Friday, July 8, 2016

09:00 - 17:00  Satellite Meeting (By Invitation Only)
Executive Level
CCM Working Group on the Realisation of the Kilogram (CCM WGR-kg) (By Invitation Only)
Birch Room - Executive Level
Chair: Horst Bettin, PTB

Saturday, July 9, 2016

09:00 - 17:30  Satellite Meetings (By Invitation Only)
Executive Level
CCEM Working Group on the Electrical Methods to Monitor the Stability of the Kilogram (By Invitation Only)
Oak Room - Executive Level
Chair: Ian Robinson, National Physical Laboratory

16:00 - 17:00  Power and Energy Experts Meeting (By Invitation Only)
Maple Room - Executive Level
Chair: Paul Wright, NPL

Sunday, July 10, 2016

12:00 - 20:30  Registration
Nunavut

14:00 - 15:30  Satellite Meetings (By Invitation Only)
Executive Level
Informal Meeting of the APMP TCEM (By Invitation Only)
Oak Room - Executive Level
Chair: Murray Early, Measurement Standards Laboratory of New Zealand

CCEM Working Group of Regional Metrology Organisations (WG-RMO) (By Invitation Only)
Birch Room - Executive Level
Chair: Ilya Budovsky, National Measurement Institute Australia

Informal EURAMET SCLF meeting (By Invitation Only)
Maple Room - Executive Level
Chair: Jürgen Melcher, PTB

18:00 - 20:30
Welcome Reception
Provinces & Confederation Foyer

Monday, July 11, 2016

07:00 - 18:30
Registration
Nunavut

08:30 - 09:00
Opening Session
Governor General Ballroom

09:00 - 09:45
Plenary Mo-PL1: Quantum-based Voltage Metrology with Superconducting Josephson Devices at NIST
Governor General Ballroom
Presenting Author: Sam Benz, National Institute of Standards and Technology

09:45 - 10:00
Group Picture
Governor General Ballroom

10:00 - 18:00
Exhibition
Confederation Foyer

10:00 - 10:30
Coffee Break
Confederation Foyer

10:30 - 12:30
Mo-1 Voltage I
Governor General Ballroom
Chair: Alain Rufenacht, NIST

Investigations on Extending the Frequency Range of PJVS based AC Voltage Calibrations
Presenting Author: Waldemar Guilherme Kürten Ihlenfeld,

Further Investigation for Piecewise Sampling to Overcome Transient Effect of Staircase Waveform
Presenting Author: Yan Yang, National Institute of Metrology

Stable arbitrary waveform generator as a transfer standard for ADC calibration
Presenting Author: Jaani Nissila, VTT Technical Research Center of Finland Ltd,

Characterization of the frequency response of Analog-to-Digital Converters
Presenting Author: Javier Diaz de Aguilar, Centro Español de Metrología (CEM)

Development of high precision voltage dividers and buffer for AC voltage metrology up to 1 MHz
Presenting Author: Bjørnar Karlsen, Justervesenet

Design of delta-sigma feedback loop for quantum voltage digitizer
Presenting Author: Jane Ireland, National Physical Laboratory
INMETRO
Centre for Metrology
MIKES

10:30 - 12:30
Mo-2 Power and Energy I
Provinces I
Chair: Gerald FitzPatrick, NIST
Power Quality
Propagations
Measurements in Smart
Grids
Presenting Author: Paul
Wright, NPL

A Reference Merging
Unit and Calibration
Setup for Sampled
Values over Ethernet
Presenting Author: Gert
Rietveld, VSL

Accurate Phase
Calibration of PMUs and
Quality and Stability
PMU Calibrators
Presenting Author: Paul
Wright, NPL

Smart Grid Power
Measurements in
Europe
Presenting Author: Francisco Messina,
Facultad de Ingeniería,
Universidad de Buenos
Aires, Argentina

10:30 - 12:30
Mo-3 Radio Frequency / Microwave I
Provinces II
Chair: Luciano Brunetti, Istituto Nazionale di Ricerca Metrologica (INRIM)
Mechanical Aspects in
mm-wave
Measurements
Presenting Author: Markus Zeier, METAS

Comparative Modeling
of Thermal Isolation
Section in a
Rectangular Waveguide
Microcalorimeter
Presenting Author: Xiaohai Cui, National
Institute of Metrology,
China

A Nonlinear Verification
Device for Nonlinear
Vector Network
Analizers
Presenting Author: Jae-
Yong Kwon, KRISS

Improvement of
Uncertainty Analysis for
Waveguide VNA
Measurement at
Terahertz Frequency
Presenting Author: Ant
Widarta, National
Metrology Institute of
Japan

12:30 - 14:00
Lunch
Confederation II & III

14:00 - 14:20 14:20 - 14:40 14:40 - 15:00 15:00 - 15:20 15:20 - 15:40 15:40 - 16:00

14:00 - 16:00
Mo-4 Quantum Standards I
Governor General Ballroom
Chair: Jan-Theodoor Janssen, National Physical Laboratory
From AC Quantum
Voltmeter to Quantum
Calibrator
Presenting Author: Jinni
Lee, Physikalisch-
Technische
Bundesanstalt

Simultaneous Double
Waveform Synthesis
with a Single
Programmable
Josephson Voltage
Standard
Presenting Author: Yi-
hua Tang, National
Institute of Standards

10 Volt Automated
Direct Comparison of
Two Cryocooled
Programmable
Josephson Voltage
Standards
Presenting Author: Alain
14:00 - 16:00  
**Mo-5 Impedance I**  
Provinces I  
Chair: Rado Lapuh, Metrology Institute of The Republic of Slovenia  
Reference Micropotentiometer Resistors for AC-DC Transfer and Phase Error Measurements  
Presenting Author: Luca Callegaro, Istituto Nazionale di Ricerca Metrologica (INRIM)  
Presenting Author: Ilya Budovsky, National Measurement Institute Australia  
The frequency dependence of a 10 nF gas-dielectric capacitor An AC-DC Resistor based on a silicon wafer Uncertainty Evaluation using the Monte-Carlo Method Traceable DC – 18 GHz Impedance measurements up to 13 MHz  
Presenting Author: Kwang Min Yu, Korea Research Institute of Standards and Science(KRISS)  
Presenting Author: Hyung-Kew Lee, KRISS  
Presenting Author: Gert Rietveld, VSL  
14:00 - 16:00  
**Mo-6 Current I**  
Provinces II  
Chair: Jari Hällström, MIKES-VTT  
Ultrastable Low-Noise Current Amplifiers With Extended Range and Improved Accuracy  
Presenting Author: Dietmar Drung, Physikalisch-Technische Bundesanstalt (PTB)  
A New Generation of Multijunction Thermal Current Converters  
Improvements in the Performance of a Calibration System for Rogowski Coils at High Pulsed Currents  
Expansion of the Measurement Range of AC Shunt Resistor Standard  
Development of High Current Shunts of Cage Design with Active Cooling  
A DCCT-Based 100-A DC Current Source With High Stability  
Presenting Author: Thomas Lipe, NIST  
Presenting Author: Branislav Djokic, National Research Council Canada  
Presenting Author: Seitaro Kon, AIST,NMIJ  
Presenting Author: Věra Nováková Zachovalová, Institute of Metrology Czech Metrology Institute  

16:00 - 16:45  
**Coffee Break**  
Confederation Foyer  
16:00 - 18:00  
**Poster Sessions: Mo-PS1 to PS9**  
Provinces I  
18:00 - 19:30  
**Satellite Meeting (By Invitation Only)**  
Executive Level  
Meeting of the Supplementary Comparison EURAMET.EM-S31 (By Invitation Only)  
Birch Room - Executive Level  
Chair: Juergen Schurr, PTB  

**Tuesday, July 12, 2016**  
07:30 - 18:30  
**Registration**  
Nunavut
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Chair/Presenter</th>
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</thead>
<tbody>
<tr>
<td>08:30 - 09:15</td>
<td><strong>Kibble Plenary Tu-PL2:</strong> Nature never deals off of the bottom of the deck... but she holds all of the aces: The joys of doing precision measurement science</td>
<td>Governor General Ballroom</td>
<td>Presenting Author: James Faller, The University of Colorado, and the University of Glasgow</td>
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<tr>
<td>09:15 - 10:00</td>
<td><strong>Kibble Plenary Tu-PL2:</strong> Precision Atom Interferometry</td>
<td>Governor General Ballroom</td>
<td>Presenting Author: Mark Kasevich, Stanford University</td>
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<tr>
<td>10:00 - 18:00</td>
<td><strong>Exhibition</strong></td>
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<tr>
<td>10:00 - 10:30</td>
<td><strong>Coffee Break</strong></td>
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<tr>
<td>10:30 - 12:30</td>
<td>Tu-1 Watt Balances I</td>
<td>Governor General Ballroom</td>
<td>Chair: Beat Jeckelmann, Federal Institute of Metrology METAS</td>
</tr>
<tr>
<td></td>
<td>First mass measurements with the NIST-4 watt balance</td>
<td></td>
<td>Presenting Author: Ali Eichenberger, METAS</td>
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<td>The METAS Watt Balance MARK II</td>
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<td>Presenting Author: Barry Wood, National Research Council Canada</td>
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<tr>
<td></td>
<td>Noise Reductions in the NRC Watt Balance</td>
<td></td>
<td>Presenting Author: Zhengkun Li, National Institute of Metrology (P. R. China)</td>
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<tr>
<td></td>
<td>The Construction of the New Joule Balance at the NIM</td>
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<td>Presenting Author: Hao Fang, BIPM</td>
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<td></td>
<td>Progress on the BIPM watt balance</td>
<td></td>
<td>Presenting Author: Ian Robinson, National Physical Laboratory</td>
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<td></td>
<td>Towards the next generation NPL watt balance</td>
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<tr>
<td>10:30 - 12:30</td>
<td>Tu-2 Power &amp; Energy II</td>
<td>Provinces I</td>
<td>Chair: Thomas Nelson, NIST</td>
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<td></td>
<td>Comparison of Two Realisations of a Power Standard</td>
<td></td>
<td>Presenting Author: Ilya Budovsky, National Measurement Institute Australia</td>
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<td>A computer-controlled calibrator for instrument transformer test sets</td>
<td></td>
<td>Presenting Author: Christian Mester, Federal Institute of Metrology METAS</td>
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<td></td>
<td>Calibration of Electronic Transformer with Digital Output Based on Synchronous Sampling</td>
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<td>Presenting Author: Yang Pan, Shanghai Institute of Measurement and Testing Technology</td>
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<td></td>
<td>Precision Loss Measurement of Reactive Compensation Components by Sampling Voltage and Current</td>
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<td>Presenting Author: Enrico Mohns, PTB</td>
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<tr>
<td></td>
<td>An AC Current Transformer Measuring System for Power Frequencies</td>
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<td>Presenting Author: Wei Zhao, National Institute of Metrology, China</td>
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<td>Development of HF Power Source for the Calibration of Electrosurgical Analyzer</td>
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<tr>
<td>10:30 - 12:30</td>
<td>Tu-3 Time and Frequency I</td>
<td>Provinces II</td>
<td>Chair: Mikko Merimaa, VTT Technical Research Centre of Finland Ltd.</td>
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<td>QPN Limited Stability</td>
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<td>Presenting Author: Operational Strontium</td>
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<td>Progress toward a new Operational Cryogenic</td>
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<td>Presenting Author: Sub-Doppler laser</td>
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<td>Sub-Doppler laser</td>
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<td>Presenting Author: Dependence of Scale</td>
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<td>12:30 - 14:00</td>
<td>Lunch</td>
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<td>14:00 - 16:00</td>
<td>Poster Sessions: Tu-PS1 to PS8</td>
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<td>14:30 - 15:15</td>
<td>Coffee Break</td>
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<tr>
<td>16:00 - 18:00</td>
<td>Tu-4 Quantum Standards II</td>
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<td>16:00 - 18:00</td>
<td>Tu-5 Impedance II</td>
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### Tu-4 Quantum Standards II Governor General Ballroom

**Chair:** Stephane Solve, BIPM

- **2 Volt Pulse-Driven Josephson Arbitrary Waveform Synthesizer**
  - Presenting Author: Nathan Flowers-Jacobs, NIST
  - Presentation: 2 Volt Pulse-Driven Josephson Arbitrary Waveform Synthesizer

- **First Metrological Applications of the PTB**
  - Presenting Author: Luis Palafox-Gámir, PTB
  - Presentation: First Metrological Applications of the PTB

- **Direct Comparison of a 1 V Josephson Arbitrary Waveform Synthesizer and a PJVS at 1 Volt**
  - Presenting Author: Alain Rufenacht, NIST
  - Presentation: Direct Comparison of a 1 V Josephson Arbitrary Waveform Synthesizer and a PJVS at 1 Volt

- **Precision µV-Synthesizer Based on a Pulse-driven Josephson Voltage Standard Operated in a Small Cryostat**
  - Presenting Author: Ralf Behr, Physikalisch-Technische Bundesanstalt
  - Presentation: Precision µV-Synthesizer Based on a Pulse-driven Josephson Voltage Standard Operated in a Small Cryostat

- **AC-DC Calibrations With a Pulse-driven AC Josephson Voltage Standard in a Zero Boil-off Dewar**
  - Presenting Author: Helko van den Brom, VSL
  - Presentation: AC-DC Calibrations With a Pulse-driven AC Josephson Voltage Standard in a Zero Boil-off Dewar

### Tu-5 Impedance II Provinces I

**Chair:** Luca Callegaro, Istituto Nazionale di Ricerca Metrologica (INRIM)

- **Measurement of Time Constant of Four-terminal Resistor Based on Dissipation Factor**
  - Presenting Author: Jian Feng, Shanghai Institute of Measurement and Testing Technology
  - Presentation: Measurement of Time Constant of Four-terminal Resistor Based on Dissipation Factor

- **Improvements on the Design of a Four Terminal-Pair Coaxial Bridge**
  - Presenting Author: Gean Geronymo, Inmetro
  - Presentation: Improvements on the Design of a Four Terminal-Pair Coaxial Bridge

- **Transport Behaviour and Stability of Inductors for International Comparisons**
  - Presenting Author: Jürgen Melcher, PTB
  - Presentation: Transport Behaviour and Stability of Inductors for International Comparisons

- **Calibration of a LCR-Meter at Arbitrary Phase Angles using a Fully Automated Impedance Simulator**
  - Presenting Author: Frédéric Overney, Federal Institute of Metrology METAS
  - Presentation: Calibration of a LCR-Meter at Arbitrary Phase Angles using a Fully Automated Impedance Simulator

- **Development of a Programmable small capacitance standard at LNE**
  - Presenting Author: Olivier Thévenot, Laboratoire National de métrologie et d'Essais
  - Presentation: Development of a Programmable small capacitance standard at LNE

- **Implementation of a Programmable Josephson Voltage Standard in a Zero Boil-off Dewar**
  - Presenting Author: Tom Stewart, Measurement Standards Laboratory of New Zealand
  - Presentation: Implementation of a Programmable Josephson Voltage Standard in a Zero Boil-off Dewar
16:00 - 18:00

**Tu-6 Radio Frequency / Microwave II**
Provinces II
Chair: Masahiro Horibe, NMIJ / AIST

Thermoelectric Power Transfer Standards for V- and W-Band
Presenting Author: Rolf Judaschke, PTB

Characterization of high-Temperature Control of Waveguide Extenders using a laser-based vector network analyzer
Presenting Author: Johannes Hoffmann, Struszewski, Physikalisch-Technische Bundesanstalt

Uncertainty Evaluation of Balanced S Parameter Measurements
Presenting Author: Francois Ziadé, LNE

Development of Verification Process for On-Wafer Measurement Power up to 18 GHz at Millimeter-Wave Frequency
Presenting Author: Mariano Botello-Perez, CENAM

Uncertainty Evaluation of Balanced S-Parameter Measurements
Presenting Author: Francois Ziadé, LNE

Characterization of high-Temperature Control of Waveguide Extenders using a laser-based vector network analyzer
Presenting Author: Johannes Hoffmann, Struszewski, Physikalisch-Technische Bundesanstalt

18:00 - 18:30

Satellite Meetings (By Invitation Only)
Executive Level
EURAMET EM, DC & Quantum Metrology Experts Meeting (By Invitation Only)
EURAMET TC-EM Working Group on Strategic Planning WGSP (By Invitation Only)
Chair: Jan-Theodoor Janssen, National Physical Laboratory
Oak Room - Executive Level
Chair: Luca Callegaro, Istituto Nazionale di Ricerca Metrologica (INRIM)

18:00 - 19:30

Satellite Meetings (By Invitation Only)
Executive Level
EURAMET EM, DC & Quantum Metrology Experts Meeting (By Invitation Only)
EURAMET TC-EM Working Group on Strategic Planning WGSP (By Invitation Only)
Chair: Jan-Theodoor Janssen, National Physical Laboratory
Oak Room - Executive Level
Chair: Luca Callegaro, Istituto Nazionale di Ricerca Metrologica (INRIM)

Wednesday, July 13, 2016

07:30 - 18:30
Registration
Nunavut

08:30 - 09:15
Plenary We-PL3: Linking the International System of Units to Fundamental Constants
Governor General Ballroom
Presenting Author: Joachim Ullrich, Physikalisch-Technische Bundesanstalt

09:15 - 10:00
Plenary We-PL3: Optical atomic clock
Governor General Ballroom
Presenting Author: Jun Ye, National Institute of Standards and Technology and University of Colorado

10:00 - 18:00
Exhibition
Confederation Foyer

10:00 - 10:30
Coffee Break
Confederation Foyer

10:30 - 10:50
Exhibition
Confederation Foyer

10:50 - 11:10
Coffee Break
Confederation Foyer

11:10 - 11:30
Exhibition
Confederation Foyer

11:30 - 11:50
Coffee Break
Confederation Foyer

11:50 - 12:10
We-1 Quantum Standards III
Governor General Ballroom

12:10 - 12:30
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Room</th>
<th>Chair</th>
<th>Presenting Authors</th>
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<tbody>
<tr>
<td>10:30 - 12:30</td>
<td>We-2 Impedance III</td>
<td>Provinces I</td>
<td>Chair: Ralf Behr, PTB</td>
<td>Impedance Bridge Based on Pulse-Driven Josephson Arrays for Arbitrary Impedance Ratios Presenting Author: Stephan Bauer, Physikalisch-Technische Bundesanstalt Systematic Error Analysis in a Josephson Impedance Bridge Josephson-Based Full Digital Bridge for High-Accuracy Impedance Comparisons Presenting Author: Thomas Hagen, PTB</td>
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<td>Josephson-Based Full Digital Bridge for High-Accuracy Impedance Comparisons Presenting Author: Thomas Hagen, PTB</td>
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<td>A three-arm 4TP digitally-assisted bridge for the comparison of arbitrary impedances Presenting Author: Massimo Ortolano, Politecnico di Torino</td>
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<td>Large Capacitance Measurement System Based on Dual Balance Bridge Presenting Author: You Xu, Beijing Oriental Institute of Measurement and Test</td>
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<td>12:30 - 14:00</td>
<td>Lunch</td>
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<td>Session</td>
<td>Topic</td>
<td>Presenting Author</td>
<td>Institution/Institute</td>
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<tr>
<td>We-5</td>
<td>Mass measurement of 28Si-enriched spheres at NMIJ for determination of the Avogadro constant</td>
<td>Shigeki Mizushima, National Metrology Institute of Japan</td>
<td>Presenting Author: Corey Stambaugh, National Institute of Standards and Technology</td>
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<td>Results from the Magnetic Suspension Mass Comparator for Vacuum-to-Air Mass Dissemination</td>
<td>Presenting Author: Patrick Abbott, NIST</td>
<td>Presenting Author: Kwang-Cheol Lee, KRISS</td>
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<td>Comparison of two methods for determining the sorption correction for a vacuum-realized kilogram</td>
<td>Presenting Author: Zhuang Fu, Tsinghua University</td>
<td>Presenting Author: Kazuaki Fujita, National Metrology Institute of Japan / National Institute of Advanced Industrial Science and Techno</td>
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<tr>
<td></td>
<td>Improvements of A Kilogram Level Inertial Mass Measurement Experiment</td>
<td>Presenting Author: Domenico Giordano, Istituto Nazionale di Ricerca Metrologica</td>
<td>Presenting Author: Javier Diaz de Aguilar, Centro Español de Metrología (CEM)</td>
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<td>Piston Guide and Magnet Assembly for the KRISS Watt Balance</td>
<td>Presenting Author: Hongtao Huang, National Institute of Metrology</td>
<td>Presenting Author: Jan-Theodoor Janssen, National Physical Laboratory</td>
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<td>Surface layer analysis of Si spheres both in vacuum and in air by an improved ellipsometer</td>
<td>Presenting Author: Jian Feng, Shanghai Institute of Measurement and Testing Technology</td>
<td>Presenting Author: Antti Manninen, VTT Technical Research Centre of Finland Ltd</td>
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</tbody>
</table>

**We-5 Power & Energy III**

**14:00 - 16:00**

**We-6 Resistance I**

**14:00 - 16:00**

**Coffee Break**

Confederation Foyer

**16:00 - 18:00**

**Poster Sessions: We-PS1 to PS7**

Confederation I
18:15 - 19:00  Transportation from the Westin to the Banquet Venue
               Canadian Museum of History
19:00 - 21:00  Banquet at the Canadian Museum of History
               Canadian Museum of History
21:00 - 21:30  Transportation from the Banquet Venue to the Westin
               Canadian Museum of History

Thursday, July 14, 2016

08:00 - 18:30  Registration
               Nunavut
               08:30 - 10:10  Th-1 Voltage III
               Governor General Ballroom
               Chair: Yi-hua Tang, National Institute of Standards and Technology
               Measurement of Boltzmann Constant Using Superconducting Integrated Circuit
               Presenting Author: Chiharu Urano, National Institute of Advanced Industrial Science and Technology
               Accuracy of the New Voltage Standard Using Josephson Junctions Cooled to 77 K
               Presenting Author: Alexander Klushin, Institute for Physics of Microstructures of the Russian Academy of Sciences (IPM RAS)
               Temperature sensitivity coefficients of the BIPM secondary voltage standards
               Presenting Author: Stephane Solve, BIPM
               Development of a Compact Zener DC Voltage Standard with Detachable Module System
               Presenting Author: Nobu-Hisa Kaneko, NMIJ/AIST
               Digital Phase Standard of High Accuracy up to the MHz-Range
               Presenting Author: Waldemar Guilherme Kürten Ihlenfeld, INMETRO

08:30 - 10:10  Th-2 Power & Energy IV
               Provinces I
               Chair: Eddy So, National Research Council Canada
               Study on High-Frequency Power Calibration Technology for Electrosurgical Analyzer
               Presenting Author: Wei Zhao, National Institute of Metrology, China
               Phase Shift Correction of Reference Sampling Multimeter for Electronic Transformer Calibration
               Presenting Author: Yang Pan, Shanghai Institute of Measurement and Testing Technology
               Upgrade of Accuracy and Traceability the SP Sampling Wattmeter
               Presenting Author: Stefan Svensson, SP National Research Inst. of Sweden
               Traceability and On-Site Calibration of the NRC-MSS Depolarization Transformer under Actual Waveforms
               Presenting Author: Refat Ghunem, National Research Council Canada
               Frequency Calibration of MV Voltage Current Measurements
               Presenting Author: Gabriella Crotti, Istituto Nazionale di Ricerca Metrologica

08:30 - 10:10  Th-3 Impedance IV
               Provinces II
Determination of impedance meter nonlinearity with a capacitance build-up method

Presenting Author: Faranak Pourdanesh, Istituto Nazionale di Ricerca Metrologica (INRIM); Politecnico di Torino

The Optimal Hollow Active Auxiliary Electrode and Its Additional Functions Research

Presenting Author: Lu Huang, National Institute of Metrology, China

Evaluation of a Continuously Variable Calculable Capacitor

Presenting Author: Yicheng Wang, NIST

Progress Report on Measuring the von Kitzing Constant at the BIPM

Presenting Author: Pierre Gournay, BIPM

Progress report on the determination of RK at LNE

Presenting Author: Olivier Thévenot, Laboratoire National de métrieologie et d’Essais

10:00 - 16:00 Exhibition
Confederation Foyer

10:00 - 10:30 Coffee Break
Confederation Foyer


Th-4 Quantum Standards IV
Governor General Ballroom

Chair: Nick Fletcher, Bureau International des Poids et Mesures (BIPM)

Universality test of the quantum Hall effect on topological insulator

Presenting Author: Tetsuro Misawa, NMIJ, AIST

Direct Comparison of Fractional and Integer Quantized Hall Resistances: Status and Perspectives

Presenting Author: Franz Ahlers, PTB

Development of 1-MQ Quantum Hall Array Resistances Based on Nanobridge Junctions

Presenting Author: Takehiko Oe, NMIJ/AIST

Investigation of Niobium nanoSQUIDs Based on Nanobridge Junctions

Presenting Author: Xueshen Wang, National Institute of Metrology

A direct DC 10 V comparison between the NIMJ and the BIPM Programmable Josephson Voltage Standards

Presenting Author: Stephane Solve, BIPM

Characterization of High-Stability AC Source Using AC-PJVS

Presenting Author: Yasutaka Amagai, National Metrology Institute of Japan

10:30 - 12:30 Th-5 Time and Frequency II
Provinces I

Chair: François Nez, Laboratoire Kastler Brossel /CNRS/UPMC/ENS

Study of the OP-PTB Link by Carrier-Phase Two-Way Satellite Time and Frequency Transfer

Presenting Author: Joseph Achkar, LNE-SYRTE / Observatoire Information and

Current Status of Terahertz Frequency Metrology at NICT

Presenting Author: Motohiro Kumagai, National Institute of Information and

NIST on a Chip with Alkali Vapor Cells: Initial Results

Presenting Author: John Kitching, NIST

Iodine Absorption Cells: Initial Quality Evaluation

Presenting Author: Jan Hrabina, Institute of Scientific Instruments v.v.i., Czech Academy of Sciences

Laser Refractometer as a Transfer Standard of the Pascal

Presenting Author: Patrick Egan, NIST

Using small mass and force metrology for laser power measurement

Presenting Author: Gordon Shaw, U.S. National Institute of Standards and
10:30 - 12:30  
**Th-6 Radio Frequency / Microwave III**  
Provinces II  
Chair: Ron Ginley, NIST  
Comparison between time- and frequency-domain high-frequency device characterizations  
Presenting Author: Mark Bieler, Physikalisch-Technische Bundesanstalt  
Comparison of Calibration Methods for Multiport VNAs up to 67 GHz  
Presenting Author: Djamel Allal, Laboratoire National de Métrologie et d’Essais (LNE), Trappes, France  
Quantum Based RF E-field Sensing by Using Two-photon Transition in Rydberg Atoms  
Presenting Author: Zhenfei Song, National Institute of Metrology (NIM), China  
Measurement Uncertainty of Free Space Antenna Factor for BI-log Antenna Using Amplitude Center  
Presenting Author: Satoru Kurokawa, National Institute of Advanced Industrial Science and Technology of Japan  
Investigation of Peak Envelope Power Measurements and Uncertainties  
Presenting Author: Yu Song Meng, National Metrology Centre, A*STAR  
A Signal Processing Approach for Recovery of High-Q Dielectric Resonance Profile Measurements  
Presenting Author: Brian O'Keefe, Tufts University

12:30 - 14:00  
**Lunch**  
Confederation II & III

12:30 - 15:00  
**Satellite Meetings (By Invitation Only)**  
Executive Level  
CEPM Executive Committee Meeting (By Invitation Only)  
Chair: Dean Jarrett, National Institute of Standards and Technology  
ACQ-PRO Project Meeting  
Chair: Javier Diaz de Aguilar, Centro Español de Metrología (CEM)

14:00 - 16:00  
**Poster Sessions: Th-PS1 to PS8**  
Confederation I

14:30 - 15:15  
**Coffee Break**  
Confederation Foyer

16:00 - 18:00  
**Exhibition Teardown**  
Confederation Foyer

16:00 - 18:00  
**Th-7 Fundamental Constants II**  
Governor General Ballroom  
Chair: Peter Mohr, NIST  
Laser spectroscopy of muonic deuterium: new contribution to the improved spectral aberration in Johnson Noise Thermometry  
High Resolution Spectroscopy of 1S-3S Transition in Hydrogen  
Upgrading the NIST Electrostatic Force Balance  
An Oscillating Magnet Watt Balance  
Towards a test of the Weak Equivalence Principle of gravity using
proton puzzle
Presenting Author: Alessio Pollarolo, NIST
Presenting Author: Hélène Fleurbaey, Laboratoire Kastler Brossel / CNRS / UPMC / ENS

16:00 - 18:00
**Th-8 Resistance II**
**Provinces I**

Chair: Murray Early, Measurement Standards Laboratory of New Zealand

Third Generation of Adapted Wheatstone Bridge for High Resistance Measurements at NIST
Presenting Author: Shamith Payagala, NIST/JQI, USA

Ultra-High Resistance Measurement Based on Non-Contact Electrostatic Voltmeter
Presenting Author: Feipeng Lin, National Institute of Metrology, China

Development of an AC Current Comparator Based Resistance Measurement System
Presenting Author: Waldemar Kürten Ihlenfeld, INMETRO, Brazil

Development of 1 Ω and Evaluation of the 10 Ω Metal Foil Based Resistance Standard Resistor
Presenting Author: Nobu-Hisa Kaneko, NMIJ/AIST, Japan

Quantum Hall Resistance Traceability for the NIST-4 Watt Balance
Presenting Author: Dean Jarrett, National Institute of Standards and Technology, USA

16:00 - 18:00
**Th-9 Novel Sensors / Magnetics**
**Provinces II**

Chair: Po Gyu Park, Korea Research Institute of Standards and Science (KRISS)

Time-resolved detection methods for characterization and minimization of microwave background of the berry curvature in GaAs nanostructures
Presenting Author: Mark Bieler, Physikalisch-Technische Bundesanstalt

Analysis of Heat Loss for Measurement of Thomson Coefficient Using AC Calorimetric Method
Presenting Author: Janne Lehtinen, VTT Technical Research Centre of Finland Ltd

Coplanar Capacitive sensor for Measuring Horizontal Displacement in Joule Balance
Presenting Author: Yang Bai, Harbin Institute of Technology, China

Identification and correction of artefact in the measurement of pulsed magnetic fields
Presenting Author: Domenico Giordano, Istituto Nazionale di Ricerca Metrologica, Italy

Digital Control of Magnetic Induction Waveform Applied to Silicon Steel Sheets Characterization
Presenting Author: Matheus Pinheiro, Universidade Federal de Goiás, Brazil

Friday, July 15, 2016

08:00 - 11:30
**Registration**
Nunavut

08:30 - 10:30
**Fr-1 Avogadro I**
Governor General Ballroom
Chair: Michael Stock, BIPM
The new Kilogram Materialized by Silicon Isotopes
Presenting Author: Frank Haertig, Physikalisch-Technische Bundesanstalt

Realization of the Kilogram Based on the Planck Constant at NMIJ
Presenting Author: Naoki Kuramoto, National Institute of Advanced Industrial Science and Technology

A Two Thickness Interferometer for Lattice Strain Investigations
Presenting Author: Enrico Massa, INRIM - Istituto Nazionale di Ricerca Metrologica

Surface characterization Measurement of silicon spheres by combined XRF and XPS sphere interferometer analysis after more than a decade
Presenting Author: Michael Kolbe, Physikalisch-Technische Bundesanstalt

Comparison of Mean Diameters of Si-Spheres Measured with both PTB-Sphere Interferometers
Presenting Author: Torsten Mai, Physikalisch-Technische Bundesanstalt

08:30 - 10:30
Fr-2 Power & Energy V
Provinces I
Chair: Enrico Mohns, PTB

A Buildup Method for Determining the Voltage Coefficient of High Voltage Resistors
Presenting Author: Harold Parks, National Research Council Canada

Bilateral high voltage AC peak and rms value comparison up to 150 kV between MIKES-VTT and PTB
Presenting Author: Jari Hällström, MIKES-VTT

Voltage Dependence Measurement of a 110 kV LVE-TSVT
Presenting Author: Haiming Shao, National Institute of Metrology

Traceability of No-Load Loss Measurements of High Voltage Transmission Lines
Presenting Author: Eddy So, National Research Council Canada

Research on Quantity Traceability for High Accuracy Two-stage Voltage Transformer
Presenting Author: Huanghui Zhang, School of Instrumentation Science and Opto-electronics Engineering, Beihang University

Design and Self-calibration of the RVD with Serial-parallel Connection
Presenting Author: Xianlin Pan, NIM

08:30 - 10:30
Fr-3 Radio Frequency / Microwave IV
Provinces II
Chair: David Humphreys, National Physical Laboratory

Estimation of waveform state levels and uncertainties using the histogram and shorth methods
Presenting Author: Mark Bieler, Physikalisch-Technische Bundesanstalt

Permittivity measurements for high-permittivity materials at NMIJ using resonator methods
Presenting Author: Yuto Kato, National Institute of Advanced Industrial Science and Technology

An experimental set-up to compare measurements and simulations in MRI dosimetry
Presenting Author: Michele Borsero, INRIM

Measurement of High-Permittivity Dielectric Characteristics at Microwave and mm-wave
Presenting Author: Young-Pyo Hong, Korea Research Institute of Standards and Science

Leakage Effects in Millimeter-Wave Power Transfer Standards
Presenting Author: Rolf Judaschke, PTB

Microwave Radiometry of Blackbody Radiation
Presenting Author: Dazhen Gu, National Institute of Standards and Technology

10:30 - 11:00
Coffee Break
Confederation Foyer
11:00 - 11:30  
**Closing Session**  
Governor General Ballroom

11:30 - 12:00  
**Transportation to NRC**

12:00 - 16:00  
**NRC Laboratory Tour**  
National Research Council Laboratory Facility

16:00 - 16:30  
**Transportation to the Westin Hotel**

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**Saturday, July 16, 2016**

09:00 - 16:00  
**Satellite Meetings (By Invitation Only)**  
- Executive Level
  - SIM Electricity and Magnetism Metrology  
  - CODATA Task Group on Fundamental Constants (TGFC) (By Invitation Only)
  - Quebec Room  
  - Oak Room - Executive Level
- Chair: Lucas Daniel Di Lillo, Instituto Nacional De Tecnologia Industrial INTI
- Chair: David Newell, NIST