

Names of presenters are shown only.

Place: AGH Energy Center (Centrum Energetyki AGH), ul. Czarnowiejska 36, Building C-6, room 307, 30-054 Krakow, Poland

Monday 17.06.2019

8³⁰ Opening of the conference office

9⁰⁰ – 10⁰⁰ Get-together party

10⁰⁰ **OPENING CEREMONY**

10¹⁵ **PLENARY OPENING SESSION** DEVOTED TO 100TH ANNIVERSARY OF GUM IN WARSAW

Session Chair: **Waldemar NAWROCKI, Marian KAMPIK**

- **Maciej DOBIESZEWSKI:**
HISTORY AND DEVELOPMENT PLANS OF GUM
- **Paweł ZAWADZKI:**
HISTORY, CURRENT ACTIVITIES AND DEVELOPMENT PLANS IN THE ELECTRICITY AND MAGNETISM LABORATORY OF GUM

11¹⁵ – 11³⁰ A joint photo of conference participants

11³⁰ – 12⁰⁰ Coffee break

12⁰⁰ - 13³⁰ **PLENARY SESSION I**

REDEFINITION OF THE SI / THE RE-DEFINITION OF THE BASE UNITS OF THE SI

Session Chair: **Andrzej BIEŃ, Paul SEIDEL**

- **Jerzy BORZYMINSKI:**
SI REDEFINITION. STARRING: FUNDAMENTAL CONSTANTS
- **Andrzej ZIĘBA:**
ON THE EVOLUTION OF SI SYSTEM OF UNITS
- **Waldemar NAWROCKI:**
REMARKS ON THE NEW SI SYSTEM
- **Władysław KOZŁOWSKI:**
REDEFINITION OF THE MOLE

13³⁰ – 14³⁰ Lunch

14³⁰ – 16⁰⁰ **PLENARY SESSION II**

MASS

Session Chair: **Olivier THEVENOT, Andrzej ZIĘBA**

- **Krzysztof ŁAZOWSKI:**
REDEFINITION OF THE KILOGRAM
- **Edyta BEYER:**
GROWTH AND LONG-TERM STABILITY OF THE SURFACE LAYER ON ²⁸SI SPHERES FOR THE REALIZATION OF THE KILOGRAM
- **Tadeusz SZUMIATA**
REDEFINITION OF THE KILOGRAM IN POLAND - THE PROPER CHOICE OF KIBBLE BALANCE PROJECT
- **Matthieu THOMAS**
PROGRESS ON THE FRENCH LNE KIBBLE BALANCE: TOWARDS THE REALIZATION OF THE MASS UNIT IN FRANCE

16¹⁵ – ca. 19³⁰ Krakow Old City walking tour (with a guide; recommended comfortable footwear and raincoats or umbrellas – in case of rain)

Tuesday 18.06.2019

9⁰⁰ - 11⁰⁰ **PARALLEL SESSION III**

VOLTAGE

Session Chair: **Lutfi OZYUZER, Tadeusz SZUMIATA**

- **Samuel BENZ:**
QUANTUM-BASED VOLTAGE METROLOGY WITH SUPERCONDUCTIVE ELECTRONICS
- **Oliver KIELER:**
OPTICAL PULSE-DRIVE AND ON-CHIP POWER SPLITTER FOR THE PULSE-DRIVEN AC JOSEPHSON VOLTAGE STANDARD
- **Alexander KLUSHIN:**
HIGH TEMPERATURE SUPERCONDUCTOR JOSEPHSON JUNCTIONS FOR THE QUANTUM VOLTAGE STANDARDS
- **Jérôme LESUEUR**
HIGH TC SUPERCONDUCTING JOSEPHSON NANO-JUNCTIONS AND ARRAYS
- **Andrea SOSSO:**
EXPERIMENTS WITH CRYOCOOLED PROGRAMMABLE AND PULSED JOSEPHSON STANDARDS
- **Yu. M. SHUKRINOV:**
RESONANCE PHENOMENA IN JOSEPHSON JUNCTIONS

9⁰⁰ - 11⁰⁰

PARALLEL SESSION IV

IMPEDANCE AND OTHER TOPICS

Session Chair: **Luca CALLEGARO, Tadeusz SKUBIS**

- **Olivier THEVENOT**
PROGRESS ON THE LNE NEW THOMPSON-LAMPARD CALCULABLE CAPACITOR
- **Martina MARZANO:**
REALIZATION OF THE FARAD FROM THE QUANTUM HALL EFFECT WITH A FULLY-DIGITAL BRIDGE: PROGRESS REPORT
- **Martina MARZANO:**
IMPLEMENTATION OF A GRAPHENE QUANTUM HALL EFFECT KELVIN BRIDGE FOR RESISTANCE CALIBRATION
- **Jacek PUCHALSKI:**
VECTOR METHOD OF ESTIMATION THE UNCERTAINTIES OF CORRELATED MULTI-MEASURANDS
- **Teodor GOTSZALK:**
INVESTIGATION OF THERMAL AND ELECTRICAL NANOSTRUCTURE PARAMETERS USING COMBINED SCANNING PROBE MICROSCOPY METHODS
- **Michał URBAŃSKI:**
FUZZYFICATION OF QUANTUM THEORY OF MEASUREMENT

11⁰⁰ – 11¹⁵ Coffee break

11¹⁵ - 13⁰⁰

PLENARY SESSION V

TERAHERTZ WAVES AND NOVEL SENSORS

Session Chair: **Jérôme LESUEUR, Teodor GOTSZALK**

- **Emil BURCON:**
REDEFINITION OF KELVIN
- **Lutfi OZYUZER:**
TERAHERTZ WAVES FROM HIGH TEMPERATURE SUPERCONDUCTORS AND QUANTUM CASCADE LASERS
- **Yasemin DEMIRHAN:**
NOVEL TUNABLE METASURFACES FABRICATED FROM HIGH TEMPERATURE SUPERCONDUCTORS FOR THZ APPLICATIONS
- **Marcin WOJCIECHOWSKI:**
2 THz FREQUENCY STANDARD PROJECT
- **Rimantas MIŠKINIS:**
TEMPERATURE MEASUREMENTS USING SURFACE ACOUSTIC WAVE SENSORS WITH IMPLEMENTED WIDE-BAND HYPERBOLICALLY FREQUENCY-MODULATED TECHNOLOGY

13⁰⁰ - 14⁰⁰ Lunch

Time for individual sightseeing of the Wawel Castle.

19⁰⁰ Banquet

9³⁰ – 11⁰⁰

PLENARY SESSION VI

CURRENT AND OTHER TOPICS

Session Chair: **Samuel BENZ, Oliver KIELER**

- **Witold RZODKIEWICZ:**
A REFINED DEFINITION OF THE AMPERE
- **Sophie DJORDJEVIC**
QUANTUM CURRENT STANDARD BASED ON THE JOSEPHSON EFFECT AND THE QUANTUM HALL EFFECT
- **Felix RASO:**
NEW MEASUREMENT SYSTEM FOR LOW DC CURRENT AT CEM, BASED IN THE PRINCIPLE OF CHARGING CAPACITOR
- **Adam WÓJTOWICZ:**
MEASUREMENT CAPABILITIES OF THE STRUCTURED LIGHT SCANNER AND CMM IN THE CENTRAL OFFICE OF MEASURES

11⁰⁰ – 11¹⁵ Coffee break

11¹⁵ - 12⁴⁵

POSTER SESSION

Session Chair: **Michał URBAŃSKI, Krzysztof MUSIOŁ**

- **Paul SEIDEL:**
MoRe-DOPED SI-MORE JOSEPHSON JUNCTIONS FOR SQUID-BASED APPLICATIONS
- **Grzegorz ŁUKA:**
ELECTRICAL NOISE OF QUANTUM RESISTANCE STANDARDS
- **Anna PIASKOWY:**
UNCERTAINTY OF THE INPUT/OUTPUT IMPEDANCE MEASUREMENTS OF A PRECISION RATIO TRANSFORMER
- **Beata KRUPANEK:**
IMPROVING PRECISION OF NODE LOCALIZATION IN WSN
- **Michał GRZENIK:**
UNCERTAINTY BUDGET OF AC-DC COMPARATOR AT SUT
- **Maciej MALINOWSKI:**
A PRECISION COAXIAL CURRENT SHUNT
- **Adam PILŚNIAK:**
A HYBRID TRUE-RMS CONVERTER
- **Ryszard BOGACZ:**
INCREASED PWM PRECISION USING THE DITHERING TECHNIQUE
- **Henryk URZĘDNICZOK:**
MICROPLASTIC POLLUTIONS – A NEW CHALLENGE FOR METROLOGY
- **Marcin KURCZALSKI:**
WIDEBAND DIGITAL SOURCE OF AC VOLTAGE

- **Mariusz STEPIEŃ:**
*ANALYSIS OF COILS USING 2D PLANAR AND AXISYMMETRIC FEM MODELS IN
APPLICATION TO HIGH FIELDS MAGNETS*

12⁴⁵ - 13⁰⁰ **CLOSING SESSION**

13⁰⁰ Lunch

Social events

Monday, 17 June 2019

Get-together party 9⁰⁰ – 10⁰⁰ AGH Energy Center (Centrum Energetyki AGH), ul. Czarnowiejska 36, Building C-6, at the front of room 307.

Krakow Old City walking tour (with a guide; recommended comfortable footwear and raincoats or umbrellas – in case of rain).

Start: 16¹⁵ from AGH Energy Center (Centrum Energetyki AGH), ul. Czarnowiejska 36, Building C-6.

Finish: ca. 19³⁰ at Wawel Royal Castle.

Tuesday, 18 June 2019

19⁰⁰ - ? Banquet in restaurant “Kawaleria”, Kraków Old Town, ul. Gołębia 4 (“ul.” is an abbreviation and means “street”).

