

# INTERNATIONAL MEASUREMENT CONFEDERATION

## IMEKO BULLETIN

Vol. 32 No. 1 June 2004

---

---

**Edited and published by the IMEKO SECRETARIAT**

1371 Budapest 5, P.O.B. 457 Hungary  
Editor: Karolina Havrilla, Press Secretary,  
Secretary of IMEKO  
E-mail: imeko.ime@mtesz.hu

Nyomdai előkészítés: Inic Bt.  
Nyomás: Ungi-Ker Bt. – ERFO Kft.

# Dear Reader

In the three-year intervals between World Congresses the activities of the 20 IMEKO Technical Committees gain on importance. We are pleased to present you herewith our EVENT CALENDAR and look forward to greeting you at one or more of our forthcoming events, as an author, or an active, interested attendee. The ever growing number of co-sponsorships should also be mentioned here. They are – for the most part – “traditional” ones and we are proud to maintain these contacts, whereas we are also open for new ones.

The STRATEGIC ROLLING PLAN of the Confederation worked out by the Secretary General, Dr. Tamás Kemény and discussed and approved by the Advisory Board for the next few years includes the expansion of membership as well. There are societies or other bodies from several countries with highly developed measurement technology and instrument engineering we would like to see in our midst, e.g. in the South American region, for mutual benefits. In addition, we are also looking forward to cooperate with institutions and industrial companies which could be listed in our journals, documents, conference materials and on our Website with proper links as “supporting members”.

The IMEKO Journal MEASUREMENT published by Elsevier Ltd., Oxford (UK) has arrived at Vol 35 No 3 in April. Contributions are invited on all aspects of the research, development and application of the science and technology of measurement and instrumentation. Authors are encouraged to submit novel material which could include results of research or experimental work, may deal with practical developments related to plant or process, discuss new developments in sensors and instrumentation or relate to systems evaluation and modeling. Topics covered: general principles of measurement and instrumentation; sensors and sensor systems, design and evaluation; data acquisition; signal transmission, processing and evaluation; data output; systems aspects; systems modelling and evaluation; specific applications in measurement and instrumentation; specific instruments and measurement systems; design and manufacture of instruments; applications of sensors and instrumentation. For inquiries relating to the submission of articles please visit Elsevier’s Author Gateway at <http://authors.elsevier.com>

Furthermore, if you would like to see the general level of the IMEKO BULLETINS improved, your contribution and advice are welcome. Please contact the Editor at [imeko@axelero.hu](mailto:imeko@axelero.hu)

*Karolina Havrilla*  
Editor of the Bulletin

# Event calendar

**2004**

## **TC1 – Education and Training in Measurement and Instrumentation**

Symposium on Modern Education in Measurement and Metrology

Bratislava, Slovakia

*September 13-14*

Contact: Dr. M. Halaj

Slovak University of Technology  
Faculty of Mechanical Engineering  
Nam. Slobody 17  
81231 Bratislava, SLOVAKIA  
Phone: +421 2 572 94 562  
Fax: +421 2 524 95 315  
E-mail: halaj@kam.vm.stuba.sk

PRECEDING the Symposium: 3<sup>rd</sup> On-line Workshop for Education in Measurement

Organized by the Tampere University of Technology, Finland

[www.mit.tut.fi/imekotc1](http://www.mit.tut.fi/imekotc1)

## **TC2 – Photonics**

16<sup>th</sup> Symposium on Photonics in Measurement

Frankfurt am Main, Germany

*June 23-24*

Contact: VDI-Kompetenzfeld Optische Technologien

Photonics 2004  
Graf-Recke-Str. 84  
40239 Düsseldorf, GERMANY  
Phone: +49 211 62 14 226  
Fax: +49 211 62 14 161  
E-mail: [kfot@vdi.de](mailto:kfot@vdi.de)  
<http://www.vdi.de/kfot/photonics2004.htm>

### **TC4 – Measurement of Electrical Quantities**

13<sup>th</sup> Symposium on Measurements for Research and Industrial Applications

9<sup>th</sup> Workshop on ADC Modeling and Testing

Athens, Greece

*September 29-October 1*

Contact: Prof. E. Kayafas

National Technical University of Athens

School of Electrical and Computer Engineering

Zographou Campus

15773 Athens, GREECE

Phone: +30 210 772 2544

Fax: +30 210 772 2538

E-mail: [kayafas@cs.ntua.gr](mailto:kayafas@cs.ntua.gr)

[www.medialab.ntua.gr/IMEKO](http://www.medialab.ntua.gr/IMEKO)

### **TC5 – Hardness Measurement**

HARDMEKO 2004 – Conference on Hardness Measurements; Theory and Application in Laboratories and Industries

Washington, D.C., USA

November 11-12

Contact: Mr. Sam Low

National Institute of Standards and Technology

100 Bureau Drive, Stop 8553

Gaithersburg, MD 20899-8553, USA

Phone: +1 301 975 5709

Fax: +1 301 975 4553

E-mail: [samuel.low@nist.gov](mailto:samuel.low@nist.gov)

**TC7 – Measurement Science**

10<sup>th</sup> Symposium on Advances of Measurement Science

St. Petersburg, Russia

June 30 – July 2

Contact: Prof. S.V. Muravyov

Department of Computer-aided Measurement Systems and Metrology

Tomsk Polytechnic University

Pr. Lenina, 30

Tomsk 634050, RUSSIA

Phone: +7 3822 417527

Fax: +7 3822 420449

E-mail: [muravyov@camsam.tpu.ru](mailto:muravyov@camsam.tpu.ru)

<http://camsam.tpu.ru/symposium/>

**TC9 – Flow Measurement**

FLOMEKO 2004 – 12<sup>th</sup> Conference on Flow Measurement

Beijing, China

*September 14-17*

Contact: Mr. Wang Dong Wei

National Institute of Metrology

Flow Lab Heat Division

No. 18, Bei San Huan Dong Lu

Beijing 100013, CHINA

Phone: +86 10 64211631-2208

Fax: +86 10 6421 8637

E-mail: [wangdw@nim.ac.cn](mailto:wangdw@nim.ac.cn)

<http://www.chinaflow.com.cn/flomeko2004.htm>

## **TC12 – Temperature and Thermal Measurements**

TEMPMEKO 2004 - 9<sup>th</sup> Symposium on Temperature and Thermal Measurements  
in Industry and Science

Cavtat-Dubrovnik, Croatia

*June 22-25*

Contact: Prof. D. Zvizdic

University of Zagreb

Faculty of Mechanical Engineering and Naval Architecture

Ivana Lucica, 5

10000 Zagreb, CROATIA

Phone: +385 1 616 83 33

Fax: +385 1 611 87 14

E-mail: davor.zvizdic@fsb.hr

www.tempmeko2004.fsb.hr

## **TC14 – Measurement of Geometrical Quantities**

8<sup>th</sup> International Symposium on Measurement and Quality Control in Production

Erlangen, Germany

*October 11-15*

Contact: Prof. A. Weckenmann

University Erlangen-Nürnberg

Quality Management and Manufacturing Technology

Nägelsbachstrasse 25

91052 Erlangen, GERMANY

Phone: +49 9131 8526520

Fax: +49 9131 856524

E-mail: weckenmann@qfm.uni-erlangen.de

www.qfm.uni-erlangen.de

### **TC17 – Measurement in Robotics**

ISMCR 2004 – 14<sup>th</sup> International Symposium on Measurement and Control in Robotics

Houston/Texas, USA

*September 16-17*

Contact: Dr. Z. S. Taqvi

International Space Station

Communications and Tracking Subsystem

Houston/Texas, USA

Phone: +1 281 244 4436

Fax: +1 281 244 4374

E-mail: [Zafar.S.Taqvi@Boeing.Com](mailto:Zafar.S.Taqvi@Boeing.Com)

<http://www.ghg.net/ieeegbs/ISMCR'04>

### **TC18 – Measurement of Human Functions**

TC8 – Traceability in Metrology

TC11 – Metrological Infrastructures

2<sup>nd</sup> Symposium on Measurement, Analysis and Modeling of Human Functions and

1<sup>st</sup> Mediterranean Conference on Measurement

Genova, Italy

*June 14-16*

Contact: Dr. P.G. Morasso

University of Genova

Department of Informatics, Systems, Telecommunications

Via Opera Pia, 13

16145 Genova, ITALY

Phone: +39 010 3532749

Fax: +39 010 3532154

E-mail: [morasso@dist.unige.it](mailto:morasso@dist.unige.it)

[www.dist.unige.it/ishf\\_mcm\\_2004](http://www.dist.unige.it/ishf_mcm_2004)



*Co-sponsorships:*

**X International Congress on Experimental Mechanics**

Costa Mesa, California/USA

*June 6-10*

Contact: Dr. T.W. Proulx, Executive Director  
Society for Experimental Mechanics, Inc. – SEM  
7 School Street  
Bethel, Connecticut 06801, USA  
Phone: +1 203 790 6373  
Fax: +1 203 790 4472  
E-mail: [director@sem1.com](mailto:director@sem1.com)  
[www.sem.org](http://www.sem.org)

**11<sup>th</sup> International Conference on Composites (Nano) Engineering**

Hilton-Head Island, South Carolina/USA

*August 8-14*

Contact: Prof. David Hui  
University of New Orleans  
Department of Mechanical Engineering  
New Orleans, LA 70148-2220, USA  
Phone: +1 504 280 6652  
Fax: +1 504 280 5539  
E-mail: [dhui@uno.edu](mailto:dhui@uno.edu)  
[www.uno.edu/~enr/composite](http://www.uno.edu/~enr/composite)

**21<sup>st</sup> Danubia-Adria Symposium on Experimental Methods in Solid Mechanics (TC15)**

Brijuni/Pula, Croatia

*September 29-October 2*

Contact: Studio Hrg d.o.o.  
Hrvatske bratske zajednice, 4  
10000 Zagreb, CROATIA  
Phone: +385 1 6183140  
Fax: +385 1 6110452  
E-mail: [sinisa.hrg@zg.hinet.hr](mailto:sinisa.hrg@zg.hinet.hr)  
<http://www.studiohrg.hr/21danubia-adria>

**MERA 2004 – 11<sup>th</sup> Exhibition on Measurement Engineering, Control and Automation**

Moscow, Russia

*November 2-5*

Contact: Ms. Sabine Foessler, Project Manager

M.S.I. Fairs & Exhibitions

Wohlebengasse 6

1040 Vienna, AUSTRIA

Phone: +43 1 402 89 54 15

Fax: +43 1 402 89 54 54

E-mail: [mera@msi-fairs.com](mailto:mera@msi-fairs.com)

<http://www.msi-fairs.com>

**2005**

**TC3 – Measurement of Force, Mass and Torque**

19<sup>th</sup> Conference on Force, Mass and Torque Measurement

Cairo, Egypt

February 19-23

Contact: Prof. A.A. El-Sayed

National Institute for Standards

Force Department

PO Box 136

Giza 12211, EGYPT

Phone/Fax: +20 2 382 9446

E-mail: [AhmedAli@nlab.nis.sci.eg](mailto:AhmedAli@nlab.nis.sci.eg)

[www.imeko.org/tc3](http://www.imeko.org/tc3)

**TC4 – Measurement of Electrical Quantities**

14<sup>th</sup> Symposium on New Technologies in Measurement and Instrumentation  
and 10<sup>th</sup> Workshop on ADC Modelling and Testing  
Gdynia/Jurata, Poland

*September 12-15*

Contact: Mr. J. Mindykowski

Gdynia Maritime University

Department of Ship Electrical Power Engineering

Faculty of Marine Electrical Engineering

Morska 81-84

81-225 Gdynia, POLAND

Phone: +48 58 690 14 40

Fax: +48 58 620 67 01

E-mail: janmind@am.gdynia.pl

**TC9 – Flow Measurement**

FLOMEKO 2005 – 13<sup>th</sup> Conference on Flow Measurement  
Peebles/ Scotland, UK

*June 6-9*

Contact: Dr. M.J. Reader-Harris

National Engineering Laboratory

East Kilbride/Glasgow G75 0QU, UK

Phone: +44 1355 272302

Fax: +44 1355 272536

E-mail: mreader@tuvnel.com

**TC14 – Measurement of Geometrical Quantities**

8<sup>th</sup> International Symposium on Laser Metrology

Merida, Mexico

*February 14-18*

Contact: Dr. R.R. Vera

Centro de Investigaciones en Optica A.C.

Loma del Bosque No. 115

Col. Lomas des Campestre

Apdo. Postal 1-948

C.P. 37150 Leon, GTO, MEXICO

Phone: +52 477 7731017

Fax: +52 477 717500

E-mail: rarove@cio.mx

*Co-sponsorship:*

**SENSOR+TEST 2005 – International Exhibition and Congress for Sensor  
Technology, Measurement and Control**

Nürnberg, Germany

*May 10-12*

Contact: Mrs. I. Seegers

AMA Service GmbH

Von-Münchhausen-Str. 49

31515 Wunstorf, GERMANY

Phone: +49 5033 96390

Fax: +49 5033 1056

E-mail: info@sensorfairs.de

www.sensorfairs.de

**2006**

**XVIIIth IMEKO WORLD CONGRESS**

Metrology for a Sustainable Development

Rio de Janeiro, Brazil

*May 7-12*

Contact: Brazilian Society of Metrology

Av. Nilo Pecanha 50, Grupos 2517 e 2512 – Centro

20020-906 Rio de Janeiro, RJ, BRAZIL

Phone/Fax: +55 21 2532 7373

E-mail: [sbm@metrologia.org.br](mailto:sbm@metrologia.org.br)

[www.metrologia2006.org.br](http://www.metrologia2006.org.br)

# XVIII IMEKO World Congress

## *Metrology for a Sustainable Development*

to be organized by the Brazilian Member Organization, the **Brazilian Society of Metrology** in one of the most beautiful cities of the World, **Rio de Janeiro**, May 7-12, 2006

### W E L C O M E !!!

As always, the scientific program will be based on the subjects covered by the Technical Committees:

EDUCATION AND TRAINING IN MEASUREMENT AND INSTRUMENTATION (TC1) - education and training for intelligent measurement and instrumentation; methods; virtual instrumentation for training in measurement

#### PHOTONICS

(TC2) - spectroscopy, interferometry and modulating techniques; structured illumination techniques and image sensing; development in the miniaturization of optical measurement systems and application in life science, production technology, IT-systems and traffic

#### MEASUREMENT OF FORCE, MASS AND TORQUE

(TC3) - dynamic force and torque measurement; measurement standards, instruments and techniques; development trends; dynamic weighing of road vehicles in motion and calibration problems under dynamic conditions

#### MEASUREMENT OF ELECTRICAL QUANTITIES

(TC4) - DC and low frequency measurements; radio frequency, microwave and millimeter wave measurements; optical wavelength metrology; traceability and international comparability of measurements; standards and sensors; automated measurement systems and advanced instrumentation; A/D and D/A converters and digital signal analysis and processing; software, environmental measurements and biomedical measurements; power, energy, time and frequency; measurements at universities

## HARDNESS MEASUREMENT

(TC5) - new theoretical and practical achievements; novel methods and instruments; the role of hardness measurements in science and industry

## VOCABULARY COMMITTEE

(TC6)

## MEASUREMENT SCIENCE

(TC7) - new principles and foundations for knowledge-based measurement; mathematical modeling of measurement applications; artificial intelligence in measurement and instrumentation; the social role of measurement and emerging topics of measurement science

## TRACEABILITY IN METROLOGY

(TC8) - uncertainty evaluation of results and the evaluation of measurement standards; quality assurance of measuring and test equipment

## FLOW MEASUREMENT

(TC9) - flow measurement in environmental engineering; unsteady flow measurement; measurement of very small to very large flow

## TECHNICAL DIAGNOSTICS

(TC10) - basic principles and development trends in diagnostic work; methods, instrumentation and systems; diagnostics for the improvement of the quality of life, medical non-invasive diagnostics

## METROLOGICAL INFRASTRUCTURES

(TC11) - regional cooperation in metrology and the international recognition of measurements; measurement support services: training, maintenance, repair, calibration

## TEMPERATURE AND THERMAL MEASUREMENTS

(TC12) - standards, intercomparisons, sensors and new measurement techniques; humidity measurements, calibrations, uncertainties, industrial and environmental applications

## MEASUREMENTS IN BIOLOGY AND MEDICINE

(TC13) - mathematical models for biomedical measurements; digital images and special instrumentation

## MEASUREMENT OF GEOMETRICAL QUANTITIES

(TC14) - dimensional metrology and quality control in production; manufacturing integrated measurement; laser metrology for precision measurement and inspection; surface texture and its micro-characteristics

## EXPERIMENTAL MECHANICS

(TC15) - the impact and role of experimental mechanics in product innovation; advances in optical methods and digital image processing; development of sensors and systems for adverse or dynamic conditions, standards, certification and design of experiments; micro-nano miniaturization

## PRESSURE AND VACUUM MEASUREMENT

(TC16) - innovative sensing techniques and instrumentation; primary standards and calibration uncertainties; calibration techniques and services

## MEASUREMENT IN ROBOTICS

(TC17) - integrated measurement techniques to improve robot intelligent behaviour; sensors for advanced robotics and measurements of robot system performance; virtual reality, robots to help mankind

## MEASUREMENT OF HUMAN FUNCTIONS

(TC18) – human behaviour, perceptions, cognition, movements, actions; interaction and integration; related fields, like human interface, brain sciences, rehabilitation and welfare

## ENVIRONMENTAL MEASUREMENTS

(TC19) - analytical measurements of air, water and soil; instrumental methods for the measurement of environmental pollution; remote sensing; quality assurance and control of environmental measurements

## MEASUREMENT TECHNIQUES FOR THE CONSTRUCTION INDUSTRY

(TC20) - damage identification, monitoring and decision making; sensor and actuator developments



DATE for the submission of extended abstracts: **July 7, 2005**

There will also be an exhibition in parallel to the Congress.

Traditional co-sponsors: BIPM, OIML, the FIACC Sister Federations (IFAC, IFIP, IFORS and IMACS) as well as the IEEE Instrumentation and Measurement Society and NCSL International

**Contact** address for further information:

Sociedade Brasileira de Metrologia  
Av. Nilo Peçanha 50, Grupos 2517 e 2512 – Centro  
20020-906 Rio de Janeiro, RJ  
BRAZIL  
Phone/Fax: +55 21 2532 7373  
E-mail: [sbm@metrologia.org.br](mailto:sbm@metrologia.org.br)  
[www.metrologia.org.br](http://www.metrologia.org.br)

Satellite event: **4<sup>th</sup> Brazilian Congress of Metrology**

# News in brief

## **Changes** in the leadership of Technical Committees:

New Chairman of TC3 - Measurement of Force, Mass and Torque is Dr. Dae-Im Kang, Director, Physical Metrology at the (South) Korea Research Institute of Standards and Science, upon the retirement of Dr. A. Sawla, from the PTB in Germany. Dr. Jorge C. Torres Guzmán, Head of the Force and Pressure Metrology Division of the Mexican National Metrology Centre became the new Chairman of TC16 – Pressure Measurement, following Dr. A. Ooiwa from the National Metrology Institute of Japan.

This May, for the third time already, TC15 - Experimental Mechanics organized a very successful **Youth Symposium** on Experimental Solid Mechanics in Porretta Terme, Italy under the main sponsorship of the University of Bologna, Department of Mechanical Engineering.

The Standards Organisation of Nigeria submitted an **application** for membership in IMEKO.

The 47<sup>th</sup> Session of the IMEKO **General Council** will be in Lisbon on November 15 and 16, preceded by the meeting of the Advisory Board, the Technical Board and the MEASUREMENT Editorial Board on the 14<sup>th</sup> - hosted by RELACRE, the Portuguese Association of Accreditation Laboratories, Member Organization of IMEKO and the Instituto Superior Tecnico. Items of the agenda will mostly deal with current administrative matters which determine the trend for future activities, including the approval of events and the election of TC officers.

The Committee for Metrology within the Spanish Association for Quality Control, IMEKO Member Organization since 1985 is considering the **transfer** of membership to the Spanish Centre of Metrology.

The MOs in the Czech Republic, Egypt and France announced their intention to organize the **19<sup>th</sup> IMEKO World Congress** in 2009. Final decision will be made by the General Council of the Confederation in November.

**György Striker Junior Paper Award** donated by the founding Secretary General of IMEKO and his wife, will be handed over to Mr. Marcin Gnyba, a young scientist from the Technical University of Gdansk, Poland for his paper “Raman Spectroscopy for the Investigation of Sol-Gel Materials and Ceramic Materials”, originally presented at the 17<sup>th</sup> IMEKO World Congress - by the President of IMEKO, Prof. Leo Van Biesen, at the Opening Session of the TC2 Symposium about Photonics in Measurement in Frankfurt am Main, Germany, June 23.

As a Liaison Institution, IMEKO was invited to attend 39<sup>th</sup> Meeting of the International Committee of Legal Metrology to be held in Berlin, Germany, October 25-29, 2004.

# ISMCR 2004

The 14<sup>th</sup> **Symposium** of TC17 - Technical Committee on Measurement in Robotics will be organized at the Gilruth Center of the NASA Johnson Space Center in Houston/ Texas, USA this fall, on September 16 and 17 under the headline **ROBOTICS FOR THE CHANGING WORLD**. It is aiming to gather high quality original contributions from the robotic field and associated measurements with the final goal of assessing the most recent developments in this utmost domain of science and technology. The Symposium scope covers a broad spectrum ranging from advanced conceptual design and methodology, sensors, actuators, instrumentation and real-time control algorithms to innovative robotics applications.

Fundamentals for robotics is considered as a major topic where people from different specialties will contribute to provide a full picture of the state of the art of the relevant area. Further subject highlights: robot design, sensor integration / fusion, advanced control, new power supplies, teleexistence / telepresence, augmented reality / mixed reality / virtual reality, methods of artificial intelligence in robotics, climbing and walking robots, humanoid robots, autonomous mobile robots, service robots, education and entertainment robots, medical and healthcare robots, micro and nano robots.

An **Exhibition** will be set-up to illustrate the most recent results that are just leaving from important research institutes and universities world-wide. As a courtesy of the local organizers and in order to provide the best help, so that their realizations be displayed in the perfect environment with the covering of the main communication means, these exhibitions stands will be costfree.

All **inquiries** should be addressed to the

ISMCR 2004 SECRETARIAT  
c/o Dr. Trung T. Pham  
Dicentral Corporation  
17625 El Camino Real, Suite 200  
Houston, Texas 77058, USA  
[ISMCR2004@Dicentral.com](mailto:ISMCR2004@Dicentral.com)

Co-sponsoring partners: Clear Lake Council of Technical Societies  
IEEE Galveston Bay Section

**From foreign sources...**

**12<sup>th</sup> INTERNATIONAL METROLOGY CONGRESS**

Lyon, France

*June 20-23, 2005*

The event, with the scientific cooperation of the Nordic Metrology Research Area intends to provide a forum for the exchange of information between the representatives of industry and science with the help of oral presentations, posters, round tables, an exhibition of instruments and technical visits to various companies. Primary emphasis will be put on recent developments in metrology and their impact on industry, research, environment and safety, economy and quality. Contributions are to deal with the improvement of measurement, control, analysis and testing processes in the interest of good quality and cost effectiveness, as well as calibration, verification, accreditation, standardization, interlaboratory comparisons and other emerging matters also in connection with innovating technologies and legal metrology questions.

According to experience, an attendance of over 600 is expected from about 40 countries: metrologists from firms, laboratories and institutes, manufacturers and users of metrological equipment, quality managers, decision makers, teachers and researchers.  
<http://www.cfnmetrologie.com>

The year 2005 will mark the 50<sup>th</sup> anniversary of the existence of OIML, the Organisation Internationale de Métrologie Légale (International Organization of Legal Metrology).

**IMAC-XXIII: CONFERENCE & EXHIBITION ON STRUCTURAL DYNAMICS**

Orlando/Florida, USA

*January 31-February 3, 2005*

General topics: Active control, aircraft/aerospace, analytical methods, automotive testing and analysis, damage detection, experimental techniques, finite element techniques, modal parameter identification, modal testing methods, nonlinear methods, processing modal data, substructuring methods, system identification, transducers; structural dynamics related to civil structures, model correlation and updating, control systems.

The technical theme is Structural Health Monitoring: damage models, error localization and damage, damage prognosis, algorithms in structural health modeling, applications, case studies.

Special Focus Areas: sensors/instrumentation, nonlinear structures, rotating machinery, acoustics, MEMS/nanotechnology, sports equipment, damping, model validation, uncertainty quantification – all with background educational lectures and/or panel discussions.

[www.sem.org](http://www.sem.org)

### **ISA EXPO 2004**

North America's leading automation and control event  
*5-7 October 2004* at the Reliant Center in Houston, Texas

Nowhere else will you find the array of products, technologies and services presented to you by so many leading solution providers. Benefit from discovering the results of real world applications at the ISA EXPO 2004 **Technical Conference** and gain insight from industry leaders at daily keynote presentations and panel discussions.

Don't miss these additions to ISA EXPO 2004:  
Industrial Networking and Communications Symposium  
Productivity and Asset Management Symposium  
Industrial Network and Systems Security Symposium

<http://www.isa.org/isaexpo2004>

### **InTechNEWS**

The Global News Source for Automation and Control  
– the weekly e-mail edition of InTech magazine, the global magazine for automation and control

InTech News provides the latest news that affects the industries InTech covers  
If you have any news tips, contact InTech editor Gregory Hale at [ghale@isa.org](mailto:ghale@isa.org)

### **ISAJobs.org**

The best online employment resource for the best people and best companies in instrumentation, systems and automation

## **ISA PRESS**

Welcome to the ISA BOOKS PAGE an update on the latest releases from ISA Press!  
"ISA Books"<ISA-from fnmp@listpilot.net>

## **ISA – The Instrumentation, Systems and Automation Society**

67 Alexander Drive, P.O.Box 12277, Research Triangle Park, NC 27709, USA  
Phone: (919) 549 8411 Fax: (919) 549 8288 E-mail: info@isa.org  
www.isa.org

## **NANOMATERIALS 2004**

Stamford/CT, USA

*October 24-27*

Since 1998, this Conference has brought together leaders from industry, government and academia to identify and discuss the most promising commercial opportunities for nanomaterials. The limited number of submitted papers will address new nanotechnologies and applications in computing, data storage, photonics, optoelectronics, sensing and other emerging areas, in particular significant technological developments in the context of commercial possibilities, market opportunities and barriers, the competitive landscape and process economics; furthermore : case histories that describe the technical, marketing, financial and scale-up challenges faced in moving a new technology from the laboratory to the marketplace.

[www.bccresearch.com/nano2004](http://www.bccresearch.com/nano2004)

## **NEED training in EMC?**

*Book on one of ERA's renowned courses!*

Introduction to EMC

5 October 2004 and 16 February 2005

EMC Measurement Techniques

19 October 2004 and 2 March 2005

The Art of Designing for EMC

9 November 2004 and 16 March 2005

[www.era.co.uk](http://www.era.co.uk)

## **WELCOME to the Sensors Web Portal!**

International Frequency Sensor Association (IFSA) NEWSLETTER

The Association's European Office: Bandera, 12 79013 Lviv Ukraine

(Cell)phone: +34 659 530 601 Fax: +34 93 413 7007 E-mail: ifa@list.ru

Editor-in-chief: Prof. S.Y.Yurish

<http://www.sensorsportal.com>

### **AdMet 2005**

5<sup>th</sup> International Conference on ADVANCES in METROLOGY

New Delhi, India

*26-27 February, 2005*

to be organized by the Metrology Society of India and the National Physical Laboratory, New Delhi

with the main theme

### **METROLOGY FOR MANUFACTURING SECTOR AND GLOBAL COMPETITIVENESS**

#### Scope

- recent advances in metrology
- metrology for quality
- metrology in electronics and IT sector
- metrology for environment, safety and energy conservation
- measurements for health care, biotechnology
- nanometrology
- instrumentation for metrology
- certified reference material
- proficiency testing and intercomparison
- mutual recognition of calibration and test certificates
- peer review and quality system document

#### Satellite events:

Workshop on Chemical Metrology on February 22

and

a 2-day Training Program on Mass and Dimensional Metrology on February 26-27

<http://www.metrologyindia.org/admit5.htm>



## **4<sup>th</sup> International Congress on Automation, Systems and Instrumentation**

integrated to ISA SHOW SOUTH AMERICA 2004

Sao Paulo – SP, Brazil

*November 23-25*

Planned activities: papers, short courses, tutorials and student day.

Theme scope: data collectors, biomedics, calibration, equipment, gas detection, control valves, final control elements, controllers, frequency converters, industrial measurement, transducers, industrial metrology, wireless communication in the industry, artificial intelligence in processes, PLCs, CIM, CAE/CAD/CAM, electric and pneumatic instruments, intelligent instruments and transmitters, advanced control, robotics, optimization, human/machine interfaces, movement control, PID control, supply chain management, failure diagnosis and predictive techniques, electronic instruments, digital instrumentation, statistic process control, analytical instrumentation, project management, management, CNC, industrial local area networks, flexible manufacturing systems, communications, DCS, control systems, ERP systems, supervisory systems, manufacturing execution systems, hydrocarbon leakage detection, localization and quantification systems, advanced control management, logistic information systems, manufacture control, performance measuring systems, packaging systems, quality control, safety systems, scada, viewing

[www.isashow.com.br](http://www.isashow.com.br)

## **CLAWAR '04**

7<sup>th</sup> International Conference on CLIMBING AND WALKING ROBOTS

and the supporting technologies for mobile machines

Madrid, Spain

*September 22-24*

The conference topics include relevant Research:

Theory, simulation, design and control of CLAWAR, locomotion algorithms, innovative actuators and power supplies, sensors and sensor fusion, design modularity and system architecture, micro-machines, autonomous and tele-operated CLAWAR, navigation, telepresence, virtual reality, HMIs for CLAWAR, biological systems and solutions, co-operative CLAWAR machines

and Applications:

General indoor and outdoor operations, emergency rescue operations, underwater and space, petrochemical, pipes and duct inspection, medical, rehabilitation and help for disabled people

Special session on Passive Dynamic Walking: to exchange practical information on simulations and prototypes, to report on recent findings and to discuss the road ahead towards more versatile passive-based walkers

Robot Exhibition – showing latest achievements in theory and in industrial reality. Stands for research institutes and universities are cost-free.

Special feature: Student Competition. The aim of the annual competitions is to encourage and challenge students from many different areas to design and develop small climbing machines that are able to locomote themselves up different vertical surfaces. Extra credit will be given to robots displaying novel, intelligent characteristics and can e.g. translate from a horizontal surface to a vertical one. The design has to be autonomous, carry the appropriate sensors and locomotion control systems on board and should be able to handle a variety of arbitrarily shaped obstacles placed at random on the vertical wall. The autonomy requirement does not necessarily apply that the power supply should be on board.

The climbing competition will be conducted using just one wall. However, the wall is designed in such a way that several different features of the climbing machines could be tested and could challenge the skill and ingenuity of their designers to overcome as many of the problems as possible.

Task 1 is to simply climb the vertical surface starting at the bottom, finishing at the top with no obstacles or barriers

Task 2: to climb the vertical surface starting at the bottom, finishing at the top with randomly placed obstacles in the path of the machine

Task 3: to climb the vertical surface starting at the bottom, finishing at the top, but machines must successfully negotiate a small barrier (1 cm high, 1 cm wide) that is designed to obstruct the vehicle's progress up the wall

Task 4: to start on the horizontal plane, locomote itself onto the vertical surface and then proceed to climb the wall

The wall will be made of a ferrous metal to accommodate magnetic adhesion, but it will also be flat and smooth enough to allow for suction attachment.

The robots should not exceed 30 cms in size.

Aspects of Scoring: novelty, easy use, level of autonomy/intelligence, speed / time of ascent, versatility – capability to complete several of the set tasks and simplicity of concept – for commercial manufacture

<http://www.iai.csic.es/clawar04/>

**IFIP World Computer Congress**

The Premier International Forum on

SCIENCES AND TECHNOLOGIES OF INFORMATION AND COMMUNICATION

Toulouse, France

*August 22-27, 2004*

18<sup>th</sup> Congress of the International Federation for Information Processing

[www.wcc2004.org](http://www.wcc2004.org)

# Member Organizations of IMEKO and their delegates to the General Council

## **Albania**

General Directorate of Metrology and  
Calibration  
The General Director  
RR. “Sami frasheri”, No. 33  
Tirana

## **Australia**

Metrology Society of Australia  
Ms. Marian Haire  
c/o National Standards Commission  
PO Box 282  
North Ryde, NSW 1670

## **Austria**

ÖVE Österreichische Gesellschaft für  
Mess- und Automatisierungstechnik  
Prof. P. H. Osanna  
1010 Wien 1  
Eschenbachgasse 9

## **Belgium**

Belgian Measurement Confederation  
BEMEKO c/o IBRA/BIRA  
Prof. Ch. Eugene  
rue Ravenstein 3  
1000 Brussels

## **Brazil**

Brazilian Society of Metrology  
Dr. Mauricio Nogueira Frota  
Av. Nilo Pecanha, 50, Grupo 2517  
20020-906 Rio de Janeiro, RJ

## **People’s Republic of China**

Chinese Society for Measurement  
Mrs. Zhao Roujiang  
P.O.B. 1413  
Beijing 100013

## **Croatia**

KoREMA – Croatian Society for  
Communication, Computing,  
Electronics, Measurement and Control  
Prof. M. Borsic  
c/o Croatian Metrology Society  
Berislaviceva 8  
10000 Zagreb

## **Czech Republic**

Association of Scientific-Technical  
Societies  
IMEKO Committee  
Dr. M. Sedláček  
c/o Czech Technical University  
Faculty of Electrical Engineering  
Technická 2  
16627 Prague 6

## **Egypt**

Egyptian Organization for  
Standardization and Quality Control  
Dr. Mahmoud Eisa, President  
16, Tadreeb El-Motadarrebeen St.  
El-Ameriya, Cairo

**Finland**

Finnish Society of Automation  
Mr. A. Pusa  
Asemapäällikönkatu 12B  
00520 Helsinki

**France**

College Francais de Metrologie  
Prof. R. Collay  
1, rue Gaston Boissier  
75015 Paris

**Germany**

VDI/VDE Gesellschaft Mess- und  
Automatisierungstechnik  
Prof. T. Pfeifer  
P.O.Box 101139  
40002 Düsseldorf

**Greece**

Hellenic Institute of Metrology  
Dr. F. Strehle  
Director of Mechanical Measurements  
Industrial Area of Thessaloniki  
Block 18, Building 41  
57022 Sindos, Thessaloniki

**Hungary**

Scientific Society for Measurement,  
Automation and Informatics  
Mr. Z. Zelenka  
1055 Budapest  
Kossuth L. tér 6–8

**Israel**

The Israeli Metrological Society  
Dr. A. Lepek, Chairman  
P.O. Box 9769  
Jerusalem 91091

**Italy**

National Research Council  
Prof. F. Righini  
c/o Istituto di Metrologia  
“G. Colonnetti”  
Strada delle Cacce, 73  
10135 Torino

**Japan**

The Society of Instrument and Control  
Engineers  
Prof. T. Ono  
Hongo, 1-35-28-303  
Bunkyo-ku, Tokyo 113-0033

**Kenya**

Kenya Bureau of Standards  
Managing Director  
P.O.Box 54974  
Nairobi

**Korea (Republic of)**

Korea Association of Standards and  
Testing Organizations  
- KASTO  
Dr. Hee Joon Eun  
Korea Research Institute of Standards  
and Science  
P.O.Box 102, Taedok Science Town  
Yusong-Gu, Taejon 305-600

**Mexico**

Mexican Society of Instrumentation, C.C.  
Dr. F. Lara Rosano, President  
70-186 C.P.  
04510 México D.F.

**The Netherlands**

Royal Institution of Engineers  
Division for Automatic Control  
Prof. P. A. Wieringa  
Delft University of Technology  
Faculty of Design, Construction and  
Engineering  
Mekelweg 2  
2628 CD Delft

**New Zealand**

The Institute of Measurement and  
Control, Inc.  
The National Secretary  
P.O.Box 35-001  
Browns Bay, Auckland 1130

**Poland**

Polish Society for Measurement,  
Automatic Control and Robotics  
Prof. R. Z. Morawski  
00-950 Warsaw  
ul. Czackiego 3–5

**Portugal**

RELACRE – Portuguese Association of  
Accreditation Laboratories  
Prof. A. Cruz Serra  
Rue Filipe Folque, 2  
1050 Lisboa

**Romania**

Romanian Measurement Society  
Prof. Dr. R. Munteanu  
Technical University Cluj-Napoca  
Faculty of Electrotechnics  
Str. C. Daicovicu Nr. 15  
3400 Cluj-Napoca

**Russia**

International Scientific–Technical Society  
of Instrument Engineers and Metrologists  
Prof. G. I. KavaleroV  
121019 Moscow G-19  
ul. Mohovaja, 10

**Slovakia**

Slovak Metrological Society  
Prof. L. Michaeli  
Karloveská 63  
84255 Bratislava

**Slovenia**

Slovenian Society for Process Control  
and Measurements  
Dr. J. Drnovsek  
c/o Faculty of Electrical  
Engineering  
University of Ljubljana  
Trzaska 25  
1000 Ljubljana

**South Africa**

The Society for Advancement  
of Metrologists  
Mr. M. Temba, Chairman  
c/o CSIR-NML  
P.O.Box 395  
Pretoria 0001

**Spain**

Committee for Metrology  
Spanish Association for Quality  
Control  
Dr. A. Garcia San Román  
c/o Centro Espanol de Metrologia  
c/del Alfar, 2  
28760 Tres Cantos (Madrid)

**Sweden**

Instrument Society of Sweden  
Prof. D. Björklöf  
P.O.Box 22307  
10422 Stockholm

**Switzerland**

Schweizerische Gesellschaft für  
Automatik  
Mr. K. Ruhm  
Institut für Mess- und Regeltechnik  
ETH-Zentrum, ML  
8092 Zürich

**Turkey**

National Metrology Institute  
Marmara Research Centre  
P.O.Box 21  
41470 Gebze-Kocaeli

**United Kingdom**

The Institute of Measurement and  
Control  
Prof. K.T.V. Grattan  
87 Gower Street  
London WC1E 6AA

**United States of America**

ISA – The Instrumentation, Systems  
and Automation Society  
Mr. W. A. Bajek  
67 Alexander Drive  
P.O.Box 12277  
Research Triangle Park, NC 27709

**President:**

Prof. Leo Van Biesen, Belgium

**Past President:**

Prof. Manfred Peters, Germany

**Secretary General:**

Dr. Tamás Kemény, Hungary

**Treasurer:**

Prof. P. Herbert Osanna, Austria

**Vice President:**

Dr. Mauricio Frota, Brazil

# Contents

Preface	/ 3
Event Calendar	/ 4
18 <sup>th</sup> IMEKO World Congress	/ 14
NEWS in brief	/ 18
ISMCR 2004	/ 20
From foreign sources...	/ 21
Member Organizations, Delegates, Officers	/ 28

**Remark:**

All, or part of this publication may be reproduced, provided that credit is given to the IMEKO Bulletin.