p> <p><b>A5-3. 2:10 pm</b> <i>Sonko Osawa, Osamu Sato and Toshiyuki Takatsuki, NMIJ/AIST, Japan, "Project for supporting Japanese local public metrology institutes in the field of a coordinate metrology"</i></p> <p><b>A5-4. 2:25 pm</b> <i>Ryota Kudo, Shin Usuki, Satoru Takahashi and Kiyoshi Takamasu, Univ. of Tokyo, Japan, "Experimental analysis of influence of error on super-resolution optical inspection using standing wave illumination"</i></p> <p><b>A5-5. 2:40 pm</b> <i>M. N. Durakbasa, P. H. Osanna, P. Demircioğlu and I. Bogreklı, Vienna Univ. of Technology, Austria, "Parameters and measurands in precision nanometrology"</i></p>	<p><b>B5-1. 1:30 pm</b> <i>(invited) Masato Aketagawa, Hiroshi Iwata, Tuan Banh Quoc and Kenji Hirata, Nagaoka Univ. of Technology, Japan, "Absolute length measurement of fabry-perot cavity at 10<sup>-9</sup> order using frequency modulation technique"</i></p> <p><b>B5-2. 1:55 pm</b> <i>Huang Xiangdong, Tan Jiubin, Jia Jinguo, Harbin Inst. of Technology, China, "An approach to remove defocused aberration on array confocal microscope"</i></p> <p><b>B5-3. 2:10 pm</b> <i>Sang-Ki Park, Yeon-Shik Ahn and Doo-Song Gil, KEPCO Res. Inst., Rep. of Korea, "The study on evaluation for digital radiography image of weldments"</i></p> <p><b>B5-4. 2:25 pm</b> <i>T.Sugawara, T.Ujike and T.Matsuyama, Nikon Corp., Japan, "Effective measurement and drift compensation method by step scan for imaging field aberration of high precision imaging optical systems"</i></p> <p><b>B5-5. 2:40 pm</b> <i>M. N. Durakbasa, P. H. Osanna, P. Demircioğlu and I. Bogreklı, Vienna Univ. of Technology, Austria, "Parameters and measurands in precision nanometrology"</i></p>	<p><b>C5-1. 1:30 pm</b> <i>(invited) A. Tausendfreund, M. Zimmermann, M. Z. Shaikh, S. Kieß, S. Patzelt, S. Simon and G. Goch, BIMAQ, Germany, "In-Process Defect Characterization Method for Nanostructured Surfaces"</i></p> <p><b>C5-2. 1:55 pm</b> <i>Kuan-Yu Chen, Cheng-Chin Chien, Weng-Lung Chang, and Chi-Chun Hsieh, Chung Yuan Christian Univ., Taiwan, "Improving the Accuracy of Depth Estimation Using a Modified Stereo Vision Model in Binocular Vision"</i></p> <p><b>C5-3. 2:10 pm</b> <i>Jian Zhang, Xiang Liu, Liying Wu, Yu Gang, Dong Wang and Jiajia Ge, Harbin Inst. of Technology, China, "Power adjustment and measurement with square-wave phase grating controlled by LCSLM"</i></p> <p><b>C5-4. 2:25 pm</b> <i>Kok Foong Lee, Terutake Hayashi, Masaki Michihata and Yasuhiro Takaya, Osaka Univ., Japan, "Development of in-situ evaluation system for monitoring the size of nanoparticles based on fluorescence polarization"</i></p>	<p><b>D5-1. 1:30 pm</b> <i>(invited) Zohreh Mokhtari, Stéphanie Holé and Jacques Lewiner, ESPCI/LEG, France, "Ionic Smoke Sensor without Radioactive Source"</i></p> <p><b>D5-2. 1:55 pm</b> <i>Chengcheng Ren, Weijie Dong, and Fengxian Bai, Dalian Univ. of Technology, China, "Design and fabrication of piezoelectric sensor based on PVDF film for human pulse measurement"</i></p> <p><b>D5-3. 2:10 pm</b> <i>Li Guo, Weiping Yan, Yinghua Xu, Yu Gang, Dalian Univ. of Technology, China, "Valveless piezoelectric micropump of parallel double chambers"</i></p> <p><b>D5-4. 2:25 pm</b> <i>Vladimir Gurevich, Kseniia Sapozhnikova and Roald Taymanov, Closed Joint-Stock Society (ZAO) Certpribor, Russia, "Metrological Self-check of a Transit-time Ultrasonic Flowmeter"</i></p> <p><b>D5-5. 2:40 pm</b> <i>Kseniia Sapozhnikova and Roald Taymanov, Mendeleyev Inst. for Metrology, Russia, "Role of Measuring Model in Biological and Musical Acoustics"</i></p>	<p><b>E5-1. 1:30 pm</b> <i>(invited) Liang-Chia Chen, Yi-Wei Chang and Yong-Lin Wu, Natl. Taipei Univ. of Technology, Taiwan, "In-situ chromatic confocal surface profilometry employing in-phase fiber correspondence for resolving lateral cross talk problems"</i></p> <p><b>E5-2. 1:55 pm</b> <i>Chen Yuxue, He Zhengchi and Yang Shunian, Huazhong Univ. of Science and Technology, China, "Research on on-line automatic diagnostic technology for scratch defect of rolling element bearings"</i></p> <p><b>E5-3. 2:10 pm</b> <i>Liang-Chia Chen, Sheng-Lih Yeh, Abraham Mario Tapilova, Yan-Chao Liao, Natl. Taipei Univ. of Technology, Taiwan, "Nano-scale full-field surface profilometry using one-shot simultaneous phase-shifting interferometry with two lasers"</i></p> <p><b>E5-4. 2:25 pm</b> <i>You Tao, Yu Jianwei, Yin Yanguo, Jiao Minhua and Yu Xiaofen, Hefei Univ. of Technology, China, "Dynamic correction of IR emissivity for temperature measurement of rubbing surface"</i></p>	<p><b>F5-1. 1:30 pm</b> <i>(invited) Yuriy N. Kulchin, Oleg B. Vitrik and Nataliya P. Kraeva, Far Eastern Branch of the Russia Acad. of Sci., Russia, "Distance optical method for monitoring the parameters of hydroacoustic vibrations"</i></p> <p><b>F5-2. 1:55 pm</b> <i>Meiyang Su, Jing Wang, Pengxin Yao, Haiying Du and Yangong Zheng, Dalian Univ. of Technology, China, "Humidity sensing characteristics of Mg<sup>2+</sup>-doped zirconia nanofibers synthesized via electrospinning"</i></p> <p><b>F5-3. 2:10 pm</b> <i>Xing Fu, Yunqiang Liu, Mingyan Liu, Yong Wu, Xiaotang Hu, Tianjin Univ., China, "Measuring and fabricating of micro-lens on photosensitive glass with UV nanosecond laser pulse"</i></p>
<p><b>A6. Interferometry and optical testing</b> <i>N. Durakbasa, Vienna Univ. of Technology, Austria, Session Chair</i></p> <p><b>A6-1. 3:15 pm</b> <i>(invited) Hgyong Kihm, Ho-Soon Yang, and Yun-Woo Lee, KRIS, Rep. of Korea, "Double-pass point diffraction interferometer for qualitative optical analysis"</i></p> <p><b>A6-2. 3:40 pm</b> <i>Zhang Wei-Fu, Huang Qiang-Xian, Xu Cong-Yu, Qian Jian-Zhao and Li Rui-Jun, Hefei Univ. of Technology, China, "Development of driving and control system of nano-CMM"</i></p> <p><b>A6-3. 3:55 pm</b> <i>Taekmin Kwon, Seung-Woo Kim, Samsung Corning Precision Materials, Rep. of Korea, "Large vibration-desensitized fiber-optic point-diffraction Interferometer for on-machine measurement"</i></p> <p><b>A6-4. 4:10 pm</b> <i>Ming Wang, Wei Xia, Dongmei Guo and Huali Lu, Nanjing Normal Univ., China, "Self-mixing interferometer based on phase modulation technique"</i></p> <p><b>A6-5. 4:25 pm</b> <i>Paul E. Murphy, Andrew Kutawiec, Ji-shik Shin, Han-Seog Oh, QED Technologies Korean Office, Rep. of Korea, "Asphere metrology utilizing automated variable null optics"</i></p>	<p><b>B6. Optical metrology</b> <i>Joonho You, Intek plus, Rep. of Korea, Session Chair</i></p> <p><b>B6-1. 3:15 pm</b> <i>(invited) ByoungChang Kim, Kyungnam Univ., Rep. of Korea, "Aspheric surface profilometry using 2nd derivative of local area"</i></p> <p><b>B6-2. 3:40 pm</b> <i>Jingbo Zhou, Tao Sun, and Guoan Hou, Harbin Inst. of Technology, China, "An integrated form error evaluation method for ultra-precision freeform surfaces"</i></p> <p><b>B6-3. 3:55 pm</b> <i>H. Muhamedsalih, X. Jiang and F.Gao, Univ. of Huddersfield, UK, "Acceleration computing process in wavelength scanning interferometry"</i></p> <p><b>B6-4. 4:10 pm</b> <i>Bin Zhang, Qibo Feng and Zhan Gao, Beijing Jiaotong Univ., China, "Non-contact optical measurement of high-frequency nanometer vibration"</i></p>	<p><b>C6. Micro/nano positioning and measurement of machining errors</b> <i>R. Furutani, Tokyo Denki Univ., Japan, Session Chair</i></p> <p><b>C6-1. 3:15 pm</b> <i>(invited) Liu Weiwen, Zhao Hui, Tao Wei, Lv Chunfeng and Qi Hongli, Shanghai Jiaotong Univ., China, "Technology requirement analysis and self-modification method for combinatorial code grating Eddy current absolute-position sensor"</i></p> <p><b>C6-2. 3:40 pm</b> <i>M. Heyne, H. Mehner, T. Erbe and R. Theska, Ilmenau Univ. of Technology, Germany, "Initial investigations of rolling friction characteristics in planar ball guides with a novel measurement set-up"</i></p> <p><b>C6-3. 3:55 pm</b> <i>Liu Fangfang, Fei Yetai, Xia Haojie, Chen Lijuan, Hefei Univ. of Technology, China, "Development of a new sensing method for micro/nano displacement measurements based on FBG sensors"</i></p> <p><b>C6-4. 4:10 pm</b> <i>Mitsushi Tomimaga, Kazuki Fujiyama, Mitsuo Ozaki and Ryosha Furutani, Tokyo Denki Univ., Japan, "Measurement of straightness of two-dimensional translatory stage"</i></p> <p><b>C6-5. 4:25 pm</b> <i>Zhijing Zhang, Fuchang Zuo, Xin Jin, Qin Liu and Jianfeng Chen, Beijing Inst. of Technology, China, "Evaluation and modeling of geometric form error for precision assembly analysis"</i></p>	<p><b>D6. Advanced sensor technology</b> <i>Weijie Dong, Dalian Univ. of Technology, China, Session Chair</i></p> <p><b>D6-1. 3:15 pm</b> <i>(invited) Herbert F. Schweitzer, Georg Kaniak, Vienna Univ. of Technology, Austria, "Ultrasonic Ranging in Air – Impact of Sensor and System Design Elements on the Attainable Accuracy"</i></p> <p><b>D6-2. 3:40 pm</b> <i>Manus Henry, Michael Tombs, Feibiao Zhou, and Mayela Zamora, Univ. of Oxford, UK, "New Applications for Coriolis Meter-based Multiphase Flow Metering in the Oil and Gas Industries"</i></p> <p><b>D6-3. 3:55 pm</b> <i>Z.Y.Mao, P. Cai and X.Y.Peng, Shanghai Jiaotong Univ., China, "Analytic and Experiment Investigation on the Crosstalk Elimination of Resistive Sensor Array based pressure mapping System"</i></p> <p><b>D6-4. 4:10 pm</b> <i>Chao-Ching Ho and Ming-Chen Chen, Nat'l. Yunlin Univ. of Sci. and Technology, Taiwan, "Nighttime Fire Smoke Detection System Based on Machine Vision"</i></p>	<p><b>E6. Surface and film thickness metrology</b> <i>Liang-Chia Chen, Natl. Taipei Univ. of Technology, Taiwan, Session Chair</i></p> <p><b>E6-1. 3:15 pm</b> <i>(invited) Yong-Qing Chang, Wei-En Fu, ITRI, Taiwan, "Layer structure determination for film thickness measurements of thin HfO<sub>2</sub> films using X-ray reflectivity and X-ray photoelectron spectroscopy"</i></p> <p><b>E6-2. 3:40 pm</b> <i>Changsup Lee, Hojun Lee, Moonki Jeong and Haedo Jeong, Pusan Natl. Univ., Rep. of Korea, "A study on the measuring of RCA between wafer and pad in CMP"</i></p> <p><b>E6-3. 3:55 pm</b> <i>X. Lan, X. Jiang, L. Blunt, S. Xiao and W. Zeng, Univ. of Huddersfield, UK, "A feasible way to analysis microstructures on a surface based on the extraction and construction of geometrical features"</i></p> <p><b>E6-4. 4:10 pm</b> <i>(Invited) J. Song, W. Chu, T.V. Vorburger, R. Thompson, T.B. Renegar, A. Zheng, J. Yen, R. Silver and M. Ols, NIST, USA, "Development of Ballistics Identification – From Image Comparison to Topography Measurement in Surface Metrology"</i></p>	
<p><b>A7. Online and in-process measurement</b> <i>Rong-Sheng Lu, Hefei Univ. of Technology, China, Session Chair</i></p> <p><b>A7-1. 5:00 pm</b> <i>(invited) Jonghan Jin, KRIS, Rep. of Korea, "Precision dimensional metrology on 3D packaging process"</i></p>	<p><b>B7. Optical metrology</b> <i>Helmuth Rock, Christian-Albrechts- Univ., Germany, Session Chair</i></p> <p><b>B7-1. 5:00 pm</b> <i>(invited) Joonho You, Seung-Woo Kim, Intekplus Co., Rep. of Korea, "Fast measurement of micro-bumps on chip package using the coaxial optical system: low-coherence interferometry"</i></p>	<p><b>C7. Micro/nano positioning and measurement of machining errors</b> <i>Y. Takaya, Osaka Univ., Japan, Session Chair</i></p> <p><b>C7-1. 5:00 pm</b> <i>(invited) Byron R. Knapp, David A. Arneson, Daniel D. Oss and Melvin J. Liebers, Professional Inst. Co., USA, "Ultra precision oil hydrostatic spindle design and metrology"</i></p>	<p><b>D7. Measurement and metrology for the humanitarian fields</b> <i>R. Taymanov, D.I.Mendeleyev Inst. for Metrology, Russia, Session Chair</i></p> <p><b>D7-1. 5:00 pm</b> <i>(invited) Vladimir M. Petrov, Lidia A. Mazhul, State Inst. for Art Studies, Russia, "Weak influences in socio-cultural sphere: Method to measure consequences of contacts with art"</i></p>	<p><b>E7. Surface and film thickness metrology</b> <i>Young-Jin Kim, KAIST, Rep. of Korea, Session Chair</i></p> <p><b>E7-1. 5:00 pm</b> <i>(invited) Thilo Scholdt, Martin Gohlke, Harald Kögel, Ruven Spannagel, Achim Peters, Ulrich Johann, Dennis Weise, and Claus Braxmaier, HTWG, Germany, "Picometer interferometry and its application in dilatometry and surface metrology"</i></p>	

1st July (Fri)	Oral Sessions VII 17:00 -18:25	<p><b>A7-2. 5:25 pm</b>  <i>Guoqing Ding, Xin Chen, Satoru Takahashi and Kiyoshi Takamasu</i>,  <i>Shanghai Jiao Tong Univ., China</i>,  "On-machine profile measurement by multiple sensors scanning method with two kinds of algorithms"</p>	<p><b>B7-2. 5:25 pm</b>  <i>Shih-Ming Wang, Han-Jen Yu Shih-His Liu and Da-Fan Chen</i>,  <i>Chang Yuan Univ., Taiwan</i>,  "Development of an on-machine vision-based micro depth error measurement method for micro machining"</p>	<p><b>C7-2. 5:25 pm</b>  <i>Xiaolei Deng, Jianzhong Fu, Yong He, Zichen Chen and Feng Lin</i>,  <i>Zhejiang Univ., China</i>,  "Thermal-structure characteristics coupling analysis of spindle system for horizontal CNC machining center"</p>	<p><b>D7-2. 5:25 pm</b>  <i>Lidia A. Mazhul, Vladimir M. Petrov</i>,  <i>State Inst. for Art Studies, Russia</i>,  "Genius artists: identification by means of measuring stylistic parameters"</p>	<p><b>E7-2. 5:25 pm</b>  <i>ChaBum Lee, Jin-Ho Kang, Jae-Young Joo and Sun-Kyu Lee</i>,  <i>GIST, Korea</i>,  "Phase locked loop based topography measurement of ultraprecision machined surface using the ball lensed and tapered fiber"</p>
		<p><b>A7-3. 5:40 pm</b>  <i>Cheol Hoon Park, Sang Kyu Choi, Sang Yong Ham, and Su Hyun Kim</i>,  <i>KIMM, Rep. of Korea</i>,  "Measurement of dynamic coefficients of air foil bearing for high speed rotor by using sine sweep electromagnet force"</p>	<p><b>B7-3. 5:40 pm</b>  <i>P. Demircioglu, M. N. Durakbasa, P. H. Osanna and I. Bogrekeci</i>,  <i>ADU, Turkey</i>,  "Surface Roughness Assessment of Machined Metal Surfaces using Image Processing Techniques"</p>	<p><b>C7-3. 5:40 pm</b>  <i>Shi Zhaoyao and Zhang Bin</i>,  <i>Beijing Univ. of Technology, China</i>,  "An adaptive sampling for surface without given geometrical model based on coordinate measuring machine with contact probe"</p>	<p><b>D7-3. 5:40 pm</b>  <i>Valeria Biasi, Fabiana Borsellino, Julia Sciuto and Paolo Bonaiuto</i>,  <i>Third Univ. of Rome, Italy</i>,  "Measurement of incongruity intolerance and symbol perception"</p>	<p><b>E7-3. 5:40 pm</b>  <i>L.B. Kong, C.F. Cheung, S. To and C.T. Cheng</i>,  <i>Hong Kong Polytechnic Univ., Hong Kong</i>,  "A study of the generation and characterization of 3D micro-structured surfaces with self-cleaning and optical functions"</p>
		<p><b>A7-4. 5:55 pm</b>  <i>A.C. Wang, L. Tsai and Z.C. Jun</i>,  <i>Ching Yun Univ., Taiwan</i>,  "Investigating flexible self-sharpening effect and optimal parameters in magnetic finishing with gel abrasive"</p>	<p><b>B7-4. 5:55 pm</b>  <i>Zou Limin, Hou Siliang and Fan Zhigang</i>,  <i>Harbin Inst. of Technology, China</i>,  "Spatial super-resolution differential confocal microscopy based on radial birefringent pupil filter"</p>	<p><b>C7-4. 5:55 pm</b>  <i>Songyi Dian, Shuang Tian and Wei Gao</i>,  <i>Sichuan Univ., China</i>,  "Study on SMO-based sensorless control for two-axis precision positioning of a planar potion stage "</p>	<p><b>D7-4. 5:55 pm</b>  <i>Paolo Bonaiuto, Sara Longo, Valeria Biasi, Fabiana Borsellino and Daria D'Aloise</i>,  <i>First Univ. of Rome, Italy</i>,  "Colour family drawings produced by children of asian cultures. Measures and peculiarities"</p>	

## ISM2011 Poster Session

<p><b>P-01</b> Yufen DENG, Junjie GUO, Jindong WANG, Xi'an Jiaotong Univ., China, "The research of a fast measurement method for large horizontal lathe geometric precision detection based on laser tracker"</p>	<p><b>P-02</b> Dongmei Guo, Nanjing Normal Univ., China, "A new quadrature demodulation technique for self-mixing interference signal analysis"</p>	<p><b>P-03</b> Chien-Hung Liu, Chung-Hsiang Cheng, Hao-Wen Chang, Jing-Chung Shen and Shih-Hsiang Hsu, Natl. Formosa Univ., Taiwan, "Development of a multi-degrees-of-freedom laser encoder using <math>\pm 1</math> order and <math>\pm 2</math> order diffraction rays"</p>	<p><b>P-04</b> Gisela Lanza, Stefan Stockey and Anna Ertel, KIT, Germany, "Quality assurance in the production of semi-finished SMC and BMC"</p>	<p><b>P-05</b> Qu Xinghua, Chen Yong, Yang Xiaojun, Ding Beisheng, Ouyang Jianfei, Tianjin Univ., China, "Research on an automatic measuring technique for mechanical characteristic in industrial circuit breaker"</p>
<p><b>P-06</b> Li Hongli, Chen Xiaohuai, Wang Hongtao and Cao Xuemei, Hefei Univ. of Technology, China, "Uncertainty evaluation in geometric length measurement by CMM based on Monte Carlo Method"</p>	<p><b>P-07</b> Fei Yetai, Wang Chenchen, Hefei Univ. of Technology, China, "Research on error correction methods for a novel Nano-CMM"</p>	<p><b>P-08</b> Wang Lei, Tan Jiubin, Liu Pei, Wang Long and Yang Wenguo, Harbin Inst. of Technology, China, "A method of identifying and correcting the bias error of sensor using elliptic standard in the roundness measurement"</p>	<p><b>P-09</b> Yulong Zhao, Zhengyong Duan, Enyi Chu, Xi Ren, Jing Liang and Xiuping Tang, Xi'an Jiaotong Univ., China, "A microcantilever-based piezoresistive high g MEMS accelerometer"</p>	<p><b>P-10</b> Dr. Illés Dudás, Sándor Bodzás, Univ. of Miskolc, Hungary, "Geometric analysis and mathematical modelling of spiroid worm"</p>
<p><b>P-11</b> Carl Martin Wehmer, Mauricio Nogueira Frota, Pontifical Catholic Univ. of Rio de Janeiro, Brazil, "Measurement technology: an effective strategy for international trade"</p>	<p><b>P-12</b> Yu.N. Kulchin, O.B. Vitrik and S.O. Gurbatov, IACP FEB RAS, Russia, "Optical fiber accelerometer based on the single-mode fiber waveguide with low normalized frequency"</p>	<p><b>P-13</b> Taehyun Kim, MooJong Kim, Ho-Sang Kim, Chan-Hee Lee and Moon G. Lee, Ajou Univ., Rep. of Korea, "Measurement and analysis of micro lens array using white light scanning interferometer"</p>	<p><b>P-14</b> Yi-Hua Fan, Ching-En Chen, Wen-Wei Fan and Ying-Tsun Lee, Chung Yuan Christian Univ., Taiwan, "Development of a pantograph based micro-machining machine"</p>	<p><b>P-15</b> H. Röck, F. Koschmieder, Christian-Albrechts-Univ., Germany, "Operating a coriolis mass flow meter at two different frequencies simultaneously using phasor control"</p>
<p><b>P-16</b> Kwijong Park, Myung K. Cho, Young-Soo Kim, Ju Heon Koh, Jaemann Kyeong, In-Soo Yuk, Byeong-Gon Park, KASI, Rep. of Korea "Supports analysis of the fast steering secondary mirror prototype for giant Magellan telescope"</p>	<p><b>P-17</b> Kazuhiro Sakita, freelance, Japan, "Multi-scale product desing and lifecycle simulation system for nano product development"</p>	<p><b>P-18</b> Young-Sam Ham, KRRI, Rep. of Korea, "A study on correlation of derailment coefficient of rolling stock and roll motion measured by motion tracker"</p>	<p><b>P-19</b> Taeho Ha, Jaehak Lee, Changwoo Lee, Junyeob Song and Sangyoon Lee, KIMM, Rep. of Korea, "Void defect generation for BGA defect inspection"</p>	<p><b>P-20</b> Yohan Kondo, Sonko Osawa, Osamu Sato, Tsukasa Watanabe and Toshiyuki Takatsuji, NMIJ/AIST, Japan, "Development of a multi-sphere artifact for evaluating gear-pitch-measuring instruments"</p>
<p><b>P-21</b> Mohammad Taleghani, Islamic Azad University, Iran, "Executive information systems development life cycle"</p>	<p><b>P-22</b> Li Mingwei, Hu Yanguo, Li Zhibo and Meng hua, Dalian Univ. of Technology, China, "The design and implementation of magnetic field positioning and detecting system"</p>	<p><b>P-23</b> LI Mingwei, Xie Xiaofei, Meng Hua and Liu Peng, Dalian Univ. of Technology, China, "Design of automatic tiny grain color sorting system"</p>	<p><b>P-24</b> Seungman Kim, Yunseok Kim, Young-Jin Kim and Seung-Woo Kim, KAIST, Rep. of Korea, "Generation of the high repetition rate optical comb with external cavities"</p>	<p><b>P-25</b> Seungchul Kim, In-Yong Park, Joon-Hee choi and Seung-Woo Kim, KAIST, Rep. of Korea, "Ultra precision fabrication of plasmonic nano waveguide using focused ion beam milling"</p>
<p><b>P-26</b> Young-Jin Kim, Byung Jae Chun, Yunseok Kim, Sangwon Hyun and Seung-Woo Kim, KAIST, Rep. of Korea, "Generation of optical frequencies out of the femtosecond frequency comb for DWDM telecommunication"</p>	<p><b>P-27</b> Sanguk Park, Young-Jin Kim, Yunseok Kim, Seungman Kim, Seunghwoi Han and Seung-Woo Kim, KAIST, Rep. of Korea, "Direct inscription of fiber Bragg grating by high power femtosecond pulse laser"</p>	<p><b>P-28</b> In-Yong Park, Seungchul Kim, Joonhee Choi and Seung-Woo Kim, KAIST, Rep. of Korea, "High repetition rate extreme ultraviolet pulse generation with field enhancement"</p>	<p><b>P-29</b> Joohyung Lee, Young-Jin Kim, Keunwoo Lee, Sang-Hyun Lee and Seung-Woo Kim, KAIST, Rep. of Korea, "Absolute distance measurement by high-resolution time-of-flight principle using a femtosecond laser"</p>	<p><b>P-30</b> Woo-Deok Joo, Young-Jin Kim, Yunseok Kim, Ji-Yong Park, and Seung-Woo Kim, KAIST, Rep. of Korea, "Precision surface profile measurement using femtosecond pulse laser"</p>
<p><b>P-31</b> Byung Jae Chun, Young-Jin Kim, Sangwon Hyun, Yunseok Kim and Seung-Woo Kim, KAIST, Rep. of Korea, "All-fiber-based generation of multi-channel optical frequencies"</p>	<p><b>P-32</b> Joonhee Choi, Seungchul Kim, In-Yong Park and Seung-Woo Kim, KAIST, Rep. of Korea, "Design of efficient plasmonic nanodevice for coherent extreme-ultraviolet light generation"</p>	<p><b>P-33</b> Seunghwoi Han, Yunseok Kim, Young-Jin Kim, Seungman Kim, Sanguk Park, Jiyong Park and Seung-Woo Kim, KAIST, Rep. of Korea, "Design of non-thermal dicing system for quartz wafers"</p>	<p><b>P-34</b> Sangwon Hyun, Young-Jin Kim, Byung Jae Chun, Yunseok Kim and Seung-Woo Kim, KAIST, Rep. of Korea, "Real-time absolute distance measurement using multi-wavelengths referenced to the frequency comb"</p>	<p><b>P-35</b> S.J. Zhang, S. To, C.F. Cheung and J.J. Du, Hong Kong Polytech. Univ., China, "3D measurement of tool wear with the in-process image based on a new auto-regressive calibration algorithm in ultra-precision raster milling"</p>

<p><b>P-36</b> Choon-Tae Lee, Byung-Young Moon, Silla Univ., Rep. of Korea, "Study of parameter identification using hybrid neural-genetic algorithm in electro-hydraulic servo system"</p>	<p><b>P-37</b> Choon-Tae Lee, Byung-Young Moon, Silla Univ., Rep. of Korea, "Development of the hydraulic pressure control valve for the automotive active suspension system"</p>	<p><b>P-38</b> Byeong-Soo Kim, Byung-Young Moon, Inje Univ., Rep. of Korea, "Performance of evaluation of air spring for the passenger car seat suspension system using the nonlinear method"</p>	<p><b>P-39</b> Jung-Yong Han, Byung-Young Moon, Busan Nat'l Univ., Rep. of Korea, "Strength analysis and standardization for mooring and towing fittings of vessel by using the finite elements method"</p>	<p><b>P-40</b> S. To, S.J. Zhang, H.T. Wang, S.J. Wang, Hong Kong Polytech. Univ., China, "Dynamic modeling of aerostatic bearing spindle and measurement of surface topographies in ultra-precision raster milling"</p>
<p><b>P-41</b> Juning Cui, Jiubin Tan and Guoliang Jin, Harbin Inst. of Technology, China, "Ultra-precision measurement of deep and small hole diameter by capacitive probing based on iterative error reduction"</p>	<p><b>P-42</b> Keunwoo Lee, Young-Jin Kim, Joohyung Lee, and Seung-Woo Kim, KAIST, Rep. of Korea, "Fourier transform spectroscopy using a femtosecond laser with high resolution and broadband spectrum for remote sensing application"</p>	<p><b>P-43</b> Woo-Suk Chong, Min-Jung Yu, Sun-Yeon Lee, Eun-Ae Lee, Chan-Young Lee, Jong-Kwan Park, and Myoung-Hwan Ko, Chonbuk Nat'l Univ. Hospital, Rep. of Korea, "Clinical trial of holter monitor versus wireless patient monitor"</p>	<p><b>P-44</b> Zhao Xuesen, Sun Tao, Yan Yongda, Hu Zhenjiang and Dong Shen, Harbin Inst. of Technology, China "A new rotational error measurement method for precision spindle based on the registration analysis of motion topography"</p>	<p><b>P-45</b> Cheol Hoon Park, Young Su Son, Sang Young Ham, Sung Whee Lee and Byung In Kim, KIMM, Rep. of Korea, "Estimation of losses and parameters for inductive motor"</p>
<p><b>P-46</b> Tuan Banh Quoc, Yoshinosuke Murai and Masato Aketagawa, Nagaoka Univ. of Technology, Japan, "Evaluation method of constant air refractive index chamber at 10-10 order using a temperature-stabilized Fabry-Perot cavity"</p>	<p><b>P-47</b> Zou Limin, Hou Siliang and Fan Zhigang, Harbin Inst. of Technology, China, "Spatial super-resolution differential confocal microscopy based on radial birefringent pupil filter"</p>	<p><b>P-48</b> Jongyoun Shim, Jooho Hwang and Chan-Hong Lee, KIMM, Korea, "Machine Tool Geometric Error Evaluation with R-Test"</p>		