

IMEKO XIX World Congress 報告

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Report of IMEKO XIX World Congress

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IMEKO XIX World Congressは2009年にLisbon (リスボン) で開催された。副題は“Fundamental and Applied Metrology”である。(IMEKOはInternational Measurement ConfederationのLatin (ラテン) 語表記の略称である。) MII関係者としては筆者らの3名が参加した。

会議の期間は9月6日(日)から11日(金)までの6日間であり、会場はFIL Meeting Centreである。会場の位置は直線距離でLisbonの中心部から北東へ8 km, Portela空港から東へ4 kmのRio Tejo (テージョ川)の右岸である。Lisbon万博の跡地を利用したParque das Nações (ネーションパーク)の中にある。会場の入り口をFig.1に、付近の風景をFig.2に示す。



Fig.1 会場の入り口。



Fig.2 会場付近の風景。

分野別の報告件数をTable Iに示す。医用関係はTC (technical committee) 13のMeasurements in Biology and Medicineで、oral sessionは25件ありoral sessionの全報告件数379件の6.59%である。Poster sessionは他のTCと一緒にっており、正確な件数は分からない。TC 13でのoral報告の一部をTable 2に、poster報告の一部をTable 3に示す。

各TCごとにworkshop, round table, meetingも行われた。参加者の正確な人数や国別内訳は分からないが、報告者はおおよそEurope地域が74%, America地域が12%, Asia地域が14%であった。

Invited talkとして下記の5件があった。

Terahertz Based Imaging for Inspection and Spectroscopic Analysis : Tilo Pfeifer

World Metrology – The Next 10 Years : Andrew Wallard

Metrology Challenges for Biofuels : João Jornada

Challenges in Medical Measurements : John Webster

Space Metrology – A Cosmic Vision : André Tavares

Poster sessionの状況をFig. 3に示す。Fig. 4は筆者らのposterである。

Fig. 5にregistrationの、Fig. 6にopening ceremony, Fig. 7にexhibitionのそれぞれの様子を示す。

会議に伴う行事としてはcongress banquetがLisbonから西にあるCasino Estrel (カジノ・エストリル)であり、多くの研究者との交流を深めることができた。付随して太鼓のshowも行われた (Fig. 8)。

会議場の近くにあるOceanário de Lisboa (水族館)の見学を兼ねたwelcoming cocktailもあった (Fig. 9)。

今回はtechnical visitは実施されなかった。Proceedingの発行はなくWeb上で論文の閲覧をすることができる (URL <http://www.imeko.org/>)。

Computerも用意されており、各自が自由に使うことができた。

XXは次のような予定になっている。

XX : 釜山, 韓国, 2012年9月9日(日) – 14日(金),
URL <http://imeko2012.kr/>.

また、関連した国際会議として以下のものが予定されている。

13th IMEMO TC1-TC7 Joint Symposium 2010 “Without Measurement No Science, Without Science No Measurement” : London (ロンドン), UK (英国), 2010年9月1日(水) – 3日(金), URL <http://www.imeko.org/tc7/>.

14th IMEMO TC1-TC7 Joint Symposium 2011 : Jena (イエー

ナ), Germany(ドイツ), 2011年6月22日(水) – 25日(土), 参照URL <http://www.imeko.org/tc7/>.

Measurement 2011 : Smolenic Castle, Slovakia (スロバキア), 2011年5月, 参照URL <http://www.measurement.sk/M2009/>, (IMEKO TC1 Education and training in measurement and instrumentationとTC 13 Measurement in biology and medicineがsponsor).

Table 1 分野別の報告件数.

Oral		
Topics	名 称	件 数
TC 1	Education and training in measurement and instrumentation	8
TC 2	Photonics	16(3)
TC 3	Measurement of force, mass and torque	38(7)
TC 4	Measurement of electrical quantities	84
TC 5	Hardness measurement	10(3)
TC 7	Measurement science	19(1)
TC 8	Traceability in metrology	10
TC 9	Flow measurement	12
TC 10	Technical diagnostics	10
TC 11	Metrological infrastructures	6
TC 12	Temperature and thermal measurements	19(4)
TC 13	Measurement in biology and medicine	25(2)
TC 14	Measurement of geometrical quantities	29(4)
TC 15	Experimental mechanics	4
TC 16	Pressure and vacuum measurement	14(2)
TC 17	Measurement in robotics	3(1)
TC 18	Measurement of human functions	10(3)
TC 19	Environmental measurements	9
TC 20	Measurement techniques for the construction industry	3
TC 21	Mathematical tools for measurements	24
TC 22	Vibration measurement	12(1)
TC 23	Metrology in food and nutrition	8
TC 24	Chemical measurements	6
合 計		379(31)
Poster		
Session	Topics	件 数
1	TC1, TC2, TC3, TC19	40(3)
2	TC7, TC8, TC9, TC11, TC13, TC14	42(2)
3	TC4, TC12, TC15	39
4	TC5, TC10, TC16, TC20, TC21, TC22, TC23, TC24	41(1)
合 計		162(6)
Oral と Poster の総計		541(37)

注1) TC : Technical committee.

注2) TC 6は留保.

注3) ()内は内数で示した日本からの発表件数.

Table 2 TC 13 の oral 報告.

TC13 Oral Session 2

Thursday, 11:00 to 12:20 – Luis Vaz de Camões Room

TC13 – RADIATION MEASUREMENTS

Chair: Vesna Spasic Jagic, Faculty of Technical Sciences, Chair for instrumentation and Electrical Measurements, University of Novi Sad, Serbia

100 Radiation Isodose Surface Distortion as a Source of Dose or Exposure Rate Measurement Uncertainty: Example in Brachytherapy Seeds (69)

José Manzoli, IPEN-CNEN/SP, Brazil
 Jorge Pirolla, Universidade São Judas Tadeu, Brazil
 Eduardo Moura, IPEN-CNEN/SP, Brazil
 Carlos Zeituni, Nuclear and Energetic Research Institute and Universidade Presbiteriana Mackenzie, Brazil
 João Moura, Nuclear and Energetic Research Institute, IPEN, Brazil
 Maria Elisa Chery Martins Rostelatto, Nuclear and Energetic Research Institute, IPEN, São Paulo, Brazil

120 Estimation of Patient Effective Dose from ¹³¹I Using Monte Carlo Calculation (410)

Vesna Spasic Jagic, Faculty of Technical Sciences, Serbia
 Milan Orlic, VINCA Institute of Nuclear Sciences, Serbia

140 Traceability to Absorbed-Dose-to-Water Primary Standards in Dosimetry of Brachytherapy Sources Used for Radiotherapeutic (553)

Maurizio Bovi, Istituto Nazionale di Metrologia delle Radiazioni Ionizzanti (ENEA-INMRI), Italy
 Maria Pia Toni, Istituto Nazionale di Metrologia delle Radiazioni Ionizzanti (ENEA-INMRI), Italy
 Isabelle Aubineau-Laniece, CEA, LIST, LNE-LNHB, France
 Jean-Marc Bordeny, CEA, LIST, LNE-LNHB, France
 João Cardoso, Instituto Tecnológico e Nuclear (ITN), Portugal
 Bruno Chauvenet, CEA, LIST, LNE-LNHB, France
 Frantisek Gabris, BEV - Bundesamt für Eich- und Vermessungswesen, Austria
 Jan-Erik Grindborg, Swedish Radiation Safety Authority (SSM), Sweden
 Antonio Stefano Guerra, Istituto Nazionale di Metrologia delle Radiazioni Ionizzanti (ENEA-INMRI), Italy
 Antti Kosunen, Radiation and Nuclear Safety Authority (STUK), Finland
 Carlos Oliveira, Instituto Tecnológico e Nuclear (ITN), Portugal
 Maria Pimpinella, Istituto Nazionale di Metrologia delle Radiazioni Ionizzanti (ENEA-INMRI), Italy
 Thorsten Sander, National Physical Laboratory, United Kingdom
 Hans-Joachim Selbach, Physikalisch-Technische Bundesanstalt (PTB), Germany
 Vladimír Sochor, Czech Metrology Institute, Czech Republic
 Jaroslav Šolc, Czech Metrology Institute, Czech Republic
 Jacco de Pooster, Van Swinden Laboratorium B. V. (VSL), The Netherlands
 Eduard van Dijk, Van Swinden Laboratorium B. V. (VSL), The Netherlands

160 Portable X-Ray CT Mini System Based on Monolithic Semi-Insulating GaAs Detectors Using Perspective Imaging Reconstruction Techniques (67)

Jiri Pištil, Institute of Measurement Science, SAS, Bratislava, Slovakia
 B. Zatko, Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia
 Ivan Frollo, Institute of Measurement Science, SAS, Bratislava, Slovakia
 F. Dubecký, Institute of Electrical Engineering, Slovak Academy of Sciences, Slovakia
 Paweł Gryboś, Department of Measurement and Science, AGH University of Science and Technology, Poland



Fig.3 Poster session の状況.

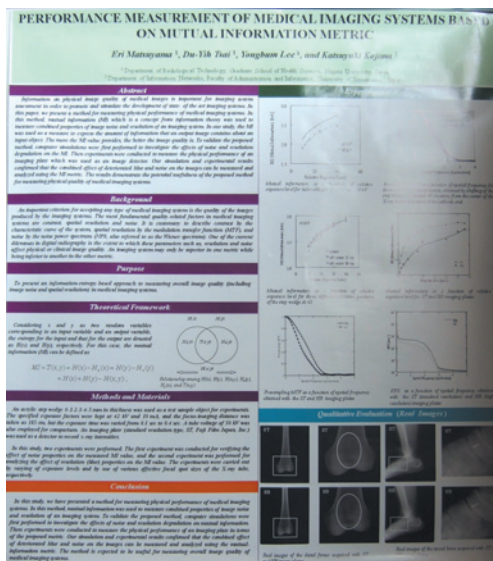


Fig.4 筆者らの poster.



Fig.5 Registration.



Fig.6 Opening ceremony.

Table 3 TC 13 の poster 報告.

Improved Synchronizing Procedure of PDAs to Delivery the Common Sense of the Time to Stand Alone Measurement Instrument (681)

*Domenico Luca Carni, University of Calabria, Italy
Domenico Grimaldi, Department of Electronics, Computer and System Sciences University of Calabria, Italy
Francesco Lamonaca, Università della Calabria, Italy*

Guide for a Peer Review (698)

*Jorge C. Torres-Guzmán, Centro Nacional de Metrología, Mexico
Miguel Villesid-Alonso, Centro Nacional de Metrología, Mexico
Luis Omar Becerra-Santiago, Centro Nacional de Metrología, Mexico
Roberto Arias-Romero, Centro Nacional de Metrología, Mexico*

Some Practical Aspects of Excitation Coil Design for Electromagnetic Flow Meter (45)

*Andrzej Michalski, Electrical Fac., Warsaw Univ. of Technology/Electronics Fac., Military Univ. of Technology, Poland
Zbigniew Watral, Military University of Technology, Poland
Jan Stenkiewicz, Military University of Technology, Poland*

Combined Measurement of Flow Velocity and Filling Within Fully Electromagnetic Flowmeter for Open Channels (63)

*Jacek Jakubowski, Military University of Technology, Poland
Andrzej Michalski, Electrical Fac., Warsaw Univ. of Tech./Electronics Fac., Military Univ. of Technology, Poland*

Water Surface Profile in Divided Channels Verified Experimentally (236)

*Maurizio Leopardi, Faculty of Engineering - University of L'Aquila, Italy
Maria Teresa Todisco, Faculty of Engineering - L'Aquila, Italy*

Gradually-Variied Flows in Open-Channel Networks (267)

Maria Teresa Todisco, Faculty of Engineering - L'Aquila, Italy

Real Life Ultrasonic Flowmeter Verification for Upstream Custody Transfer Metering Natural Gas (390)

*Craig Coull, METCO Services Ltd, United Kingdom
Edmund Spearman, CNR International, United Kingdom
Jason Laidlaw, METCO Services Ltd, United Kingdom*

Trends of Density Measurement by International Transport of Natural Gas - Direct or Indirect Measurement? (562)

*Tomáš Hajduk, Czech Metrology Institute, Czech Republic
František Staněk, Czech Metrology Institute, Czech Republic
Dominik Pražák, Czech Metrology Institute, Czech Republic
Jiří Tesař, Czech Metrology Institute, Czech Republic
Zdeněk Krajiček, Czech Metrology Institute, Czech Republic*

Analysis of Signal Network Non-Linearity in a Metrological Laboratory (376)

*Vaclav Papez, CTU in Prague, Faculty of Electrical Engineering, Czech Republic
Stanislava Papezova, CTU in Prague, Faculty of Mechanical Engineering, Czech Republic*

A Routing Protocol with Distributed Topology Maintenance in Wireless Sensor Networks (602)

*Andrzej Michalski, Electrical Fac., Warsaw Univ. of Technology/Electronics Fac., Military Univ. of Technology, Poland
Lukasz Makowski, Warsaw University of Technology, Poland*

Performance Measurement of Medical Imaging Systems Based on Mutual Information Metric (31)

*Eri Matsuyama, Dep. of Radiological Technology, Graduate School of Health Sciences, Niigata Univ., Japan
Du-Yih Tsai, Dep. of Radiological Technology, Graduate School of Health Sciences, Niigata Univ., Japan
Yongbum Lee, Dep. of Radiological Technology, Graduate School of Health Sciences, Niigata Univ., Japan
Katsuyuki Kojima, Dep. of Information Networks, Fac. of Administration and Informatics, Univ. of Hamamatsu, Japan*



Fig.7 Exhibition.



Fig.8 Congress banquet での太鼓の show.



Fig.9 Welcoming cocktail.