


Technical Program – Monday, August 25

07:30 – 8:30		
Speaker Breakfast (for Monday session chairs and oral presenters)		Queluz II + III + IV + V
08:45 – 9:30		
Opening Session		Segovia II + III
Opening Remarks		
Humberto Brandi – Inmetro, CPEM 2014 Chair		
IUPAP Awards – Presented by Antti Manninen, MIKES		
09:30 – 10:30		
Plenary 1		Segovia II + III
Chair : Humberto Brandi, Inmetro		
Prof. Luiz Davidovich – Universidade Federal do Rio de Janeiro - Brazil		
“Quantum optics, quantum information and quantum metrology: exploring the subtleties of the quantum world”		
10:30 – 11:00		
Coffee Break		
Oral Session 11:00 – 12:30		
Mo-1	HV/HI I Chair: Gabriela Crotti, Istituto Nazionale di Ricerca Metrologica (INRIM) Monday 11:00 - 12:30	Room: Segovia I
A Current-Comparator-Based High-Voltage Reference Inductor Eddy So, National Research Council of Canada (NRC)		
A Current-Comparator-Based High-Voltage R-L-C Bridge Eddy So, National Research Council of Canada (NRC)		
Research on Calibration Methods for Pulse Resistive Divider Shuai Wang, National Institute of Metrology (NIM)		
Sampling Current Ratio Bridge for Calibration of Current Transducers up to 10 kA with 5 ppm Uncertainty Helko van den Brom, Dutch Metrology Institute (VSL)		
Laboratory Tests in a Prototype of a Self-Monitored Current Transformer for Monitoring Electrical Measurement Systems Cesar Bandim, Electric Energy Research Center (ELETROBRAS/CEPEL)		
Calibrations for Resistance Welding at High Pulsed Currents Branislav Djokic, National Research Council of Canada (NRC)		

Mo-2	Radio Frequency I Chair: Ron Ginley , <i>National Institute of Standards and Technology (NIST)</i> Monday 11:00 - 12:30 Room: Segovia II
	The Propagation Constant of Coaxial Offset Shorts with Rough Surfaces Johannes Hoffmann , <i>Federal Institute of Metrology (METAS)</i> Stability tests of electronic calibration units Markus Zeier , <i>Federal Institute of Metrology (METAS)</i> Multivariate Statistics Applied to Assess Measurement Uncertainty of Complex Reflection Coefficient Manuel Benjamin , <i>Instituto Nacional de Tecnología Industrial (INTI)</i> Reduction Technique for Measurement Comparisons with Complex-Valued Measurands Karsten Kuhlmann , <i>Physikalisch-Technische Bundesanstalt (PTB)</i>
Mo-3	Thermometry Chair: Sam Benz , <i>National Institute of Standards and Technology (NIST)</i> Monday 11:00 - 12:30 Room: Segovia III
	Relative Humidity Effects on Rectangular Waveguide Thermistor Sensors Thomas Crowley , <i>National Institute of Standards and Technology (NIST)</i> Overview of Precision Capacitance Measurements for Dielectric Constant Gas Thermometry Bernd Fellmuth , <i>Physikalisch-Technische Bundesanstalt (PTB)</i> Systematic Error Resolved in NIST Johnson Noise Thermometer Alessio Pollarolo , <i>National Institute of Standards and Technology (NIST)</i> Improvements in the Boltzmann Constant Measurement with Noise Thermometry at NIM Jifeng Qu , <i>National Institute of Metrology (NIM)</i> Development of Thermodynamic Temperature Measurement System Based on Quantum Voltage Noise Source at NMIJ Chiharu Urano , <i>National Metrology Institute of Japan (NMIJ-AIST)</i>
12:30 – 14:00 Lunch	
Oral Session 14:00 – 16:00	
Mo-4	Resistance I Chair: Beat Jeckelmann , <i>Federal Institute of Metrology (METAS)</i> Monday 14:00 - 16:00 Room: Segovia I
	Fabrication and Study of Large Area QHE Devices Based on Epitaxial Graphene. Sergey Novikov , <i>Centre for Metrology and Accreditation (MIKES)</i> Development of Low Carrier Density Graphene Devices Yanfei Yang , <i>National Institute of Standards and Technology (NIST)</i> Controlling Fermi Level in Single Layer Graphene QHE Device for Resistance Standard Yasuhiro Fukuyama , <i>National Metrology Institute of Japan (NMIJ/AIST)</i> First ac measurements of the quantum Hall effect in epitaxial graphene Cay Kalmbach , <i>Physikalisch-Technische Bundesanstalt (PTB)</i> Breakdown of the quantum Hall effect in epitaxial graphene Jan-Theodoor Janssen , <i>National Physical Laboratory (NPL)</i> Dissipative quantum Hall effect in polycrystalline CVD graphene F. Lafont , <i>Laboratoire National de Métrologie et d'Essais (LNE)</i>

Mo-5	Voltage I Chair: Karl-Erik Rydler, SP Technical Research Institute of Sweden Monday 14:00 - 16:00 Room: Segovia II
	50-ohm Multijunction Thermal Converters on Fused Silica Substrates Thomas Lipe, National Institute of Standards and Technology (NIST) A new method to compare two thermal current converters at common ground at frequencies up to 200 kHz Xianlin Pan, National Institute of Metrology (NIM) Improved performance of a thin-film multijunction thermal converter HiroYuki Fujiki, National Metrology Institute of Japan (NMIJ/AIST) Low-Frequency Characteristics of a Thin-Film Multijunction Thermal Converter under Vacuum Yasutaka Amagai, National Metrology Institute of Japan (NMIJ/AIST) Measurement of the Thomson Heat Distribution in a Thin-Wire Metal Yasutaka Amagai, National Metrology Institute of Japan (NMIJ/AIST) Calibration of a Thermal Transfer Standard using a Pulse-Driven Josephson Voltage Standard at frequencies up to 100 kHz Thomas Hagen, National Metrology Institute of Australia (NMI)
Mo-6	Time and Frequency I Chair: Daniele Rovera, LNE-SYRTE, Observatoire de Paris Monday 14:00 - 16:00 Room: Segovia III
	Lifetime Measurement of the First Vibrationally Excited State of MgH ⁺ in a Cryogenic Paul Trap (CryPTEx) O. O. Versolato, Max-Planck-Institut für Kernphysik, Germany Design and Evaluate an Open-Loop Receiver on TWSTFT Application Yi-Jiun Huang, Telecommunication Laboratories, Chunghwa Telecom Co. Ltd Development of an Indium Ion Optical Frequency Standard Ying Li, National Institute of Information and Communications Technology Experimental confirmation of micromotion shift cancellation via operation at trap magic frequency and reduction in evaluated systematic uncertainties for the 88Sr ⁺ optical frequency standard at 445 THz Alan Madej, National Research Council of Canada (NRC) Spectral purity transfer between optical wavelengths at the 10 ⁻¹⁸ level Daniele Nicolodi, LNE-SYRTE, Observatoire de Paris The Brazilian Compact Frequency Standard with Cold atoms: Current status and Future Perspectives Stella Muller, EESC, Universidade de São Paulo
Poster Session 16:00 - 18:00	
Mo-P101	Smart Grids Chair: Jean Pierre Braun, Federal Institute of Metrology (METAS) Monday 16:00 - 18:00 Room: El Pardo I + II
P1	Integration of PMU, SCADA, AMI to Accomplish Expanded Functional Capabilities of Smart Grid Sioe T. Mak, ESTA International, LLC
P2	Smart Grid Power Quality and Stability Measurements in Europe Paul S Wright, National Physical Laboratory (NPL)
P3	Power Output Stability of Digital Power Sources for Calibration of Digital Electricity Meters Qing Xu, State Grid Jiangsu Electric Power Research Institute
P4	Timekeeping Performance during EMC test of Smart Meters Juan Carlos Mateus Sanchez, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)


Mo-P102	Power and Energy I Chair: Ernest Houtzager, VSL-Dutch Metrology Institute Monday 16:00 - 18:00 Room: El Pardo I + II
P5	High-Accuracy Measurement of Power Quality Parameters Using Asynchronous Sampling Technique Rado Lapuh, Slovenian Institute of Quality and Metrology (SIQ)
P6	A Modular USB 2.0 Digitizer for Electrical Power Measurements Tapio Antero Lehtonen, Centre for Metrology and Accreditation (MIKES)
P7	A 600-V AC Voltage Amplifier for Power Measurements Bryan C. Waltrip, National Institute of Standards and Technology (NIST)
P8	Realization of a Traceable Power Quality Calibration Facility in Full Accordance with the IEC 61000-4-30 Standard Helko E. van den Brom, VSL-Dutch Metrology Institute
P9	A Novel Method of Current Scaling for AC Watt and Watthour Shannon Edwards, Radian Research
Mo-P103	Impedance I Chair: Yicheng Wang, National Institute of Standards and Technology (NIST) Monday 16:00 - 18:00 Room: El Pardo I + II
P10	Impedance simulator for automatic calibration of LCR meters Frédéric Overney, Federal Institute of Metrology (METAS)
P12	Wide Range Bridge-Comparator for Accurate Impedance Measurements on Audio- and Low Frequencies Michael N. Surdu, Institute of Precise Measurements
P13	Calibration of Capacitance in the Frequency Range up to 1 MHz Dan Bee Kim, Korea Research Institute of Standards and Science (KRISS)
P14	The Effect of Humidity on the Calibration of Air-Type Capacitance Standards Hyung-Kew Lee, Korea Research Institute of Standards and Science (KRISS)
P15	Design of a Universal Circuit for Generation of Impedance Standards Mohammed Helmy Abd El-Raouf, National Institute of Standards Egypt (NIS)
P16	On the Nonlinear Voltage Dependence of Passive Electronic Components Waldemar Kuerten Ihlenfeld, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)
P17	Fluke 8508A Multimeter introduction in capacitance measurement by indirect method Mauricio Sáchica Avellaneda, Instituto Nacional de Metrología (INM)
Mo-P104	Impedance II Chair: Nick Fletcher, Bureau International des Poids et Mesures (BIPM) Monday 16:00 - 18:00 Room: El Pardo I + II
P18	AC Characterization of a 1 k Ω Metal-foil Resistor Atsushi Domaie, National Metrology Institute of Japan (NMIJ/AIST)
P19	Calculated Frequency Behavior of the PTB Calculable Capacitor in Audio Frequency Range Monthol Homklintian, National Institute of Metrology Thailand (NIMT).
P20	Capacitance Measurements with a Four Terminal-Pair Coaxial Bridge Renata T. de Barros e Vasconcellos, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)
P21	A Digital Quadrature Bridge for Impedance Measurements Waldemar Kuerten Ihlenfeld, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)
P22	Prototype Calculable Coaxial Resistor Flavio Silveira, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)
P23	A Preliminary Report for Building New Type of Calculable Capacitor at NIM Zuliang Lu, National Institute of Metrology (NIM)
P24	Displacement Measurements in Air for the Calculable Capacitor Corey Stambaugh, National Institute of Standards and Technology (NIST)

Mo-P105		
Voltage I		
Chair: Johannes Kohlmann, Physikalisch-Technische Bundesanstalt (PTB)		
Monday 16:00 - 18:00		Room: El Pardo I + II
P25	Digital Modular Facilities for Wideband Characterization of PJVS Bruno Trinchera, Istituto Nazionale di Ricerca Metrologica (INRIM)	
P26	Fabrication and Characterization of Nb/NbxSi1-x/Nb Josephson Junction Arrays for Voltage Standard Wenhui Cao, National Institute of Metrology (NIM)	
P27	Reactive Ion Etching Processes for Nb/NbxSi1-x/Nb Josephson Junction Arrays Yuan Zhong, National Institute of Metrology (NIM)	
P28	Maximizing the Resolution of a Dual RF Drive Programmable Josephson Voltage Standard Dimitrios Georgakopoulos, National Measurement Institute Australia (NMIA)	
P29	Cryogenic Test Socket Yonggang Liu, National Institute of Metrology (NIM)	
P30	An Optoelectronic Coupling for Pulse-driven Josephson Junction Arrays Jane Ireland, National Physical Laboratory (NPL)	
P31	Towards Automated Voltage Standard Based on an Array of High-Temperature Superconductor Josephson Junctions Segey K. Khorshev, Institute of Electronic Measurements (KVARZ)	
Mo-P106		
Voltage II		
Chair: Ricardo Iuzzolino, Instituto Nacional de Tecnología Industrial (INTI)		
Monday 16:00 - 18:00		Room: El Pardo I + II
P32	1000V Self-calibrating Inductive Voltage Divider with Coaxial Cable Winding Feng Zhou, China Electric Power Research Institute	
P33	Characterization of Resistive Dividers for a Wideband Power Analyzer Umberto Pogliano, Istituto Nazionale di Ricerca Metrologica (INRIM)	
P34	A new method to measure millivolt ac voltage at frequencies up to 200 kHz Xianlin Pan, National Institute of Metrology (NIM)	
P35	Using Inductive Voltage Divider to Measure the Millivolt AC Voltage at Frequencies up to 100 kHz Xianlin Pan, National Institute of Metrology (NIM)	
P36	A Low Noise Source for DC Voltage Ratio Calibration of DVMs Andrea Sosso, Istituto Nazionale di Ricerca Metrologica (INRIM)	
P37	Building-up the DC Voltage Scale for Sources and Meters Murray D. Early, Measurement Standards Laboratory of New Zealand	
Mo-P107		
Optical Metrology I		
Chair: Massimo Zucco, Istituto Nazionale di Ricerca Metrologica (INRIM)		
Monday 16:00 - 18:00		Room: El Pardo I + II
P38	Upgrade of High Accuracy Hybrid DC Temperature Bridge for Interferometric Length Measurements Maicon Schmidt Bessa, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)	
P39	Heterodyne Interferometer with Subnanometer Accuracy Darine Haddad, National Institute of Standards and Technology (NIST)	
P40	Correlated Measurements for Noise Reduction in Radiometry Thiago Ferreira da Silva, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)	
P41	A Combined Multi-port Reflectometer for Precise Distance Measuring Alexey A. Lvov, Saratov State Technical University	
P42	Characterization of Radiometric Transfer Standards based on Silicon Trap Detectors Thiago Menegotto, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)	

Mo-P108	Time and Frequency I Chair: Ricardo Carvalho, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro) Monday 16:00 - 18:00 Room: El Pardo I + II
P43	Development of the High Real-time GPS Time Transfer Receiver Yan Huang, National Metrology Center for Industry of GNSS
P44	Evaluation of Daily Jump Compensation Methods for GPS Carrier Phase Data Young Kyu Lee, Korea Research Institute of Standards and Science (KRISS)
P45	An Application of the Precision Time synchronization Protocol in a Time-Interval Measurement System Te Wang, Ming Chi University of Technology
P46	Ionospheric Electrodynamics Effects on Two-Way Satellite Time and Frequency Transfer Fang-Dar Chu, Ming Chi University of Technology
P47	RIOS: First BeiDou Monitoring Station in Brazil Selma Junqueira, Observatório Nacional (ON)
P48	Determination of Environmental Effects on GPS Signals by Using a Geodesic Receiver and Several Online PPP Softwares Luiz Vicente Gomes Tarelho, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)
Mo-P109	Radio Frequency I Chair: Alain Michaud, National Research Council (NRC) Monday 16:00 - 18:00 Room: El Pardo I + II
P49	E-field Probe Measurement Comparison Christopher Eio, National Physical Laboratory (NPL)
P50	Analysis of Physical Significance of Reflection Coefficient of Equivalent Signal Source and Application in Power Sensor Calibration Haikuo Zhang, National Institute of Metrology (NIM)
P51	Russian Primary Standards of Microwave Power Igor Chirkov, National Research Institute for Physical-Technical and Radio Engineering Measurement (VNIIFTRI)
P52	Phase Comparison between NMC and INRIM on Scattering Parameter Measurements with WR15 and WR10 Connections Nosherwan Shoaib, Istituto Nazionale di Ricerca Metrologica (INRIM)
P53	Design and Test of Gas Tight Microwave Transmission Lines for Resonance Frequency Measurements with Cavity Resonators up to 830 K Murat Celep, Ulusal Metroloji Enstitüsü (TUBITAK)
P54	Realization of Low Power Measurement System in the Range of -60 dBm – -120 dBm up to 26.5 GHz Murat Celep, Ulusal Metroloji Enstitüsü (TUBITAK)
P55	Power-dependence Measurement of the Quality Factor of Superconducting Microwave Resonators at mK Temperature Seon Hoo Kim, Korea Research Institute of Standards and Science (KRISS)
P56	Developing a Thermal Noise Measurement System in W-band Tae-Weon Kang, Korea Research Institute of Standards and Science (KRISS)

Mo-P110 Electromagnetic Properties of Materials Chair: Thomas Kleine-Ostmann, Physikalish-Technische Bundesanstalt (PTB) Monday 16:00 - 18:00 Room: El Pardo I + II		
P57	Understanding the Physics of the Asymmetric Flying Capacitor Vagner Gomes Souza, Physics Institute, University of São Paulo (USP)	
P58	Metrological Measurements in Terahertz Time-Domain Spectroscopy at LNE (From 100 GHz to 2 THz) Michaël Gaëtan Charles, Laboratoire National de Métrologie et d' Essais (LNE)	
P59	Determination of the Equivalent Circuit for a Cylindrical Loop-coupled Cavity Resonator Eduardo Javier Paez, Fundacion Instituto de Ingenieria	
P60	Electromagnetic Characterization of Magnetic Nanofluid Márcio Antônio Sens, Electric Energy Research Center (ELETROBRAS/CEPEL)	
P61	New uncertainty Analysis and Simplified Verification Method for Permittivity Measurements Using the Transmission/Reflection Method by Utilizing a Weighted Factor Yuto Kato, National Metrology Institute of Japan (NMIJ/AIST)	
P62	Set-up of a THz Time Domain Spectrometer at INRIM Luca Oberto, Istituto Nazionale di Ricerca Metrologica (INRIM)	
P63	Test Cells for Electromagnetic Characterization of Materials Borut Pinter, Slovenian Institute of Quality and Metrology (SIQ)	
Mo-P111 Antennas I Chair: Masanori Ishii, National Metrology Institute of Japan (NMIJ/AIST) Monday 16:00 - 18:00 Room: El Pardo I + II		
P64	Loop Antenna Pattern Measurements Mustafa Cetintas, Ulusal Metroloji Enstitüsü (TUBITAK)	
P65	Feature Selective Validation Applied to the Comparison of Calibration Data Yuande Alexander Sánchez, Fundacion Instituto de Ingenieria para Investigacion y Desarrollo Tecnologico	
P66	The Particularities of Antenna Phase Center Measurements in a Microwave Electromagnetic Anechoic Chamber Nickolay Bazhenov, National Research Institute for Physical-Technical and Radio Engineering Measurement (VNIIFTRI)	
P67	Extended Characterization of an Open-area Antenna Calibration Test Site Ana Myriam Uribe-Leal, Centro Nacional de Metrologia (CENAM)	
P68	Far Field Antenna Factor Estimation Method for Super Broadband Antenna Using Time-frequency Analysis Satoru Kurokawa, National Metrology Institute of Japan (NMIJ/AIST)	
Mo-P112 Fundamental Constants Chair: Stephan Schlamminger, National Institute of Standards and Technology (NIST) Monday 16:00 - 18:00 Room: El Pardo I + II		
P69	An Inertial Mass Measurement Prototype at NIM Shisong Li, National Institute of Metrology (NIM)	
P70	Measuring the Divergence of Laser Beams to Correct Interferometric Displacement Measurements Carlo Paolo Sasso, Istituto Nazionale di Ricerca Metrologica (INRIM)	
P71	Improved Apparatus to Determine the Boltzmann Constant Using a Large Quasi-spherical Acoustic Resonator Laurent Pitre, Laboratoire Commun de Métrologie (LNE-CNAM)	
P72	Surface Layer Analysis of Si Sphere by XRF and XPS Lulu Zhang, National Metrology Institute of Japan (NMIJ/AIST)	
P73	Volume Measurements of 28Si Spheres by an Improved Optical Interferometer and Ellipsometer to Determine the Avogadro Constant Naoki Kuramoto, National Metrology Institute of Japan (NMIJ/AIST)	
P74	A Proposed Free-fall Experiment to Determine the Gravitational Constant Christian Rothleitner, Physikalisch-Technische Bundesanstalt (PTB)	

Technical Program – Tuesday, August 26

07:30 – 8:30	
Speaker Breakfast (for Monday session chairs and oral presenters)	Queluz II + III + IV + V
08:45 – 9:00	
Information Session	Segovia II + III
Opening Remarks	
General Organization Remarks	
<i>Héctor Laiz – INTI, CPEM 2014 Technical Program Chair</i>	
09:00 – 10:00	
Plenary 2	Segovia II + III
<i>Chair : Héctor Laiz, INTI</i>	
<i>Prof. Klaus Blaum – Max-Planck-Institut für Kernphysik - Germany</i>	
“Precision Penning-trap mass measurements and fundamental constants ”	
	
10:00 – 10:30	
Coffee Break	
Oral Session 10:30 – 12:30	
Tu-1 SS	Nanoscale Electrical Measurements (Special Session)
	Chair: Francois Piquemal, Laboratoire national de métrologie et d'essais (LNE)
	Tuesday 10:30 - 12:30 Room: Segovia I
Electrical Scanning Probe Microscopes to Address Industrial Nano-Metrology Needs of Integrated Circuits and Nanoelectronic Devices	
Joseph Kopanski, National Institute of Standards and Technology (NIST)	
Perturbative phenomena affecting the quality of local measurements of electrical quantities at nanoscale	
Brice Gautier, Lyon Institute of Nanotechnology (INL)	
Nearfield Scanning Microwave Microscopes	
Johannes Hoffmann, Federal Institute of Metrology (METAS)	
Electrical transport at the nanoscale: Scanning Spreading Resistance, Scanning Capacitance and Scanning Kelvin Probe.	
Alexandre Cuenat, National Physical Laboratory (NPL)	

Tu-2	Impedance I Chair: Jürgen Melcher, Physikalisch-Technische Bundesanstalt (PTB) Tuesday 10:30 - 12:30 Room: Segovia II
	<p>Experiences with a two terminal-pair digital impedance bridge Luca Callegaro, Istituto Nazionale di Ricerca Metrologica (INRIM)</p> <p>Progress towards an Impedance Bridge using two Programmable Josephson Voltage Standards Gunnar Eklund, SP Technical Research Institute of Sweden</p> <p>Digitally assisted coaxial bridge for automatic quantum Hall effect measurements at audio frequency Frédéric Overney, Federal Institute of Metrology (METAS)</p> <p>An Improved Two Terminal-pair Capacitance Bridge at NIM Yan Yang, National Institute of Metrology (NIM)</p> <p>Development of a wide-range sampling impedance ratio bridge Ernest Houtzager, VSL-Dutch Metrology Institute</p> <p>Precision 10:1 capacitance ratio measurement using a Josephson impedance bridge Luis Palafox, Physikalisch-Technische Bundesanstalt (PTB)</p>
Tu-3	Optical Metrology Chair: David Humphreys, National Physical Laboratory (NPL) Tuesday 10:30 - 12:30 Room: Segovia III
	<p>Vacuum magnetic linear birefringence using pulsed fields Agathe Cadène, Laboratoire National des Champs Magnétiques Intenses, Université Paul Sabatier, CNRS</p> <p>Determination of e/h ratio by optical measurements Toomas Kübarsepp, AS Metroser</p> <p>First measurements of fundamental constants with a predictable photodiode cryogenic radiometer Marit Sandsaunet, University of Oslo - Justervesenet</p> <p>Precision measurement of the Relativistic Doppler Shift of an Accelerated System Christian Rothleitner, Physikalisch-Technische Bundesanstalt (PTB)</p> <p>A two-wavelength interferometer for space applications Massimo Zucco, Istituto Nazionale di Ricerca Metrologica (INRIM)</p>
12:30 – 14:00 Lunch	
Poster Session 14:00 - 16:00	
Tu-P201	Current I Chair: Mariano Real, Instituto Nacional de Tecnología Industrial (INTI) Tuesday 14:00 - 16:00 Room: El Pardo I + II
P1	AC Characterizations of Current Shunts Saytaro Kon, National Metrology Institute of Japan (NMIJ/AIST)
P2	Influence of noise in DC current measurements in the range of 0.1 nA - 1 mA Alexander Katkov, D.I. Mendeleyev Institute for Metrology
P3	A 10 A High-Precision DC Current Source with stability better than 0.1 ppm for Evaluating High-Current Meter Nong Wang, National Institute of Metrology (NIM)
P4	Calibration Method For Miniature Current Transformer Wei Wang, National Institute of Metrology (NIM)
P5	High Accuracy Current Comparator (ratio from 0.1:1 to 1:1) and Self-calibration Method Wei Wang, National Institute of Metrology (NIM)
P6	System for in-circuit current measurement, the JV-active Shunt Kristian Ellingsberg, University of Oslo - Justervesenet

Tu-P202	Voltage III Chair: Carlos David Avilés, Centro Nacional de Metrología (CENAM) Tuesday 14:00 - 16:00 Room: El Pardo I + II
P7	10 V Programmable Josephson Voltage Standard and its Application in Direct Comparison with Conventional Josephson Voltage Standard Yi-hua Tang, National Institute of Standards and Technology (NIST)
P8	Uncertainty Evaluation of Sampling Measurement System Using AC-Programmable Josephson Voltage Standard Shih-Fang Chen, Industrial Technology Research Institute (ITRI)
P9	Development of Zener Calibration System Using 10 V Programmable Josephson Voltage Standard at NMIJ Michitaka Maruyama, National Metrology Institute of Japan (NMIJ/AIST)
P10	Evaluation of Linearity in Digital Voltmeters Using PJVS Michitaka Maruyama, National Metrology Institute of Japan (NMIJ/AIST)
P11	Development of 10-Vrms Sampling Measurement System Using AC-Programmable Josephson Voltage Standard Yasutaka Amagai, National Metrology Institute of Japan (NMIJ/AIST)
P12	Photodiodes as current source in high-frequency low temperature applications Jarle Gran, University of Oslo - Justervesenet
Tu-P203	Voltage IV Chair: Stephan Solve, Bureau International des Poids et Mesures (BIPM) Tuesday 14:00 - 16:00 Room: El Pardo I + II
P13	SIM Comparison of AC-DC Current Transfer Difference, SIM.EM-K12 Lucas Di Lillo, Instituto Nacional de Tecnología Industrial (INTI)
P14	Verification of the low frequency ac-dc transfer difference of thermal converters using sampling with sine wave fit Torsten Funck, Physikalisch-Technische Bundesanstalt (PTB)
P15	Progress on BEV Foil Shunts for AC-DC Current Transfer Martin Garcocz, Bundesamt für Eich- und Vermessungswesen (BEV)
P16	AC/DC Shunt up to 1000A at 10 kHz Yue Liu, National Institute of Metrology (NIM)
P17	An Analytic Solution of the Magnetic Field and Inductance in the Main Region of a Coaxial Short Circuit Marcus Högåås, SP Technical Research Institute of Sweden
Tu-P204	Impedance III Chair: Gunnar Eklund, SP Technical Research Institute of Sweden Tuesday 14:00 - 16:00 Room: El Pardo I + II
P18	Constant Temperature Control System of Standard Capacitors Dongxue Dai, National Institute of Metrology (NIM)
P19	Development of High Accuracy Standard Capacitance Box Dongxue Dai, National Institute of Metrology (NIM)
P20	Development of High Accuracy Standard Capacitors Xiaobing He, National Institute of Metrology (NIM)
P21	A Novel Hollow Active Auxiliary Electrode Applied For the Vertical Calculable Cross-Capacitor at NIM Lu Huang, National Institute of Metrology (NIM)
P22	The Development of 5 nF Parallel-plate Capacitors with Low Voltage Coefficient Haiming Shao, National Institute of Metrology (NIM)
P23	Improved Calculable 4TP Coaxial Capacitance Standards Jan Kucera, National Czech Technical University in Prague

Tu-P205	Resistance I Chair: Jan-Theodoor Janssen, National Physical Laboratory (NPL) Tuesday 14:00 - 16:00 Room: El Pardo I + II
P24	Accurate High-Ohmic Resistance Measurement Techniques up to 1 PΩ Gert Rietveld, VSL-Dutch Metrology Institute
P25	Identification and correction of slowly decaying transients in measurements with periodic bias reversal Franz Ahlers, Physikalisch-Technische Bundesanstalt (PTB)
P26	A 100 TΩ Guarded Hamon Transfer Standard Edward OBrien, Binghamton University, State University of New York
P27	A femto ampere current amplifier based on a 30 000:1 cryogenic current comparator Florentin Rengnez, Laboratoire National de Métrologie et d'Essais (LNE)
P28	Realization of the Ultrahigh-Ohmic Resistance Scale at CMI Jan Kucera, National Czech Technical University in Prague
P29	APMP Key Comparison for the 10 MΩ and 1 GΩ Resistance Kwang MinYu, Korea Research Institute of Standards and Science (KRISS)
Tu-P206	Power and Energy II Chair: Javier Diaz de Aguilar, Centro Español de Metrología (CEM) Tuesday 14:00 - 16:00 Room: El Pardo I + II
P30	Results of the SIM.EM-K5 key comparison of 50/60 Hz power Rene Carranza, Centro Nacional de Metrología (CENAM)
P31	Influence of Sample Aperture on Evaluating Harmonics of Periodic Signals Using Sampling Method Leibing Shi, Shanghai Institute of Measurement and Testing Technology
P32	Three-phase Four-wire Floating-ground Energy Meter Wen Fan, National Institute of Metrology (NIM)
P33	A Digital Input Electricity Energy Measurement Standard Lei Wang, National Institute of Metrology (NIM)
P34	Standard for Calibrating Harmonic Measuring Systems Daniel Slomovitz, Administración Nacional de Usinas e Transmisiones Eléctricas (UTE)
P35	Burden Influence on Measuring Transformers Calibration Gonzalo Aristoy, Administración Nacional de Usinas e Transmisiones Eléctricas (UTE)
Tu-P207	Energy Sources Chair: Luca Callegaro, Istituto Nazionale di Ricerca Metrologica (INRIM) Tuesday 14:00 - 16:00 Room: El Pardo I + II
P36	Blade Health Monitoring and Diagnosis Method to Enhance Operational Safety of Wind Turbine Ki-Yong Oh, University of Michigan
P37	A setup for the performance characterization and traceable efficiency measurement of magnetostrictive harvesters Mauro Zucca, Istituto Nazionale di Ricerca Metrologica (INRIM)
P38	The EMRP project Metrology for III-V materials based high efficiency multi-junction solar cells Alexandre Bounouh, Laboratoire National de Métrologie et d'Essais (LNE)
Tu-P208	Photonics Chair: Giovanna Borghi, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro) Tuesday 14:00 - 16:00 Room: El Pardo I + II
P39	Living cell imaging by high resolution microscopy with two-photon excitation Jiyao Chen, Fudan University
P40	Photonic-assisted Endoscopic Analysis of Guided W-band Pulses Dong-Joon Lee, Korea Research Institute of Standards and Science (KRISS)
P41	Measurement and control of single-photon microwave radiation on chip Antti Manninen, Centre for Metrology and Accreditation (MIKES)

Tu-P209	Data Analysis Chair: Rado Lapuh, Slovenian Institute of Quality and Metrology (SIQ) Tuesday 14:00 - 16:00 Room: El Pardo I + II
P42	A frequency-domain approach for characterizing modulated RF signals Yichi Zhang, National Institute of Metrology (NIM)
P43	The Expression of the Model Uncertainty in Measurements Carlo Palmisano, Università di Torino (UNITO)
P44	Practical Evaluation of Phase Uncertainty in Scattering Parameter Measurements Yu Song Meng, National Metrology Centre, Agency for Science, Technology and Research (A*STAR)
P45	Evaluation of Non-ideal Analog Switch for Standard-Square-Wave Compensation Method in Mutual Inductance Measurement Gang Wang, National Institute of Metrology (NIM)
P46	Uncertainty analysis of non-coherent sampling phase meter with four parameter sine wave fitting by means of Monte Carlo Martin Šíra, Czech Metrology Institute (CMI)
P47	Non-parametric estimation of the phase difference Dušan Agrež, University of Ljubljana
P48	Uncertainty of communication signals measurement Kari Ojasalo, Centre for Metrology and Accreditation (MIKES)
Tu-P210	Radio Frequency II Chair: Guilherme Garcia, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro) Tuesday 14:00 - 16:00 Room: El Pardo I + II
P49	Metrology method for EVM based on Waveform Design Feng Zhou, China Academy of Telecommunication Research of MIIT
P50	A broadband characterization of Ba _{0.7} Sr _{0.3} TiO ₃ thin films on coplanar waveguide up to microwave frequencies Oumy Ndiaye, Laboratoire National de Métrologie et d'Essais (LNE)
P51	Calibration of speed radar calibrators Samuel Ko, Standards and Calibration Laboratory
P52	Linearity Analysis of a Calorimetric Thermal Voltage Converter for RF–DC Transfer Difference Up to 1 GHz Yueyan Shan, National Metrology Centre, Agency for Science, Technology and Research (A*STAR)
P53	Performance Evaluation of a Handheld Network Analyzer for Testing of Balanced Twisted-Pair Copper Cabling Yu Song Meng, National Metrology Centre, Agency for Science, Technology and Research (A*STAR)
P54	Development of a Type-N Coaxial Microcalorimeter for RF and Microwave Power Standards at KRISS Jae-Yong Kwon, Korea Research Institute of Standards and Science (KRISS)
P55	Improvement of Offset Short Calibration Technique in Waveguide VNA Measurement at Millimeter and Sub-millimeter Wave Frequency Masahiro Horibe, National Metrology Institute of Japan (NMIJ/AIST)
Tu-P211	Magnetics Chair: Alejandra Tonina, Instituto Nacional de Tecnología Industrial (INTI) Tuesday 14:00 - 16:00 Room: El Pardo I + II
P56	The Measurement system for Orientation Angle of Permanent Magnets Ruifen Hou, National Institute of Metrology (NIM)
P57	Traceability of dynamic magnetic fields by NMR magnetometry Ramon Martin, Institute for Technological Research (IPT)
P58	Measurement and Analysis of Earth's Magnetic Field based on Low-Magnetic Field Standards Po Gyu Park, Korea Research Institute of Standards and Science (KRISS)
P59	Validation of uncertainty calculation of the method for traceability for susceptibility measurements provided by the BIPM Susceptometer Fabio Cacaís, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)

Tu-P212	Redefinition of the SI I Chair: Michael Stock, Bureau International des Poids et Mesures (BIPM) Tuesday 14:00 - 16:00 Room: El Pardo I + II
P60	The Measurement of the Local Acceleration of Gravity for the NIST-4 Watt Balance David Newell, National Institute of Standards and Technology (NIST)
P61	The Design of the New NIST-4 Watt Balance Leon Chao, National Institute of Standards and Technology (NIST)
P62	Continuous free fall acceleration determination for the LNE Watt balance Sébastien Merlet, LNE-SYRTE, Observatoire de Paris
P63	NIST Vacuum-to-Air Mass Calibration System as Part of a Mise-en-Pratique for the New Kilogram Definition Patrick Abbott, National Institute of Standards and Technology (NIST)
P64	Construction and Performance of the NIST-4 Magnet System Frank Seifert, National Institute of Standards and Technology (NIST)
P65	Progress report of the LNE watt balance Thomas Matthieu, Laboratoire National de Métrologie et d'Essais (LNE)
P66	Milligram Mass Metrology Using Electrostatics Gordon Shaw, National Institute of Standards and Technology (NIST)
Tu-P213	HV/HI I Chair: Daniel Izquierdo, Administración Nacional de Usinas e Transmisiones Eléctricas (UTE) Tuesday 14:00 - 16:00 Room: El Pardo I + II
P67	Evaluation of Long-Term Stability of HVDC Measuring System Based on Bandgap References Ahmet Merve, Ulusal Metroloji Enstitüsü (TUBITAK)
P68	Determination of the Karma Wire Temperature Coefficient Used in the High Voltage Arm of Impulse Divider Yang Pan, Shanghai Institute of Measurement and Testing Technology
P69	Traceability of impulse test for diagnostic measurements of power apparatus Ernst Hanique, DNV-KEMA
P70	Calibration of Voltage Transformer Test Set by Employing Voltage Divider Jae Kap Jung, Korea Research Institute of Standards and Science (KRISS)
P71	Research on Voltage Variation of DC High-Voltage Resistive Divider by Measuring Leakage Current Feipeng Lin, National Institute of Metrology (NIM)
P72	System for Automatic Evaluation of Voltage Impulses According to the Standard IEC 60060/2010 Carlos Barbosa, Pontifical Catholic University of Rio de Janeiro (PUC-RJ)
P73	Development of a 300kV Standard Impulse Divider with Partial Response Time Less Than 5 Nanosecond Yang Pan, Shanghai Institute of Measurement and Testing Technology

Oral Session 16:00 – 18:00		
Tu-4	Fundamental Constants Chair: Joaquín Valdés , <i>Universidad Nacional de San Martín</i> Tuesday 16:00 - 18:00	Room: Segovia I
	Coils used in Joule balance at NIM Zhonghua Zhang , <i>National Institute of Metrology (NIM)</i> Mass measurement of 1-kg silicon spheres for the precise determination of the Avogadro constant at the NMIJ Shigeki Mizushima , <i>National Metrology Institute of Japan (NMIJ/AIST)</i> Improvements in Illumination of the Avogadro Sphere Interferometer Reiner Spolaczyk , <i>Physikalisch-Technische Bundesanstalt (PTB)</i> Assessment of the Accuracy of the 28Si (220) Plane Spacing Enrico Massa , <i>Istituto Nazionale di Ricerca Metrologica (INRIM)</i> Progress on Vacuum-to-Air Mass Calibration System Using Magnetic Suspension to Disseminate the Planck-Constant Realized Kilogram Eric Benck , <i>National Institute of Standards and Technology (NIST)</i> Homogeneity characterization of lattice spacing of silicon single crystals Atsushi Waseda , <i>National Metrology Institute of Japan (NMIJ/AIST)</i>	
Tu-5	Power and Energy I Chair: Waldemar Kürten Ihlenfeld , <i>Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)</i> Tuesday 16:00 - 18:00	Room: Segovia II
	The Establishment of High Voltage Power Standard at NIM Lixin Wang , <i>National Institute of Metrology (NIM)</i> A Reference System for On-Site Calibration of High-Voltage Revenue Metering Systems Gert Rietveld , <i>VSL-Dutch Metrology Institute</i> A system for the accurate characterization of wideband wattmeters, power quality analyzers and PMUs Umberto Pogliano , <i>Istituto Nazionale di Ricerca Metrologica (INRIM)</i> The Establishment of DC Power Meter Calibration System at China Electric Power Research Institute Jingfen Bai , <i>China Electric Power Research Institute</i> New Standard of Power at NMIA Ilya Budovsky , <i>National Measurement Institute Australia (NMIA)</i> Precision Multi-range Current Transformer for the Automation of Electrical Power Standards Ilya Budovsky , <i>National Measurement Institute Australia (NMIA)</i>	
Tu-6	Voltage II Chair: Yi-hua Tang , <i>National Institute of Standards and Technology (NIST)</i> Tuesday 16:00 - 18:00	Room: Segovia III
	Direct Comparison Between CMS Programmable and Conventional Josephson Voltage Standards Shih-Fang Chen , <i>Industrial Technology Research Institute (ITRI)</i> Generation of 10 Vrms Waveforms Using AC-Programmable Josephson Voltage Standard System with 10 K Cooler Michitaka Maruyama , <i>National Metrology Institute of Japan (NMIJ/AIST)</i> Development of a 1 V pulse-driven Josephson voltage standard Ralf Behr , <i>Physikalisch-Technische Bundesanstalt (PTB)</i> Measurement of Repetitive Arbitrary Waveform RMS Value Rado Lapuh , <i>Slovenian Institute of Quality and Metrology (SIQ)</i> Spectrum analysis of asynchronously sampled signals by means of an ANN Method José Salinas , <i>DTE, ETSI Telecomunicación UMA</i> Null detector and AC voltage reference based on MEMS Antti Manninen , <i>Centre for Metrology and Accreditation (MIKES)</i>	

Technical Program – Wednesday, August 27

07:30 – 8:30	
Speaker Breakfast (for Wednesday session chairs and oral presenters)	Queluz II + III + IV + V
08:45 – 9:00	
Information Session General Organization Remarks <i>Gregory Kyriazis – Inmetro, CPEM 2014 Vice-Chair</i>	Segovia II + III
09:00 – 10:00	
Plenary 3 <i>Chair : Gregory Kyriazis, Inmetro</i> <i>Dr. Mark Bieler – Physikalisch-Technische Bundesanstalt - Germany</i> <i>“The femtosecond laser as a microwave instrument”</i>	Segovia II + III 

Oral Session 10:30 - 12:30	
We-1 SS	Redefinition of the kilogram (Special Session) <i>Chair: Ian Robinson, National Physical Laboratory (NPL)</i> Wednesday 10:30 - 12:30 Room: Segovia I
<p>European Metrology Research Program: Advances on the Realization of the kilogram Redefinition Thomas Arnold, <i>Leibniz Institute of Surface Modification (IOM)</i></p> <p>Redefinition of the kilogram in 2018 Philippe Richard, <i>Federal Institute of Metrology (METAS)</i></p> <p>Determination of the Planck constant at the National Institute of Standards and Technology Stephan Schlamminger, <i>National Institute of Standards and Technology (NIST)</i></p> <p>Predicted impact of latest h and e values on resistance and voltage traceability in the new SI (Système International) Nick Fletcher, <i>Bureau International des Poids et Mesures (BIPM)</i></p> <p>Recent Improvements of the NRC Watt Balance Carlos Sanchez, <i>National Research Council (NRC)</i></p>	

We-2	Quantum Metrology I Chair: Uwe Siegner , <i>Physikalisch-Technische Bundesanstalt (PTB)</i> Wednesday 10:30 - 12:30 Room: Segovia II
	<p>Potential-Tunable Quantum Dot Single Electron Pump Ye-Hwan Ahn, <i>Korea Research Institute of Standards and Science (KRISS)</i></p> <p>Precision Measurement of Potential-Profile-Tunable Electron Pump Myung-Ho Bae, <i>Korea Research Institute of Standards and Science (KRISS)</i></p> <p>Effects of Electrostatic Confinement in a Silicon Single-Electron Pump Alessandro Rossi, <i>University of New South Wales</i></p> <p>Characterization of hybrid metal/semiconductor electron pumps for quantum metrology Sophie Djordjevic, <i>Laboratoire national de métrologie et d'Essais (LNE)</i></p> <p>Sub-ppm measurements of single-electron pump currents Stephen Giblin, <i>National Physical Laboratory (NPL)</i></p> <p>Modeling of an adiabatic tunable-barrier electron pump S. J. Ray, <i>UMR-E CEA/UJF-Grenoble</i></p>
We-3	Magnetics Chair: Po Gyu Park , <i>Korea Research Institute of Standards and Science (KRISS)</i> Wednesday 10:30 - 12:30 Room: Segovia III
	<p>Precise Dielectric Characterization of Liquid Crystal Polymer Films at Microwave Frequencies by New Transverse Slotted Cavity Liu Chao, <i>Tufts University</i></p> <p>Sweep rate dependence of coercivity in closed magnetic circuit Wenjie Gong, <i>National Institute of Metrology (NIM)</i></p> <p>High Stability Electromagnet Power for Gouy Magnetic Balance Wen Fan, <i>National Institute of Metrology (NIM)</i></p> <p>Progress on Flux Measurement with Josephson System at NIM Zengmin Wang, <i>National Institute of Metrology (NIM)</i></p> <p>Concept for simultaneous measurement of Seebeck coefficient, electrical conductivity and thermal conductivity Jaani Nissila, <i>Centre for Metrology and Accreditation (MIKES)</i></p>
12:30 – 14:00 Lunch	
Oral Session 14:00 - 16:00	
We-4	Voltage III Chair: Ralf Behr , <i>Physikalisch-Technische Bundesanstalt (PTB)</i> Wednesday 14:00 - 16:00 Room: Segovia I
	<p>Cryocooled 10 V Programmable Josephson Voltage Standard Alain Rüfenacht, <i>National Institute of Standards and Technology (NIST)</i></p> <p>Mutual Inductance Measurement with Programmable Josephson System Yuan Gao, <i>National Institute of Metrology (NIM)</i></p> <p>The leakage resistance to ground of a NIST Programmable Josephson Voltage Standard Stephane Solve, <i>Bureau International des Poids et Mesures (BIPM)</i></p> <p>An AC Josephson Voltage Standard System in an Industrial Environment Michael Starkloff, <i>Supracon AG</i></p> <p>Josephson series arrays with NbSi barrier for AC voltage standards Johannes Kohlmann, <i>Physikalisch-Technische Bundesanstalt (PTB)</i></p> <p>An Automated Josephson Based AC-Voltage Calibration System Waldemar Kürten Ihlenfeld, <i>Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)</i></p>

We-5	Impedance II Chair: Haiming Shao, National Institute of Metrology (NIM) Wednesday 14:00 - 16:00 Room: Segovia II
	<p>A three-arm current comparator bridge for two terminal-pair impedance comparisons over the complex plane Luca Callegaro, Istituto Nazionale di Ricerca Metrologica (INRIM)</p> <p>Quasi-balancing resistance bridge Lei Lai, Shanghai Institute of Measurement and Testing Technology</p> <p>A measurement chain for the determination of RK using a calculable capacitor Nick Fletcher, Bureau International des Poids et Mesures (BIPM)</p> <p>Alignment and testing of the NIST Calculable Capacitor Yicheng Wang, National Institute of Standards and Technology (NIST)</p> <p>Programmable Capacitors Developed at NIST Andrew Koffman, National Institute of Standards and Technology (NIST)</p> <p>Progress on the LNE calculable capacitor Gaël Thuillier, Laboratoire national de métrologie et d'essais (LNE)</p>
We-6	RadioFrequency II Chair: Chris Eio, National Physical Laboratory (NPL) Wednesday 14:00 - 16:00 Room: Segovia III
	<p>Design and Calibration of a Compact Quasi-Optical System for Material Characterization in Millimeter/Sub-millimeter Wave Domain Alireza Kazemipour, Physikalisch-Technische Bundesanstalt (PTB)</p> <p>Using Calibration Methods for the Verification of NFC RF Conformance Test Tool Qian Sun, China Academy of Telecommunication Research of MIIT</p> <p>Electro-optical Detection of Resonant Fields in a Coupled Cavity No-Weon Kang, Korea Research Institute of Standards and Science (KRISS)</p> <p>Automated non-coherent sampling THD meter with spectrum analyser Stanislav Mašlán, Czech Metrology Institute (CMI)</p> <p>Laser diodes based Absolute Distance Meter Joffray Guillory, Laboratoire Commun de Metrologie LNE-CNAM (LCM)</p> <p>Establishment of RF Attenuation Standard in the Frequency Range of 30 GHz to 50 GHz at NMIJ Anton Widarta, National Metrology Institute of Japan (NMIJ/AIST)</p>
Poster Session 16:00 - 18:00	
We-P301	Voltage V Chair: Edson Afonso, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro) Wednesday 16:00 - 18:00 Room: El Pardo I + II
P1	Characterization of ADC boards for application in ac electrical metrology setups Cristina Cassiago, Istituto Nazionale di Ricerca Metrologica (INRIM)
P2	Using Digital Multimeters in Place of Analog Null Meters for Metrological Applications Neil Faulkner, Fluke Calibration
P3	Evaluation of the Agilent 3458A Time Jitter Performance Rado Lapuh, Slovenian Institute of Quality and Metrology (SIQ)
P4	Measurement of asynchronously sampled harmonically distorted Rado Lapuh, Slovenian Institute of Quality and Metrology (SIQ)
P5	Validation of THD Measurement Equipment with 24-bit Digitizer Jana Horska, Czech Metrology Institute (CMI)
P6	Proposals for Extending the Sampling Rate and Frequency Range of AC Voltage and Power Measurements Waldemar Kuerten Ihlenfeld, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)

We-P302	Voltage VI Chair: Yasutaka Amagai, National Metrology Institute of Japan (NMIJ/AIST) Wednesday 16:00 - 18:00 Room: El Pardo I + II
P7	A High Frequency Voltage Standard from 30 kHz to 30 MHz Based on Thermal Voltage Converter Zhao He, National Institute of Metrology (NIM)
P8	Interpolating AC-DC Transfer Differences for an AC-DC Voltage Transfer Standard Tao Jing, National Metrology Centre, Agency for Science, Technology and Research (A*STAR)
P9	AC-DC Transfer Standard Measurements with a Josephson Arbitrary Waveform Synthesizer at 200 mV Jason Underwood, National Institute of Standards and Technology (NIST)
P10	Calibration of Low-Voltage AC-DC Transfer Standards at LNE in the Frequency Range from 10 Hz to 1 MHz Mohammad Khan, Laboratoire national de métrologie et d'Essais (LNE)
P11	AC-DC Transfer Measurements in the mV-Range using Discrete Micropotentiometers Gean Geronymo, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)
P12	Fast Synchronous AC-DC Transfer Measurements with a Programmable Josephson AC Voltage Standard Waldemar Kuerten Ihlenfeld, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)
We-P303	Voltage VII Chair: Alain Rüfenacht, National Institute of Standards and Technology (NIST) Wednesday 16:00 - 18:00 Room: El Pardo I + II
P13	An active filter for Delta-Sigma modulated Josephson waveforms Tobias Bergsten, SP Technical Research Institute of Sweden
P14	The Reference Step Method for DC Voltage at 1 mV and 10 mV Bengt-Olof Andersson, SP Technical Research Institute of Sweden
P15	A quantum standard for sampled electrical measurements – main goals and first results of the EMRP project Q-WAVE Johannes Kohlmann, Physikalisch-Technische Bundesanstalt (PTB)
P16	Fundamental Comparison Measurement between Sinusoidal and Stepwise-Approximated Sine Wave Generated by Programmable Josephson Voltage Standard at NIM Lu Huang, National Institute of Metrology (NIM)
P17	Influence of Harmonics on AC Measurements Using a Quantum Voltmeter Alexander Katkov, D.I. Mendeleyev Institute for Metrology
P18	The CENAM Programmable Josephson Voltage Standard Carlos David Avilés Castro, Centro Nacional de Metrología (CENAM)
P19	Preliminary Comparison of a 10 V Programmable Josephson Voltage Standard and a Hysteretic Josephson Voltage Standard Ghislain Granger, National Research Council (NRC)
We-P304	Quantum Standards Chair: Sophie Djordjevic, Laboratoire national de métrologie et d'Essais (LNE) Wednesday 16:00 - 18:00 Room: El Pardo I + II
P20	Paralleled Tunable Barrier Pumping using air-bridge structures Misato Akiyama, National Metrology Institute of Japan (NMIJ/AIST)
P21	Recent process with the SINIS turnstile Emma Mykkänen, Centre for Metrology and Accreditation (MIKES)
P22	Modeling of a tunable-barrier non-adiabatic electron pump beyond the decay cascade model Vyacheslavs Kashcheyevs, University of Latvia

We-P305 Resistance II Chair: Randolph Elmquist, National Institute of Standards and Technology (NIST) Wednesday 16:00 - 18:00 Room: El Pardo I + II		
P23	Quantum Hall devices based on single-crystalline graphene Xueshen Wang, National Institute of Metrology (NIM)	
P24	CVD Graphene for Electrical Quantum Metrology Kishan Thodkar, Federal Institute of Metrology (METAS)	
P25	New Design of Decimal Nominal Value Resistance based on Quantum Hall Array Qing Zhong, National Institute of Metrology (NIM)	
P26	Investigation of Single Quantum Hall Device of Resistance Standard in NIM Qing Zhong, National Institute of Metrology (NIM)	
P27	Transportation Effect of Ni-Cr Based Metal-Foil Standard Resistors in a Trilateral Comparison Pilot Study between KRISS, NIST, and NMIJ Nobu-hisa Kaneko, National Metrology Institute of Japan (NMIJ/AIST)	
P28	The EMRP Project GraphOhm - Towards Quantum Resistance Metrology Based on Graphene Franz Ahlers, Physikalisch-Technische Bundesanstalt (PTB)	
We-P306 Current II Chair: Martin Götz, Physikalisch-Technische Bundesanstalt (PTB) Wednesday 16:00 - 18:00 Room: El Pardo I + II		
P29	Traceable precision generation and measurement of pA direct currents Hansjörg Scherer, Physikalisch-Technische Bundesanstalt (PTB)	
P30	Measurement and Reproduction Low DC Currents by means Electron Multiplier Valery Alexandrov, D.I. Mendeleyev Institute for Metrology	
P31	Calibration of measuring network of leakage current tester Xuefeng Ma, National Institute of Metrology (NIM)	
P32	Excess Current Noise in Amplifiers With Switched Input Dietmar Drung, Physikalisch-Technische Bundesanstalt (PTB)	
P33	Comparing two methods of electrometers coulomb calibration Marcos Bierzychudek, Instituto Nacional de Tecnología Industrial (INTI)	
We-P307 Impedance IV Chair: Luis Palafox, Physikalisch-Technische Bundesanstalt (PTB) Wednesday 16:00 - 18:00 Room: El Pardo I + II		
P34	Two Calibration Methods for Inductive Voltage Divider Jian Feng, Shanghai Institute of Measurement and Testing Technology	
P35	Determine the Time Constants of Resistors in Maxwell Bridge Yan Yang, National Institute of Metrology (NIM)	
P36	Measurement of Simulated High Value Inductor Using Precision Capacitance Bridge M. A. Ansari, CSIR-National Physical Laboratory	
P37	Inductance Comparator Bridge Daniel Izquierdo, Administración Nacional de Usinas e Transmisiones Eléctricas (UTE)	
P38	Measurement of the Q factor by means of fitting the resonance curve by a model of the resonance circuit Stanislav Mašlán, Czech Metrology Institute (CMI)	
P39	Fabrication of a standard two-stage autotransformer at LNE R. Sindjui, Laboratoire National de Métrologie et d'Essais (LNE)	

We-P308 Radio Frequency III Chair: Thomas Crowley, National Institute of Standards and Technology (NIST) Wednesday 16:00 - 18:00 Room: El Pardo I + II		
P40	A Novel Experimental Validation Method of Dynamic X-parameters includes Long-term Memory Effects Yuanxiao Gou, Harbin Institute of Technology	
P41	Modeling of the connector effects for coaxial air lines for frequencies up to 40 GHz using simple lumped LC model Samuel Ko, Standards and Calibration Laboratory	
P42	A Reliable Simple Method to Extract the Intrinsic Material Properties in Millimeter/Sub-millimeter Wave Domain Martin Hudlicka, Czech Metrology Institute (CMI)	
P43	Measurement and Characterization of Precision 7 mm and 3.5 mm Coaxial Air Lines at NMC, A*STAR Yu Song Meng, National Metrology Centre, Agency for Science, Technology and Research (A*STAR)	
P44	Analysis of Connector Effects for 2.92 mm Coaxial Lines Ryoko Kishikawa, National Metrology Institute of Japan (NMIJ/AIST)	
P45	The Calculation of Surface Resistivity and Measurement of Shielding Effectiveness for the Planar Electromagnetic Shielding Material Qing Cai, Shanghai Institute of Measurement and Testing Technology	
We-P309 Antennas II Chair: Israel Garcia-Ruiz, Centro Nacional de Metrología (CENAM) Wednesday 16:00 - 18:00 Room: El Pardo I + II		
P46	Effects of Sensor Positions on Military Radiated Susceptibility Tests Soydan Cakir, Ulusal Metroloji Enstitüsü (TUBITAK)	
P47	Developmen of coaxial adapter for calibration of EMC devices Miha Kokalj, Slovenian Institute of Quality and Metrology (SIQ)	
P48	APMP Supplementary Comparison of Loop Antennas (APMP.EM.RF-S21.F) Masanori Ishii, National Metrology Institute of Japan (NMIJ/AIST)	
We-P310 Time and Frequency II Chair: Selma Junqueira, Observatório Nacional (ON) Wednesday 16:00 - 18:00 Room: El Pardo I + II		
P49	Research on the Establishing Scheme of Local Time Standard Yan Huang, National metrology center for industry of GNSS	
P50	International Comparison of the UTC (ONRJ) Ricardo de Carvalho, Observatório Nacional (ON)	
P51	New Approaches in Technology of Optical Frequency References for Laser Standards Jan Hrabina, Academy of Sciences of the Czech Republic	
P52	Calibration of optical tachometers using a generator system of light pulses Henry Diaz, National Metrology System (SNM - INDECOPI)	
P53	Joint Effort to Commissioning a Thermal Cesium Beam with Optical Pumping as Primary Frequency Standard to Brazilian NMI Luiz Tarelho, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)	

We-P311 Optical Metrology II	
Chair: Thiago Ferreira da Silva, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)	
Wednesday 16:00 - 18:00 Room: El Pardo I + II	
P54	Measurement of Optical Parameters of Thin Films Non-Uniform in Thickness David Nečas, Masaryk University
P55	Characterization of Photodiodes in the Visible Spectral Region Luciana Alves, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)
P56	Wide tunable laser with noise suppression for precise cavity length measurement Radek Šmíd, Academy of Sciences of the Czech Republic
P57	Displacement Actuator Controlled by a Femtosecond Comb and Fabry-Perot Cavity in the Feedback Ondřej Číp, Academy of Sciences of the Czech Republic
P58	A new interferometer for the BIPM Watt Balance Lennart Robertsson, Bureau International des Poids et Mesures (BIPM)
We-P312 HV/Hi II	
Chair: Bratislav Djokic, National Research Council of Canada (NRC)	
Wednesday 16:00 - 18:00 Room: El Pardo I + II	
P59	Accurate High-Current DC Current Ratio Measurements Gert Rietveld, VSL-Dutch Metrology Institute
P60	Fabrication of Capacitor-Resistor Bank for Calibrating Commercial Capacitance and tan δ Measuring Bridge Jae Kap Jung, Research Institute of Standards and Science (KRISS)
P61	The Establishment of High Current DC Shunt Calibration System at KRISS and Comparison with NRC Kyu-Tae Kim, Research Institute of Standards and Science (KRISS)
P62	Implementation of a High-Voltage Primary Standard Method using a Capacitance Bridge Vladimir de Lima, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)
P63	Improvement of Frequency Response for a Zero-Flux Current Measuring System Maria Hammarqvist, SP Technical Research Institute of Sweden
P64	Investigating Linearity of a High Voltage Capacitance Bridge Esa-Pekka Suomalainen, Centre for Metrology and Accreditation (MIKES)
P65	Investigations of Electrode Displacement on High Voltage Capacitor with FEM Otto Wanner Asencios, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)
We-P313 Power and Energy III	
Chair: Bryan Waltrip, National Institute of Standards and Technology (NIST)	
Wednesday 16:00 - 18:00 Room: El Pardo I + II	
P66	Design of a non-invasive current sensor for application on high voltage lines Ernest Houtzager, VSL-Dutch Metrology Institute
P67	Signal-Bandwidth Evaluation for Electric Power Calculation in PWM Driven Motors David Lindenthaler, Graz University of Technology
P68	Research on Key Technology on Designing High-frequency Resistive Voltage Divider Design Haiming Shao, National Institute of Metrology (NIM)
P69	A Calibration Method for a Commercial Coaxial Shunt at High Pulse Current Masaru Sanoh, Agilent Technologies International Japan
P70	Procedure for Substation Primary Test Systems Calibration Daniel Silva, Eletrobras Eletronorte
P71	A Simple Method for Current Transformer Burden Measurements Hüseyin Çaycı, Ulusal Metroloji Enstitüsü (TUBITAK)

We-P314	Redefinition of the SI II Chair: Carlos Sanchez, National Research Council (NRC) Wednesday 16:00 - 18:00 Room: El Pardo I + II
P72	Methods for measuring and controlling the movable coil position of the joule balance Hongxing Yang, Harbin Institute of Technology
P73	Alignment technology for coil movement of Joule Balance Tao Zeng, National Institute of Metrology (NIM)
P74	Frequency Stabilized Laser for Length Metrology System in Joule Balance Yang Bai, Harbin Institute of Technology
P75	Simulations of the electromagnet system for the Joule Balance at NIM JinXin Xu, National Institute of Metrology (NIM)
P76	A 250 mA High-Precision DC Current Source with Improved Stability for the Joule Balance at NIM Nong Wang, National Institute of Metrology (NIM)

Technical Program – Thursday, August 28

07:30 – 8:30				
Speaker Breakfast (for Thursday session chairs and oral presenters)			Queluz II + III + IV + V	
Oral Session 8:30 - 10:00				
Th-1	Energy Sources Chair: Tostern Funk, Physikalisch-Technische Bundesanstalt (PTB)		Thursday 8:30 - 10:00	Room: Segovia I
<p>Electrical waveforms from vibrational energy harvesters: a trilateral measurement comparison Luca Callegaro, Istituto Nazionale di Ricerca Metrologica (INRIM)</p> <p>Magnetism vs. LiFePO4 Batterys State of Charge: A Route to a Novel Sensor Concept Thomas Gallien, Graz University of Technology</p> <p>Traceable measurement of the electrical parameters of solid-state lighting products Dongsheng Zhao, VSL- Dutch Metrology Institute</p> <p>Development of Low-impedance Standard for Safety Evaluation of Storage Cells Norihiko Sakamoto, National Metrology Institute of Japan (NMIJ/AIST)</p> <p>Precision electrical measurements to characterize electrostatic MEMS based energy harvesters Alexandre Bounouh, Laboratoire national de métrologie et d'Essais (LNE)</p>				
Th-2	Quantum Metrology II Chair: Hansjörg Scherer, Physikalisch-Technische Bundesanstalt (PTB)		Thursday 8:30 - 10:00	Room: Segovia II
<p>Ultrastable Low-Noise Current Amplifier Dietmar Drung, Physikalisch-Technische Bundesanstalt (PTB)</p> <p>Operation of SNIS arrays in a cryocooler Andrea Sosso, Istituto Nazionale di Ricerca Metrologica (INRIM)</p> <p>SINIS turnstile for quantum current standards Shuji Nakamura, National Metrology Institute of Japan (NMIJ/AIST)</p> <p>Graphene metrology Jan-Theodoor Janssen, National Physical Laboratory(NPL)</p> <p>A self-referenced single-electron current source Frank Hohls, Physikalisch-Technische Bundesanstalt (PTB)</p>				
Th-3	Time and Frequency II Chair: Alan Madej, National Research Council (NRC)		Thursday 8:30 - 10:00	Room: Segovia III
<p>A direct comparison between two independently calibrated time transfer techniques: T2L2 and GPS Common-Views Daniele Rovera, LNE-SYRTE Observatoire de Paris</p> <p>Improvements of an 171Yb Optical Lattice Clock at KRISS Dai-Hyuk Yu, Research Institute of Standards and Science (KRISS)</p> <p>Performances of UTC(OP) based on LNE-SYRTE atomic fountains Daniele Rovera, LNE-SYRTE Observatoire de Paris</p> <p>Interference Cancellation for Hollow-Core Fiber Reference Cells Jeremias Seppä, Centre for Metrology and Accreditation (MIKES)</p> <p>Strontium optical lattice clocks at LNE-SYRTE Chunyan Shi, LNE-SYRTE Observatoire de Paris</p>				

10:00 – 10:30		Coffee Break			
Oral Session 10:30 - 12:30					
Th-4 SS	Smart grids applications (Special Session) Chair: Gert Rietveld , <i>VSL-Dutch Metrology Institute</i> Thursday 10:30 - 12:30Room: Segovia I				
System for calibration of non-intrusive load meters with load identification ability Martin Šíra , <i>Czech Metrology Institute (CMI)</i> Calibration of PMUs with a Reference Grade Calibrator Jean Pierre Braun , <i>Federal Institute of Metrology (METAS)</i> Smart Grid Metrology to Support Reliable Electricity Supply Gert Rietveld , <i>VSL-Dutch Metrology Insitute</i> Combined AM and PM Signal Analysis with Applications to the Dynamic Testing of Phasor Measurement Units Gregory Kyriazis , <i>Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)</i>					
Th-5	Resistance II Chair: Dean Jarret , <i>National Institute of Standards and Technology (NIST)</i> Thursday 10:30 - 12:30Room: Segovia II				
A Compact 14-Bit Cryogenic Current Comparator Martin Götz , <i>Physikalisch-Technische Bundesanstalt (PTB)</i> Research on voltage ratio for precise comparison between ac QHR and 100-kOHM resistance Atsushi Domae , <i>National Metrology Institute of Japan (NMIJ/AIST)</i> On the definition of DC in resistance measurements Nick Fletcher , <i>Bureau International des Poids et Mesures (BIPM)</i> Development of QHR Arrays in NIM Qing Zhong , <i>National Institute of Metrology (NIM)</i> Manganese Nitride Compound Standard Resistor Takehiko Oe , <i>National Metrology Institute of Japan (NMIJ/AIST)</i> Cryogenic Current Comparator Bridge with Dual SQUID Detectors Jonathan Williams , <i>National Physical Laboratory (NPL)</i>					
Th-6	Data Analysis Chair: Robert Hickernell , <i>National Institute of Standards and Technology (NIST)</i> Thursday 10:30 - 12:30Room: Segovia III				
Quantum enhanced measurements by exploiting photon number correlations Ivano Ruo Berchera , <i>Istituto Nazionale di Ricerca Metrologica (INRIM)</i> Calibration of Wideband Digital Real-time Oscilloscopes David Humphreys , <i>National Physical Laboratory (NPL)</i> Uncertainty Analysis in EVM measurement using a Monte-Carlo Simulation Chihyun Cho , <i>Research Institute of Standards and Science (KRISS)</i> An Improved Sampling Approach to Overcome Transient Effect in Staircase Waveform Zuliang Lu , <i>National Institute of Metrology (NIM)</i> Dynamic range improvement of THz spectroscopy David Humphreys , <i>National Physical Laboratory (NPL)</i> A device for hyperspectral imaging in the UV Valentina Caricato , <i>Istituto Nazionale di Ricerca Metrologica (INRIM)</i>					

12:30 – 14:00		Lunch	
Oral Session 14:00 - 16:00			
Th-7	Redefinition of the SI Chair: Barry Wood , <i>National Research Council (NRC)</i>	Thursday 14:00 - 16:00	Room: Segovia I
<p>Construction of a watt balance with the aim to realize the kilogram at the National Institute of Standards and Technology Darine Haddad, <i>National Institute of Standards and Technology (NIST)</i></p> <p>Update from the BIPM Watt Balance Hao Fang, <i>Bureau International des Poids et Mesures (BIPM)</i></p> <p>Construction and Performance of the New Magnet System for Joule Balance at NIM Bing Han, <i>National Institute of Metrology (NIM)</i></p> <p>The METAS Watt Balance Mark II Experiment: Progress Report Ali Eichenberger, <i>Federal Institute of Metrology (METAS)</i></p> <p>The progress of Joule balance at the National Institute of Metrology Zhengkun Li, <i>National Institute of Metrology (NIM)</i></p> <p>Prototyping a New Generation of Watt Balances Ian Robinson, <i>National Physical Laboratory (NPL)</i></p>			
Th-8	Power and Energy II Chair: Rene Carranza , <i>Centro Nacional de Metrología (CENAM)</i>	Thursday 14:00 - 16:00	Room: Segovia II
<p>Evaluation of Uncertainties in Testing of Losses in Power Transformers Using GUM-S1 Marcelo Lourenço, <i>Universidade Federal de Goiás</i></p> <p>Evaluation and compensation of the Analog-to-Digital Converters and transducer influence in the CEM digital sampling wattmeter Javier Díaz de Aguilar , <i>Centro Español de Metrología (CEM)</i></p> <p>Improvements to the MSL Mains-Frequency Power Standard Tom Stewart, <i>Measurement Standards Laboratory of New Zealand</i></p> <p>Linearity Calibration of Wideband Digitizer Using Binary Inductive Voltage Divider Jian Feng, <i>Shangai Institute of Measurement and Testing Technology</i></p> <p>Calibration Methods of a CC and BCG for a High-Accuracy AC Current Ratio Standard up to 4 kHz Tatsuji Yamada, <i>National Metrology Institute of Japan (NMIJ/AIST)</i></p> <p>A characterized method for the real-time compensation of power system measurement transducers Gabriella Crotti, <i>Istituto Nazionale di Ricerca Metrologica (INRIM)</i></p>			

Th-9	Voltage IV Chair: Ilya Budovsky, National Measurement Institute Australia (NMIA) Thursday 14:00 - 16:00 Room: Segovia III
	<p>A quantum voltmeter for precision AC measurements Jinni Lee, <i>Physikalisch-Technische Bundesanstalt (PTB)</i></p> <p>Error Analysis in Waveforms Synthesized with a Combined Josephson System for AC Component Characterization Tezgül Öztürk, <i>Ulusal Metroloji Enstitüsü (TUBITAK)</i></p> <p>AC Waveform Source Referenced to a Programmable Josephson Voltage Standard Alain Rüfenacht, <i>National Institute of Standards and Technology (NIST)</i></p> <p>Power Calibration System Based on Josephson Sampling Voltmeter Mun-Seog Kim, <i>Research Institute of Standards and Science (KRISS)</i></p> <p>Accurate Measurement of AC Voltage in Audio Band Using Agilent Rado Lapuh, <i>Slovenian Institute of Quality and Metrology (SIQ)</i></p> <p>AC Voltage Measurement at 1 kHz using a Quantum Waveform Synthesizer and Application to the Measurement of Dynamic Quantities Jonathan Williams, <i>National Physical Laboratory (NPL)</i></p> <p>Microvolt Josephson Voltage Set-up Based on Two Programmable Josephson Arrays Honghui Li, <i>National Institute of Metrology (NIM)</i></p>

Technical Program – Friday, August 29

07:30 – 8:30		
Speaker Breakfast (for Friday session chairs and oral presenters)		Queluz II + III + IV + V
Oral Session 8:30 - 10:30		
Fr-1	Radio Frequency III Chair: Markus Zeier, Federal Institute of Metrology (METAS) Friday 8:30 - 10:30 Room: Segovia I	
	<p>Improvement in the Evaluation of a Rectangular Waveguide Microcalorimeter Correction Factor Weihai Fang, Beijing Institute of Radio Metrology and Measurement</p> <p>Absolute intensity measurement of a 100 GHz source using laser-based electro-optic sampling Yuqiang Deng, Physikalisch-Technische Bundesanstalt (PTB)</p> <p>Improvements on INRIM Coaxial Microcalorimeter Luciano Brunetti, Istituto Nazionale di Ricerca Metrologica (INRIM)</p> <p>Accurate Measurement of Microwave Power in the IEC: R-70 (WR-138) Waveguide Transmission Line Alain Michaud, National Research Council of Canada (NRC)</p> <p>Development of a new DC-substitution RF power meter at LNE Djamel Allal, Laboratoire national de métrologie et d'essais (LNE)</p> <p>A W-Band Thermoelectric Power Transfer Standard Rolf Judaschke, Physikalisch-Technische Bundesanstalt (PTB)</p>	
Fr-2	Voltage V Chair: Jonathan Williams, National Physical Laboratory (NPL) Friday 8:30 - 10:30 Room: Segovia II	
	<p>Load Characteristics of Two-staged Inductive Voltage Dividers Saytaro Kon, National Metrology Institute of Japan (NMIJ/AIST)</p> <p>A Low-Frequency Current Comparator For Precision Resistance Measurements Alexandre Satrapinski, Centre for Metrology and Accreditation (MIKES)</p> <p>Self-calibration of the Binary Inductive Voltage Divider at frequencies up to 1MHz Xianlin Pan, National Institute of Metrology (NIM)</p> <p>Calibration of a Two Stage Coaxial Inductive Voltage Divider for Use between 1 kHz and 100 kHz Marc Florian Beug, Physikalisch-Technische Bundesanstalt (PTB)</p> <p>Highly Accurate Differential AC Voltage Measurements with a Single DC Voltage Reference Waldemar Kürten Ihlenfeld, Instituto Nacional de Metrologia, Qualidade e Tecnologia (Inmetro)</p> <p>A precise two-channel digitally synthesized AC voltage source for impedance metrology Jaani Nissila, Centre for Metrology and Accreditation (MIKES)</p> <p>A New Calibration System for Small AC Voltages at Power Frequencies Branislav Djokic, National Research Council of Canada (NRC)</p>	

Fr-3	HV/HI II Chair: Tom Nelson, National Institute of Standards and Technology (NIST) Friday 8:30 - 10:30 Room: Segovia III
	<p>The Voltage Coefficient Determination of High Voltage Capacitive Divider by Serial Summation of Voltage Transformers Haiming Shao, National Institute of Metrology (NIM)</p> <p>The Development of a Two-stage Voltage Transformer of 110/v3 kV and Class 0.001 Haiming Shao, National Institute of Metrology (NIM)</p> <p>Traceability of loss measurements of Extra High Voltage (EHV) three-phase shunt reactors Eddy So, National Research Council of Canada (NRC)</p> <p>Estimation of Time Parameters of Tail Chopped Lightning Impulses – Clarification of the Standard IEC 60060-1/2010 Carlos Barbosa, Pontifical Catholic University of Rio de Janeiro</p> <p>Traceability and characterization of a 1000 kV HVDC reference divider Alf-Peter Elg, SP Technical Research Institute of Sweden</p> <p>Performance of a modular wideband 1000 kV HVDC reference divider Jari Hällström, Centre for Metrology and Accreditation (MIKES)</p>
10:30 – 11:00 Coffee Break	
Closing Session 11:00 - 11:30	
Fr-CS	Closing Session Friday 11:00 - 11:30 Room: Segovia II + III
	<p>Invitation to CPEM 2016 Carlos Sánchez, NRC</p> <p>Close Gregory Kyriazis, CPEM 2014 Vice-Chair, and Héctor Laiz, CPEM 2014 Technical Committee Chair</p>
12:00 – 18:00 TRAVEL AND INMETRO LAB TOURS	