# Program at a glance

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
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<tbody>
<tr>
<td>Nov. 17 [Sun.]</td>
<td>13:00 – 17:00</td>
<td>Registration</td>
<td>Toki Messe [4F] Foyer</td>
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<tr>
<td>Nov. 18 [Mon.]</td>
<td>8:00 -</td>
<td>Registration</td>
<td>Toki Messe [4F] Foyer</td>
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<td>10:20 – 11:00</td>
<td>Group Photographs &amp; Coffee break</td>
<td>Toki Messe [4F] Marine Hall / Foyer</td>
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<td></td>
<td>11:00 – 11:30</td>
<td>Industrial Session 1</td>
<td>Toki Messe [4F] Marine Hall</td>
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<td>Technical Session</td>
<td>Toki Messe [3F] Room 303-304</td>
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<td>Force 1</td>
<td>Toki Messe [4F] Marine Hall</td>
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<td>15:30 – 16:00</td>
<td>Coffee break</td>
<td>Toki Messe [4F] Foyer</td>
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<td>16:00 – 17:00</td>
<td>Technical Session</td>
<td>Toki Messe [3F] Room 303-304</td>
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<td>Pressure 1 / Vacuum 1</td>
<td>Toki Messe [4F] Marine Hall</td>
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<td>Torque 2 / Gravimetry</td>
<td>Toki Messe [3F] Room 303-304</td>
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<td>18:30 – 20:30</td>
<td>Welcome reception &amp; Industrial Session 2</td>
<td>Sadokisen terminal building [5F] Large Hall</td>
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<td>Nov. 19 [Tue.]</td>
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<td>Tokyo Messe [4F] Foyer</td>
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<td>9:10 – 10:00</td>
<td>Keynote speech 2</td>
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<td>Tokyo Messe [4F] Marine Hall</td>
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<td>Technical Session Pressure 2 / Vacuum 2 / Others</td>
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<td>Tokyo Messe [3F] Room 303-304</td>
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<td>11:30 – 13:30</td>
<td>Lunch</td>
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<td>Hotel Nikko Niigata [4F] Toki</td>
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<td>12:30 – 13:30</td>
<td>IPC meeting</td>
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<td>Tokyo Messe [3F] Room 305</td>
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<td>14:00 – 18:00</td>
<td>City tour</td>
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<td>Nov. 20 [Wed.]</td>
<td>8:00 –</td>
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<td>Tokyo Messe [4F] Foyer</td>
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<td>9:10 – 10:00</td>
<td>Poster Session</td>
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<td>Technical Session Hardness / Density</td>
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<td>Technical Session Pressure 3</td>
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<td>13:30 – 14:50</td>
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<td>Technical Session Others</td>
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<td>Tokyo Messe [3F] Room 303-304</td>
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<td>15:30 – 16:30</td>
<td>Closing ceremony</td>
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<td>18:30 – 20:30</td>
<td>Forum banquet</td>
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<td>Nov. 21 [Thu.]</td>
<td>9:00 – 18:00</td>
<td>Technical tour</td>
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# Program Overview

## Monday, Nov. 18

### Keynote speech 1

**Chair:** [-, -]

**Time:** 9:30 – 10:20

**Title:**

*Rolf Kumme [Physikalisch-Technische Bundesanstalt (PTB), Germany]*

### Industrial Session 1

**Chair:** [-, -]

**Time:** 11:00 – 11:30

- Mettler-Toledo
- Yokogawa Test & Measurement Corporation
- JAPAN QUALITY ASSURANCE ORGANIZATION

### Technical Session: Force 1

**Chair:** [-, -]

**Time:** 13:30 – 14:10

- Calibration Methods and Influencing Factor for Alignment of Material Testing Machine
  - Qin Haifeng (ChangCheng Institute of Metrology & Measurement, China),
  - Wang Jinglu,
  - Liu Sibo,
  - Tian feng

**Time:** 13:50 – 14:30

- Long-term instability of force-proving instruments used for the calibration of uniaxial testing
  - Takaaki Mayumi (Shimadzu Access Corporation, Japan)

- Evaluation of Small Capacity Force Transducers
  - Junfang Zhu (National Metrology Institute of Japan (NMIJ), AIST, Japan),
  - Toshiyuki Hayashi (National Metrology Institute of Japan (NMIJ), AIST, Japan),
  - Koji Ogushi (National Metrology Institute of Japan (NMIJ), AIST, Japan)

### Technical Session: Torque 1

**Chair:** [-, -]

**Time:** 14:30 – 14:50

- Study on Fabrication of Torque Transfer Wrench with Check Standard Combination
  - Tassanai Sanponpute (National Institute of Metrology, Thailand),
  - Chokchai Wattong (National Institute of Metrology, Thailand),
  - Nittaya Arksonnarong (National Institute of Metrology, Thailand)
14:50 – 15:10  New Method of Calibration for Standard Torque Wrench with Deadweight Torque Machine  
Fan Haiting (Shanghai Institute of Quality Inspection and Technical Research, China), Hu Zifeng, Xia Bingyu, Li Heilang, William Huang (GTM China Office, Shanghai, China), Zhang Fuping (Xinjiang Uygur Autonomous Region Research Institute of Measurement & Testing, Urumqi, China)

15:10 – 15:30  Design of 100 kN·m Deadweight Torque Standard Machine  
Zhang Zhimin (Mechanics and Acoustics Division, National Institute of Metrology, China), Hu Gang, Zhang Yue, Meng Feng, Zhang Wei

Technical Session: Pressure 1 / Vacuum 1  
Toki Messe [4F] Marine Hall

16:00 – 16:20  Newly developed pressure measurement system using an optical method at NMJ  
Yoshinori TAKEI (AIST National Metrology Institute of Japan, Japan), Kenta ARAI (AIST National Metrology Institute of Japan, Japan), Hajime YOSHIDA (AIST National Metrology Institute of Japan, Japan), Youichi BITOU (AIST National Metrology Institute of Japan, Japan), Souichi TELADA (AIST National Metrology Institute of Japan, Japan), Tokihiko KOBATA (AIST National Metrology Institute of Japan, Japan)

16:20 – 16:40  A compact impulse pressure generator based on shock acceleration exciter  
Rudi Anggoro Samodro (University of Science and Technology (UST), Korea / Korea Research Institute of Standards and Science (KRISS), Korea / National Standardization Agency of Indonesia (BSN), Indonesia), In-Mook Choi (University of Science and Technology (UST), Korea / Korea Research Institute of Standards and Science (KRISS), Korea)

16:40 – 17:00  Development of Pressure Transfer Standard Using a Silicon Resonant Sensor  
Hideaki Yamashita (Yokogawa Test & Measurement Corporation, Japan), Hirokazu Nagashima (Yokogawa Test & Measurement Corporation, Japan), Hideki Yamada (Yokogawa Test & Measurement Corporation, Japan)

Technical Session: Mass 1  
Toki Messe [3F] Room 303-304

13:30 – 13:50  Eccentric loading errors analysis of mass comparator  
Zhongqi Xiong (Shanghai Institute of Measurement and Testing Technology, China), Liyuan Cheng (Shanghai Institute of Measurement and Testing Technology, China)

13:50 – 14:10  Vacuum Transfer Equipment for the Dissemination of Mass Unit  
Jian Wang (Division of Mechanics and Acoustics, National Institute of Metrology, PR.China), Changqing Cai (Division of Mechanics and Acoustics, National Institute of Metrology, PR.China), Manhong Hu (Division of Mechanics and Acoustics, National Institute of Metrology, PR.China), Ruilin Zhong (Division of Mechanics and Acoustics, National Institute of Metrology, PR.China), Di Wu (Division of Mechanics and Acoustics, National Institute of Metrology, PR.China)

14:10 – 14:30  Development of automatic adjustment system for electronic balances  
Jittakant Intiang (Department of Science Service, BKK, Thailand)
14:30 – 14:50  Research on consistency analysis based on uncertainty evaluation for NAWI
Ruilin Zhong (National Institute of Metrology, China),
Di Wu (National Institute of Metrology, China),
Changqing Cai (National Institute of Metrology, China),
Jian Wang (National Institute of Metrology, China),
Manhong Hu (National Institute of Metrology, China)

14:50 – 15:10  Improving measuring accuracy in relay feedback mass measurement system by a modified period measurement
Egawa Taku (Saitama University, Japan),
Mizuno Takeshi (Saitama University, Japan),
Takasaki Masaya (Saitama University, Japan),
Ishino Yuji (Saitama University, Japan),
Yamaguchi Daisuke (Saitama University, Japan)

Technical Session: Torque 2 / Gravimetry  Toki Messe [3F] Room 303-304
Chair: - [-, -]

16:00 – 16:20  A Multifunctional Torque Standard Device for Calibrating Torque Sensors and Torque Multipliers
Meng Feng (Beijing University of Technology, P.R.China / National institute of metrology, P.R.China),
Jiao jin pin (University of Technology, P.R.China),
Zhang zhi min (National institute of metrology, P.R.China),
Li tao (Shanghai Marine Equipment Research Institute, P.R.China),
zhang dian long (National institute of metrology, P.R.China)

16:20 – 16:40  Time Constant Calibration of Torque Sensors Based on Negative Step Method
Xiangling Ma (Shanghai Marine Equipment Research Institute (SMERI), China),
Tao Lian, Hongli Qi,
Zhilong Zeng,
Chenyang Wu

16:40 – 17:00  The first International Comparison of Absolute Gravimeters (ICAG) in Asia
WU Shuqing (National Institute of Metrology, P. R. China),
FENG Jinyang (National Institute of Metrology, P. R. China),
Li Chunjian (National Institute of Metrology, P. R. China),
SU Duowu (National Institute of Metrology, P. R. China),
WANG Qiyu (National Institute of Metrology, P. R. China),
HU Ruo (National Institute of Metrology, P. R. China),
LIU Shanshuang (National Institute of Metrology, P. R. China),
MOU Lishuang (National Institute of Metrology, P. R. China)

Industrial Session 2 – Welcome reception  Sadokisen terminal building [5F] Large Hall
Chair: - [-, -]

18:50 – 19:00  GTM Testing and Metrology GmbH
19:00 – 19:10  Innovative Testing Technology Co., Ltd.
19:10 – 19:20  HBM（Hottinger Baldwin Messtechnik GmbH）
Tuesday, Nov. 19

Keynote speech 2
Chair: [-, -]
9:10 – 10:00  Redefinition of the kilogram for the first time in 130 years
Kenichi Fujii (National Metrology Institute of Japan, National Institute of Advanced Industrial Science and Technology, Japan)

Technical Session: Mass 1
Chair: [-, -]
10:30 – 10:50  Improved determination of the volume of E0 stainless steel weights using a constant pressure
K Fen (National Measurement Institute Australia, Australia),
M.J. Ballico (National Measurement Institute Australia, Australia)
10:50 – 11:10  Experimental study on the mass determination of silicon sphere from vacuum to air based on Monte Carlo method
Manhong Hu (National Institute of Metrology, P.R. China),
Jian Wan (National Institute of Metrology, P.R. China),
Changping Cai (National Institute of Metrology, P.R. China),
Yue Zhang (National Institute of Metrology, P.R. China),
Rulin Zhong (National Institute of Metrology, P.R. China),
Kai Jiao (National Institute of Metrology, P.R. China)
11:10 – 11:30  Impact of Redefinition of the Kilogram to Standards and Calibration Uncertainty in SNSU-BSN
Zuhdi Ismail (National Standardization Agency of Indonesia (BSN), Indonesia),
Renanta Hayu (National Standardization Agency of Indonesia (BSN), Indonesia)

Technical Session: Pressure 2 / Vacuum 2 / Others
Chair: [-, -]
10:30 – 10:50  Calibration system for low-pressure gauge using a pressure balance
Momoko Kojima (National Metrology Institute of Japan, AIST, Japan)
10:50 – 11:10  Orifice flow system in NMJ and its long-term stability
Kenta Arai (National Metrology Institute of Japan (NMJ), AIST, Japan)
11:10 – 11:30  Influences of Groove Type Casing Treatment on Tip Leakage Flow Behavior in Linear Compressor Cascade at Different Tip Clearances (Influence of Single Groove at Mid-chord)
Masanao Kaneko (Tokyo Denki University, Japan)

Wednesday, Nov. 20

Technical Session: Hardness / Others
Chair: [-, -]
10:30 – 10:50  An application of deep learning for measurement of Brinell and Vickers hardness
Yukimi Tanaka (National Metrology Institute of Japan, AIST, Japan),
Yutaka Seino (National Metrology Institute of Japan, AIST, Japan),
Koichiro Hattori (National Metrology Institute of Japan, AIST, Japan)
10:50 – 11:10  Application of Precision Standard Timing Instrument on Various Hardness Scales  
Tassanai Sanponpute (National Institute of Metrology (Thailand), Thailand)

11:10 – 11:30  The Calibration and Use of Dental Scaler Tip Vibration Testing Unit  
Chompoonoot Hirunyapruk (National Institute of Metrology (Thailand), Thailand),  
Tassanai Sanponpute (National Institute of Metrology (Thailand), Thailand)

Technical Session: Pressure 3  
Toki Messe [3F] Room 303-304

10:30 – 10:50  Relationship between calibration values of quartz Bourdon-type pressure transducers and density of pressure medium  
Hideaki Iizumi (National Metrology Institute of Japan (NMIJ), AIST, Japan),  
Hiroaki Kajikawa (National Metrology Institute of Japan (NMIJ), AIST, Japan),  
Tokihiko Kobata (National Metrology Institute of Japan (NMIJ), AIST, Japan)

10:50 – 11:10  Proposal of Visualizing System of Grasp Pressure toward Effective Training for Myoelectric Hand Operation  
Takayuki SAIITO (Niigata University, Japan),  
Takashi IMAMURA (Niigata University, Japan)

11:10 – 11:30  Measurement of Sound Waves Induced in Supersonic Flow Field Using Visualized Images  
Hiromasa SUZUKI (Tokyo Metropolitan College of Industrial Technology, Japan),  
Masaki ENDO (Tokyo Denki University, Japan),  
Yoko SAKAKIBARA (Tokyo Denki University, Japan)

Technical Session: Force 2  
Toki Messe [4F] Marine Hall

13:30 – 13:50  Spring back estimation in cold roll forming of wrought magnesium alloys  
Harunori Kobayashi (Tokyo Denki University, Japan),  
Hisaki Watari (Tokyo Denki University, Japan)

Xia Bingyu (Shanghai Institute of Quality Inspection and Technical Research, China),  
Fan Haiting (Shanghai Institute of Quality Inspection and Technical Research, China),  
Hu Zifeng (Shanghai Institute of Quality Inspection and Technical Research, China),  
Tu Chun,  
Li Heliang,  
Lu Xiaoben

14:10 – 14:30  Model of Chiseling Sensation in Force Display Control System for Surgical Training Simulator with Chiseling Operation  
Kentaro Masuyama (University of Yamanashi, Japan),  
Yoshiyuki Noda (University of Yamanashi, Japan),  
Yasumi Ito (University of Yamanashi, Japan),  
Koichiro Ueki (University of Yamanashi, Japan)
14:30 – 14:50 The stiffness measurement of various cantilever with the small force standard based on electromagnetic compensation
Le Ji Jiang (National Institute of Metrology, China),
Yan Hui Zhou (Tianjin University, China),
Kun WU (National Institute of Metrology, China),
Shi WU (National Institute of Metrology, China),
Min Zhi Zhang (National Institute of Metrology, China),
Gang Hu (National Institute of Metrology, China)

Technical Session: Density / Others Toki Messe [3F] Room 303-304

Chair: [-, -]

13:30 – 13:50 Study on density measurement of monocrystalline silicon based on compression heat effect
Jingyue Zhang (National Institute of Metrology, China),
Jiadong Zhong (China Jiliang University, China / National Institute of Metrology, China),
Bin Sun (China Jiliang University, China),
Yuxiao Zhao (China Jiliang University, China),
Xinyu Ma (China Jiliang University, China / National Institute of Metrology, Beijing, China),
Jintao Wang (National Institute of Metrology, China)

13:50 – 14:10 Experimental Verification of Flow Rate Estimation Using Extended Kalman Filter in Tilting-ladle-type Automatic Pouring Machine
Yuta Sueki (University of Yamanashi, Japan),
Yoshiyuki Noda (University of Yamanashi, Japan)

14:10 – 14:30 Design and mise en pratique of a portable subsonic wind tunnel for airspeed metrology
Jeerasak Pitakarnnop (National Institute of Metrology (Thailand), Thailand / Chulalongkorn University, Thailand)
Wednesday, Nov. 20

Poster Session: Toki Messe [4F] Marine Hall

Chair: - [-, -]

9:10 – 10:00

[M-1] Static Removal Capability of Static Eliminator in a Nitrogen Atmosphere and Introducing Quick Ion Technology for Analytical Balance

[M-2] Some thinking about NAWI according to OIML R76
Binghui Ma (Zhejiang Institute of Metrology, Hangzhou, China)

Yuichi Ota (National Institute of Advanced Industrial Science and Technology / National Metrology Institute of Japan (AIST/NMIJ), Japan), Masaaki Ueki (National Institute of Advanced Industrial Science and Technology/National Metrology Institute of Japan (AIST/NMIJ), Japan), Naoki Kuramoto (National Institute of Advanced Industrial Science and Technology/National Metrology Institute of Japan (AIST/NMIJ), Japan)

Lin Tsoo (Center for Measurement Standards, Industrial Technology Research Institute, Taiwan), Yu-Hsin Wu (Center for Measurement Standards, Industrial Technology Research Institute, Taiwan), Sheng-Jui Chen (Center for Measurement Standards, Industrial Technology Research Institute, Taiwan)

[M-5] Development of a combined XRF XPS surface analysis system
Yu-Hsin Wu (Center for Measurement Standards, Industrial Technology Research Institute, Taiwan), Lin Tsoo (Center for Measurement Standards, Industrial Technology Research Institute, Taiwan), Jeng-Yu Chiu (Center for Measurement Standards, Industrial Technology Research Institute, Taiwan), Sheng-Jui Chen (Center for Measurement Standards, Industrial Technology Research Institute, Taiwan)

Kazuaki Fujita (National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology, Japan), Yasuyuki Yamamoto (National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology, Japan), Naoki Kuramoto (National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology, Japan), Kenichi Fujii (National Metrology Institute of Japan (NMIJ), National Institute of Advanced Industrial Science and Technology, Japan)

[M-7] Research on Automatic Electronic Balance Verification System Based on the Robot Technology
Yuanjie Chen (Zhejiang Institute of Metrology), Xinxiong Kong (Zhejiang Institute of Metrology), Chaoyuan Xu (Zhejiang Institute of Metrology), Qun Zhao (Zhejiang Institute of Metrology)

[M-8] Our development for Sub-milligram weights with ISO/IEC17025 certificate
Noboru Murakami (MURAKAMI KOKI CO., LTD., Japan)
[M-9] Performance Test of Fully Automatic Mass Comparator System of Capacity 100 g
Ching-Fen Tuan (Center of Measurement Standards, Industrial Technology Research Institute, Hsinchu, Taiwan),
Sih-Chieh Chen (Center of Measurement Standards, Industrial Technology Research Institute, Hsinchu, Taiwan),
Lin Tsao (Center of Measurement Standards, Industrial Technology Research Institute, Hsinchu, Taiwan)

[M-10] Vibration compensation for checkweigher using dummy load cell
Akinori Tsuzura (Tokyo Denki University, Japan),
Yuji Yamakawa (The University of Tokyo, Japan),
Takanori Yamazaki (Tokyo Denki University, Japan)

[F-1] SIM.M.F-S2 TESTING MACHINE CALIBRATION IN COMPRESSION SIM COMPARISON UP TO 100 kN
Juan Christian Villarroel Poblete (Instituto de Investigaciones y Control del Ejército (IDIC), Santiago, Chile),
Luis Rubén Soto Pinto (Instituto de Investigaciones y Control del Ejército (IDIC), Santiago, Chile),
Josué Batista (Centro Nacional de Metrología de Panamá (CENAMEP AIP), Panamá, Panamá),
Orlando Pinzón (Centro Nacional de Metrología de Panamá (CENAMEP AIP), Panamá, Panamá),
José Kuruc (Centro Nacional de Metrología de Panamá (CENAMEP AIP), Panamá, Panamá)

Sih-Chieh Chen (Center for Measurement Standards, Industrial Technology Research Institute, Hsinchu, Taiwan),
Chung-Lin Wu (Center for Measurement Standards, Industrial Technology Research Institute, Hsinchu, Taiwan),
Weileun Fang (Department of Power Mechanical Engineering, National Tsing Hua University, Hsinchu, Taiwan),
Sheng-Jui Chen (Center for Measurement Standards, Industrial Technology Research Institute, Hsinchu, Taiwan)

[F-3] Performance investigation and comparison of 10 N and 200 N deadweight force standard machines in NIM
Gang Hu (National Institute of Metrology (NIM), Beijing, PR. China),
Jile Jiang (National Institute of Metrology (NIM), Beijing, PR. China),
Kun Wu (National Institute of Metrology (NIM), Beijing, PR. China),
Shi Wu (National Institute of Metrology (NIM), Beijing, PR. China),
Zhimin Zhang (National Institute of Metrology (NIM), Beijing, PR. China)

[F-4] Experimental Study of Estimation Methods of Axle Weights for In-motion Vehicles by Using Miniature Models-Estimation by Use of Weight Signals from Two Detection Units-
Koji Yoshida (Department of Mechanical Systems Engineering, Okayama University of Science, Okayama, Japan),
Kengo Fukuda (Sahatsu Systems Laboratory Inc., Hyogo, Japan),
Tetsuya Kinugasa (Department of Mechanical Systems Engineering, Okayama University of Science, Okayama, Japan),
Ryota Hayashi (Department of Mechanical Systems Engineering, Okayama University of Science, Okayama, Japan)

Hafid (National Standardization Agency of Indonesia (BSN), Tangerang, Indonesia),
Dinar Nurcahyono (National Standardization Agency of Indonesia (BSN), Tangerang, Indonesia),
Nur Tjahyo Eka Darmayanti (National Standardization Agency of Indonesia (BSN), Tangerang, Indonesia)
[F-6] Renovation of NMIJ’s 20 MN Hydraulic Amplification Type and 1 MN Lever Amplification Type Force Standard Machines
Toshiyuki Hayashi (National Metrology Institute of Japan (NMIJ), Tsukuba, Japan), Hiroshi Maejima (National Metrology Institute of Japan (NMIJ), Tsukuba, Japan), Junfang Zhu (National Metrology Institute of Japan (NMIJ), Tsukuba, Japan), Kazunaga Ueda (National Metrology Institute of Japan (NMIJ), Tsukuba, Japan), Hiroshi Otani (Maekawa Testing Machine MFG. Co., Ltd, Tokyo, Japan)

[F-7] Report on the APMP Supplementary Force Comparison in the Range of 100 kN: APMP.M.F-S2.1 (full paper not found)
Min-Seok Kim (Korea Research Institute of Standards and Science (KRISS), Korea)

[F-8] Model-based prediction and control of molten metal pressure inside sand mold in press casting process
Rintaro Suzuki (Department of Mechanical Engineering, Aoyama Gakuin University, Kanagawa, Japan), Ryosuke Tasaki (Department of Mechanical Engineering, Aoyama Gakuin University, Kanagawa, Japan)

[F-9] Dynamic Behavior of Feed Drive Systems using Different Linear Guideways
Kazuma Tanaka (Tokyo Denki University, Japan), Takanori Yamazaki (Tokyo Denki University, Japan)

[T-1] Calibration of Torque Measuring Devices Using the Reference Type Torque Calibration Machine in JQA
Yusuke TODA (Japan Quality Assurance Organization, Aichi, Japan), Takahiro KUROKAWA (Japan Quality Assurance Organization, Aichi, Japan), Hiroki TESHIGAWARA (Spectris Co., Ltd., Tokyo, Japan), Koji OGUSHI (National Metrology Institute of Japan, AIST, Ibaraki, Japan)

[T-2] The design and the development of 1 kN·m torque standard machine in National Institute of Metrology, China
Le Ji JIANG (Laboratory of Force and Torque, Division of Mechanics and Acoustics, National Institute of Metrology, China), Kun WU, Bin Guo, Shi WU, Min Zhi Zhang, Gang Hu

[T-3] Development of a low nominal capacity reference torque calibration machine
Atsuhiro Nishino (National Metrology Institute of Japan (NMIJ), AIST, Tsukuba, Japan), Misaki Kiuchi (National Metrology Institute of Japan (NMIJ), AIST, Tsukuba, Japan), Koji Ogushi (National Metrology Institute of Japan (NMIJ), AIST, Tsukuba, Japan)

[T-4] Torque Calibration Machine with binary mass register for widest range 1 mN·m to 262.143 mN·m
Steffen Hohmann (CEH, Calibration Engineering Hohmann, Germany), Tobias Keidel (CEH, Calibration Engineering Hohmann, Germany)

[P-1] Experimental Evaluation of a PTB Force-Balanced Piston Gauge
Ahmed S. Hashad (National Institute for Standards (NIS), Egypt / Physikalisch-Technische Bundesanstalt (PTB), Germany), Wladimir Sabuga (Physikalisch-Technische Bundesanstalt (PTB), Germany), Sven Ehlers (Physikalisch-Technische Bundesanstalt (PTB), Germany), Thomas Bock (Physikalisch-Technische Bundesanstalt (PTB), Germany)
[P-2] Computational Fluid Dynamics Simulation to Determine Frequency Characteristics of a Pressure Sensor with a Semi-Closed Structure
Taiju Toriyama (Graduate School of Science and Technology, Niigata University, Japan),
Hana Ono (Graduate School of Science and Technology, Niigata University, Japan),
Naoto Takaoka (Graduate School of Science and Technology, Niigata University, Japan),
Masashi Ohkawa (Faculty of Engineering, Niigata University, Japan)

[P-3] Pressure control in the MSL Kibble balance (full paper not found)
Rebecca Hawke

[P-4] In-situ high-pressure viscosity measurement of dioctyl sebacate using two pressure balances
Tomoya Muramoto (National Metrology Institute of Japan, National Institute of Advanced Industrial Science and Technology, Japan),
Yoshitaka Fujita (National Metrology Institute of Japan, National Institute of Advanced Industrial Science and Technology, Japan),
Hiroaki Kajikawa (National Metrology Institute of Japan, National Institute of Advanced Industrial Science and Technology, Japan),
Hideaki Iizumi (National Metrology Institute of Japan, National Institute of Advanced Industrial Science and Technology, Japan),
Kazunori Ide (National Metrology Institute of Japan, National Institute of Advanced Industrial Science and Technology, Japan)

[P-5] Trial on-ship calibration of pressure gauges used as bathometers
Hiroaki Kajikawa (National Metrology Institute of Japan (NMIJ), AIST, Japan),
Hideaki Iizumi (National Metrology Institute of Japan (NMIJ), AIST, Japan),
Tokihiko Kobata (National Metrology Institute of Japan (NMIJ), AIST, Japan)

[P-6] Proposal of Customizable Racing Saddle of Bicycle depending on Bicycle Usage and Rider’s Body Shape
Hina Sawaguchi (Graduate school of Science and Technology, Niigata University, Japan),
Manabu Hashimoto (Graduate school of Science and Technology, Niigata University, Japan),
Takashi IMAMURA (Faculty of Engineering, Niigata University, Japan)

[V-1] Development of vacuum gauge and calibration technology
Munenori Suzuki (Department of Research & Development Division, ULVAC, Inc., Kanagawa, Japan)

[H-1] Analysis of Mechanical Properties of Vulcanized Rubber under Variable Temperature Environment
Shi Wei (Changcheng Institute of Metrology and Measurement, Beijing, China),
Zhang Kailin (Beihang University, Beijing, China),
Tan Zhixue (Industrain (Ningbo) Infotech Co., Ltd., Ningbo, China),
Chen Junxin (Quanzhou Fengze Donghai Instrument Hardness Block Factory, Quanzhou, China)

[G-1] High Precision Vertical Gradient measurement in the 10th International Comparison of Absolute Gravimeters
Ruo Hu (National Institute of Metrology, China) Jinyang Feng (National Institute of Metrology, China),
Shu-qing Wu (National Institute of Metrology, China),
Duo-wu Su (National Institute of Metrology, China),
Shan-liang Liu (National Institute of Metrology, China)

[G-2] Gravity gradient measurement based on double free fall corner cubes
Qiuyu WANG (National Institute of Metrology, Beijing, P. R. China),
Jinyang FENG (National Institute of Metrology, Beijing, P. R. China),
Shu-qing WU (National Institute of Metrology, Beijing, P. R. China),
Chunjian LI (National Institute of Metrology, Beijing, P. R. China),
Duo-wu SU (National Institute of Metrology, Beijing, P. R. China),
Ruo HU (National Institute of Metrology, Beijing, P. R. China)
Dynamic Measurement of a Human Hand Motion with Noise Elimination and Slow Motion Detection Algorithms Using a 1 kHz Vision

Takahiro Asano (The University of Tokyo, Japan),
Yuji Yamakawa (The University of Tokyo, JST, PRESTO, Japan)