

Newsletter

Official news of IEEE Region 8
Hungarian Section Vol.4. No.1.
2012 spring

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IEEE HS General assembly

On 22nd of May an IEEE HS general assembly was held. Professor Imre Rudas chaired the event. After the report of the 2011 activity the financial report was assessed. The assembly accepted the reports. The nomination committee by the leadership of former chair Professor István Krómer nominated for the next election period

(2013-14) the following candidates: chair – Peter Kadar, vice chair – prof. István Vajda, Levente Kovács, secretary – Gábor Szederkényi, Treasurer – Anikó Szakál.

The assembly had a ballot and elected the referred candidates.



Elected persons for IEEE HS 2013-14 period

Chair of IEEE HS

Peter Kadar received Power Eng. Diploma at Technical University of Budapest 1987; PhD 1994; MBA at Open University, UK; dr. habil title in electrical engineering from Széchenyi Egyetem, Győr (SZIE). He works in the area of the Power System control, smart networks and renewable energy technology. He is the director of t the Department of Power Systems, at Óbuda University, Faculty of Electrical engineering. Member of MEE since 1985, NJSZT since 1990, of IEEE since 1992 and CIGRÉ. Member of organizing committees of several conferences. Treasurer of IEEE HS in 2003-2004, Secretary of HS 2005-2008, vice chair of HS 2009-2012.



Vice Chair of IEEE HS

István Vajda was born in Budapest, Hungary, 25 October, 1952. He received M.Sc. in electrical engineering from the Technical University of Budapest, Ph.D. degree and dr. habil title in electrical engineering from the Budapest University of Technology and Economics (BUTE), and DSc degree in electrical engineering from the Hungarian Academy of Sciences. He is a member of the IEEE. He is a professor and head of the Department of Electric Power Engineering, Budapest University of Technology and Economics, leader of the SuperTech Lab. His main interests and achievements are in electrical power applications of superconductors, electrical energy converters and renewable electrical energy.



NEW Vice Chair of IEEE HS

Levente Kovács received a degree in electrical engineering at the "Politechnica" University of Timisoara, Romania in 2000 and the PhD in 2008 at the Budapest University of Technology and Economics where currently he is a senior lecturer at the Dept. of Control Engineering and Information Technology. His research topic is physiological control, robust control theory, biomedical engineering



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and bioinformatics, with special interest in diabetic control. He has published more than 20 papers in international journals and 50 publications at international conferences. He is IEEE member from 2009, MATE Control Theory section management board member from 2007 and Hungarian Diabetes Association member from 2010. From 2010 is Membership Development Officer of the IEEE Hungarian Section.



Secretary

Gabor Szederkényi studied at Veszprém University and got PhD grade in 2002.

His current position is research Fellow at Process Control Research Group in Computer and Automation Research Institute Hungarian Academy of Sciences. Teaches at PázmányPéter Catholic University. He served as secretary and treasurer of IEEE HS between 2008 – 2009, since that serves as secretary.



Treasurer

Anikó Szakál studied at Bánki Donát Polytechnic and Budapest Polytechnic, in field of information technology and education. She serves from 1996 in IEEE Hungary Section administration. She worked as mathematics and physics teacher in Secondary School and Head of Dean's Office of Budapest Polytechnic, John von Neumann Faculty of Informatics. From 2002 she works at Budapest Polytechnic's Directorate and official in charge for international relations.









I. Rudas,

las, P. Kádár,

I. Vajda







L. Kovács, G. Szederkényi, A. Szakál

Óbuda University's Student Success at I2MTC 2012

2012 IEEE International
Instrumentation and Measurement
Technology Conference (I2MTC 2012),
was held at Congress Graz, Austria, on
May 13-16, 2012. The event was
organized by Graz University of
Technology and Óbuda University,
Budapest in collaboration with

numerous local and international sponsors. The Organizing Committee' work was coordinated by Prof. Georg Brasseur, Graz University of Technology (Conference Chair), Prof. Imre J. Rudas, Óbuda University (Conference Co-Chair), and Profs. Anton Fuchs, Virtual Vehicle Competence Center, Annamária Várkonyi-Kóczy, Óbuda University, and Daniel Watzenig, Virtual Vehicle Competence Center (Technical Program Chairs).

The conference, in accordance with its aims, was highly successful in providing a platform for scientists, teachers, researchers, and students to extend their existing scientific relationships in the field of instrumentation, measurement science and technology. More than six hundred people from 30+ countries contributed to the oral and poster sessions. The papers were distributed on conference CD and included in the IEEE Xplore database.

Parallel with the main event, a student contest was also announced. Undergraduate and graduate students were invited to celebrate the 60th anniversary of the Instrumentation & Measurement Society (IMS) at the I2MTC 2012 conference by preparing birthday presents for the Society. Each one was to reflect on the general I2MTC 2012 topic 'Smart Measurements for a Sustainable



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Environment' or on one of the I2MTC 2012 Industrial Track topics. Prof. Annamária R. Várkonyi-Kóczy and Ass. Prof. Rita Lovassy helped the Óbuda University's undergraduate students in the preparatory works. From Bánki Donát Faculty of Mechanical and Safety Engineering and Kandó Kálmán Faculty of Electrical Engineering four works were submitted. An evaluation committee consisting Professors from TU Graz and Researchers from Austrian Companies awarded three of the submitted works of 10 student groups:

- a 1:2 scale spaghetti bridge model of András Filip (Donát Bánki Faculty of Mechanical and Safety Engineering) illustrating the engineering experience of students of the university gained during the Spaghetti Bridge World Championship.
- the stabilization of a small ball in top of a wheel by Artúr Kasovitz (Kandó Kálmán Faculty of Electrical Engineering), realized by a Microchip control panel driving a BLDC motor.
- István Szalóki's (Donát Bánki Faculty of Mechanical and Safety Engineering) cooler circulator pump's shovel designed for the Ford Model A vehicle being renovated by students and professors of his faculty (supervisor: Sándor Csesznok).

Meanwhile the autonomous vehicle of the fourth team of ÓU (Máté Kovács, Sándor Bedő and Ferenc Kosiczky, Kandó Kálmán Faculty of Electrical Engineering) received an honorable mention. All award winners presented the birthday gifts to IMS President, Professor Jorge F. Daher, during the celebration of the IMS Anniversary at the Conference Banquet. In addition to receiving monetary prizes, the winners will also have an opportunity to publish their works in the IMS Magazine.

Congratulations to all winners and participants and many thanks for their high quality works.

Rita Lovassy and Annamária R. Várkonyi-Kóczy





The 2012 IEEE International Symposium on Medical Measurements and Applications

The 2012 IEEE International Symposium on Medical Measurements and Applications was held in Budapest,

Hungary, May 17-19, 2012. The Danubius Grand Hotel Margitsziget, this beautiful hotel in the heart of the town with turn-of-the-century ambience, tradition, style, and elegance gave place to the event.

MeMeA 2012 was the 7th edition of a series of successful international scientific events: MeMeA 2011 Bari-Italy, MeMeA 2010 Ottawa-Canada, MeMeA 2009 Cetraro-Italy, MeMeA 2008 Ottawa-Canada, MeMeA 2007 Warsaw-Poland, and MeMeA 2006 Benevento-Italy, originally initiated by Professor Marco Parvis (Italy). The this year edition was organized and sponsored by the IEEE Instrumentation and Measurement Society in cooperation with Óbuda University under the coordination of Professor Imre J. Rudas (honorary chair), Professors Annamária R. Várkonvi-Kóczy and Pasquale Daponte (general co-chairs), and Dr. Zoltán Fazekas, Professors András Hajdú, and Miodrag Bolic (technical program chairs). 4 plenary talks and 57 oral and poster presentations given by 55 participants of 17 countries (from all of the continents) contributed to the success of the conference and introduced novel solutions to instrumentation and measurement problems encountered in modern health care, both from a technological and a medical point of view. The papers are published on Conference CD and are included in IEEE



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Xplore. A special issue will also be published in IEEE Transactions on Instrumentation and Measurement based on the significantly extended papers presented and published in the symposium proceedings.

Thank you for all of the contributions and see you next year in Canada.

Annamária R. Várkonyi-Kóczy



Activities of IMS&EMBS Chapter

In the organization of
Instrumentation and Measurement
Society & Engineering in Medicine and
Biology Society Chapter the 19th PhD
Minisymposium was held at Dept.
Measurement and Information Systems
Budapest University of Technology and
Economics on 01/30/2012. Speakers
are Mihály Bányai - Network Modeling
of Learning in Schizophrenia; Vilmos
Pálfi - Four Parameter Sine Wave
Estimation in Frequency Domain
Mixture Models and István Engedy Optimal Control with Reinforcement
Learning Using Gaussian.

Chapter members participated in the organization of conferences and in the scientific contribution to the following conferences:

2012 IEEE International
 Instrumentation and Measurement
 Technology Conference "Smart

- Measurements for a Sustainable Environment", Graz, May 13-16, 2012 and
- IEEE 7th International symposium on Medical Measurements and Applications, MeMea 2012, May 18-19, 2012, Budapest

International Federation for Medical and Biological Engineering a Commemorative Plaquette presented to Ákos Jobbágy for Dedication and Outstanding Contributions as Administrative Council Member and Chair, Membership Committee 2009-2012, presented at 2012 World Congress on Medical Physics and Biomedical Engineering, 26-31 May, 2012, Beijing.

In the frame of IEEE IMS distinguished lecturer program lecture Prof. Jacob Scharcanski held presentation titled "From Imaging Data to Useful Visual Information and Measurements" on May 21, 2012 (see next article).

Tadeusz Dobrowiecki



From Imaging Data to Useful Visual Information and Measurements

In the frame of distinguished lecturer program Prof. Jacob

Scharcanski addressed the problem of extracting relevant information from image data. We also introduce briefly the concepts and techniques often used in the automatic interpretation of phenomena based on imagery, or to make inferences based on models of such imagery data. When modeling and representing imaging measurements, usually we are trying to describe the world (or a real world phenomenon) using one or more images, and reconstruct some of its properties based on imagery data (like shape, texture or color). Actually, this is an illposed problem that humans can learn to solve effortlessly, but computer algorithms often are prone to errors.



Prof Scharcanski

Nevertheless, in some cases computers can surpass humans and interpret imagery more accu- rately, given the proper choice of data representations (i.e. features), as we discuss in this talk. In order to illustrate this presentation, several applications



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are discussed, focusing in areas such as medicine, biometrics, pulp and paper, soil sciences, porous media, surveillance, and human-machine interfaces.

Jacob Scharcanski is an Associate Professor in Computer Science at the Federal University of Rio Grande do Sul (UFRGS), Brasil. He holds a cross appointment with the Department of Electrical Engineering at UFRGS, and also is an Associate Adjunct Professor with the Department of Systems Design Engineering, University of Waterloo, Ontario, Canada. He has authored and co-authored over 100 refereed journal and conference papers, and has contributed to several books on imaging and measurements. In addition to his academic publications, he has several technology transfers to the private sector. Presently, he serves as an Associate Editor for two journals, and has served on dozens of International Conference Committees. Professor Scharcanski is a licensed Professional Engineer, Senior Member of the IEEE, IEEE Multimedia Signal Processing TC Affiliate Member, and serves as Chair of the Technical Committee TC-17 (Materials in Measurements). His areas of expertise are Computer Vision, Imaging Measurements and their Applications.



Student Branch trip to Austria and Slovakia

The BUTE IAS/PES Student Branch Chapter started its three-day long series of plant visits to Slovakia and Austria on the 23rd of September 2011. On the first day the main program was the Slovnaft oil refinery in Bratislava. It is one of the most complex facilities in the Middle-European region beside the Danubian refinery. It is a member of the MOL group since 2004, moreover it employs 3500 people. The plant visit started at the highest point of the yard reachable by civilians, then continued by the local connection of the Druzhba (Friendship) pipeline (the only supplier of the refinery). At last the technological processes were detailed in the control room, and then the most important stages of the technology were actually shown as well from our bus.



The group in front of the Slovnaft Refinery

The second day started already in Austria and was spent in the hydro

power plant Rottau, which had amazing experiences in store. Firstly the guide described the very details of the technology used by the plant. After the presentation the generators and turbines were shown, which make possible two different ways for the plant to operate: it can produce and store energy. The last station with the guide was the control room, where the tools of control were presented and could be seen in practice. Finally the trip ended at 2000 m above sea-level nearby Kölbreinspeicher by the spectacular, 200 m high dam of the upper reservoir.



The 200m high dam of the Kölbreinspeicher reservoir

The last day provided a very unique experience in Güssing, where the "ökoEnergieLand", a collection of sustainable units had been developed. The program included 5 stations in connection with renewable energy utilization. In the Technology Centre of Güssing, we visited a solar laboratory which belongs to the local solar school,



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after that the Biomass Power Plant was the next stop, where woodchips are gasified for electric and thermal power, too. The Biomass Heating Plant uses biomass from the local forestries (multiple use of wood), the Urbersdorf Combined Heating Plant uses solar energy and exploits biomass. The Strem Biogas Plant was the last experience on the trip, after which the group returned to Hungary.

In total the BUTE IAS/PES Student
Branch Chapter closed a successful trip
rich in experiences and it hopes it can
organize such professional excursions in
the future as well.

Tibor Fazekas, Szabolcs Papp, Líviusz Lovász, Dániel Pintácsi



IEEE International Conference on Communications (ICC 2013)

The conference will be held June 9 – 13, 2013 in Budapest, Hungary. "Call for Papers" Deadline Announced as September 16, 2012

After taking an important part in the organization of the IEEE VTC2011-Spring Vehicular Technology
Conference in Budapest last year, which was by the way a large success with more than 750 participants from all over the world, the Scientific
Association for Infocommunications
(HTE), as a Sister Society of IEEE, is

involved now together with the IEEE Hungary Section in bringing the flagship event of the IEEE Communications Society (ComSoc), the IEEE International Conference on Communications (ICC), from June 9 -13, 2013 to our beautiful capital city. Themed "Bridging the Broadband Divide" IEEE ICC 2013 is expected to host more than 2,000 industry professionals, scientists, academics and government officials attending nearly 1,500 presentations highlighting the entire array of wireless and wireline communication technologies.



"Budapest is one of Europe's most beautiful cities," says IEEE ICC 2013
General Chair Christopher Mattheisen, Chairman-CEO of Magyar Telekom, Hungary. "Each year, millions travel there to sample its old-world culture and modern-day amenities. We're honored to have such an historic site serve as our first-ever venue in Eastern Europe. It will be especially thrilling to discuss the emergence of the latest communications innovations during the day and then at night experience the

lovely Danube River, magnificent museums, castles and cathedrals." Beginning on Sunday, June 9, the fiveday international event will hold the first of two days of workshops and tutorials highlighting topics such as machine-to-machine communications, advances in wireless sensor networks, energy harvesting, intelligent vehicular networking, mobile consumer health care, cognitive radio & green networking, the future Internet and cloud computing. Over the next three days, the conference will then offer more than 1,000 keynotes, high-level business panels, industrial forums and scientific paper presentations grouped into 12 thematic tracks and 18 to 20 parallel sessions. Specific areas of interest include:

- E-health, Power Line, Smart Grid &
 Wireless Communications
- Tactical Communications & Operations
- Satellite & Space Communications
- Data Storage, Access Systems
 Networking
- Green Communication Systems & Networks
- Communication Theory
- Signal Processing for Communications
- Optical Networks & Systems
- Next Generation Networking
- Communication QoS, Reliability & Modeling
- Ad-hoc & Sensor Networking



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- Communication Software & Services
- Communication & InformationSystems
- Cognitive Radio & Networking Most recently at IEEE ICC 2012 held in Ottawa, Canada, thousands of international attendees attended nearly 1,500 technical presentations in addition to witnessing the highlyinformative keynotes of leading industry experts and academics such Ian Akyildiz of Georgia Tech, who spoke on molecular nano-communication networks; H. Vincent Poor of Princeton University, who addressed information security and privacy; Raj Jain of Washington University, who highlighted the Next Generation Internet; and Victor Bahl of Microsoft, who outlined the latest cloud computing advances.

The conference was further earmarked by the Exhibition of Innovation, which displayed the products and services of more than 20 leading international corporations. This included the patronage of Ericsson, which has already joined with Magyar Telekom as a patron of IEEE ICC 2013, where a wide range of opportunities are currently available for companies looking to maximize their presence at this premier, international communications event.

For ongoing updates on IEEE ICC 2013 as well as detailed "call for paper" submission guidelines, please visit http://www.ieee-icc.org/2013 or feel free to contact Heather Ann Sweeney of IEEE ComSoc at

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h.sweeney@comsoc.org or Rolland Vida, the Head of International Affairs of HTE and the Conference Operations Chair of ICC 2013, at vida@tmit.bme.hu. All website visitors are also invited to network with colleagues and peers, share their professional experiences or address IEEE ICC issues through the conference's Facebook, LinkedIn and Twitter pages.



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Editor in Chief: **Peter Kadar**Dissemination: ieeehs mail list
News, infos: peter.kadar@t-online.hu
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IEEE Hungary Section IEEE SMC Chapter, Hungary Hungarian Fuzzy Association

IEEE IES Society

Topics include but not limited to

Industrial Control and Management Systems Intelligent Manufacturing Systems CAD/CAM/CAE Systems Distributed and Network-based Control Embedded Systems Fault-tolerant Systems Network Management and Diagnostics Transport and Logistics Systems Communication Platforms and Applications Enterprise Management Systems Intelligent Information Systems Process and Workflow Management Systems

Authors are asked to submit a full paper until May 15, 2011 through electronic submission system.

Author's Schedule

Deadline	of full paper submission	May 15, 2	2011
Deadline	of notification	June 30, 2	2011
Deadline	of final paper submission A	August 1, 2	2011



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SISY 2012

IEEE 10th JUBILEE INTERNATIONAL SYMPOSIUM ON INTELLIGENT SYSTEMS and INFORMATICS September 20-22, 2012

Subotica, Serbia

Organizers

Óbuda University, Budapest (Hungary) Subotica Tech (Serbia) University of Novi Sad (Serbia)

Sponsors

Hungarian Fuzzy Association (Hungary) IEEE SMC Chapter (Hungary) IEEE CI Chapter (Hungary) IEEE IES and RAS Chapters (Hungary)

Technical Co-Sponsors

IEEE SMC Society
IEEE IES Society
Vojvodina Academy of
Sciences and Arts (Serbia)
Ministry of Sciences and
Ecology of Serbia (Serbia)
IEEE CI Chapter (Serbia)

Venue

The symposium will be held at Subotica Town Hall and Subotica Tech, Serbia.

Language

The official language of the symposium is English.

Submission of Papers

There are invited and regular papers. All paper submission is processed through conference website. Papers sent by e-mail are not acceptable.

Instructions for Authors

The format of the final manuscript can be found on the conference web site of SISY 2012 (http://conf.uni-obuda.hu/sisy2012).

Registration

The registration fee is EUR 250.

Author's Schedule

Full paper submission:	July 2, 2012
Notification:	August 1, 2012
Final manuscript submission:	August 21, 2012
Corre but no deadline extension	

Topics

Computational Intelligence: Machine Learning, Genetic Algorithms, Neural Nets, Fuzzy Systems, Fuzzy and Neuro-Fuzzy Control, Knowledge Based Systems, Expert Systems.

Intelligent Robotics: Control, Flexible Arm Control, Perception and Recognition, Reasoning, Learning, Robotic Systems, Human-Robotic Interaction, Service Robots, Surgery Robots, Machine Vision.

Intelligent Mechatronics: Sensing and Sensor Data Fusion, Motion Control, Intelligent Actuators.

CAD/CAM/CAE Systems: Product Modeling, Manufacturing Process Planning, Advanced Modeling Techniques, Shape Modeling.

Intelligent Manufacturing Systems: Flexible Manufacturing Systems, Production Planning and Scheduling, System Simulation, Rapid Prototyping, Concurrent Engineering, Virtual Reality. Informatics: The Web, Business & Digital Culture, Databases, Design & Graphics, Digital Audio, Video and Photography, Hardware, Home & Office, Networking & Sys Admin, Operating Systems, programming, Science & Math, Security Software Engineering, Healthcare Informatics, Teaching Informatics, Informatics in education process

Secretary General

Anikó Szakál, Óbuda University, Budapest, Hungary, E-mail: szakal@uni-obuda.hu



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NSC 2012

Obuda University Budapest, Hungary

August 22-27, 2012

AUTHORS' SCHEDULE Full paper submission: June 15, 2012

Notification deadline: June 30, 2012 Final paper submission: July 10 2012

4th IEEE International Conference on Nonlinear Science and Complexity

General Chair

Imre J. Rudas

Sponsors

Organization Steering Committee

Albert Luo J. A. Tenreiro Machado

IEEE Hungary Section

Dumitru Baleanu

IEEE SMC Chapter, Hungary IEEE IES & RAS Joint Chapter, Hungary IEEE CI Chapter, Hungary

Secretary General Anikó Szakál

This conference provides a place to exchange recent developments, discoveries and progresses on Nonlinear Science and Complexity. The aims of the conference are to present the fundamental and frontier theories and techniques for modern science and technology, and to stimulate more research interest for exploration of nonlinear science and complexity. The conference will focus on fundamental theories and principles analytical and symbolic approaches, computational techniques in nonlinear physical science and nonlinear mathematics.

Papers are going to be included into IEEE Xplore database after the conference.

Topics include but not limited to: http://conf.uni-obuda.hu/nsc2012

- pics include but not timed to:

 Cheolic Dynamics and Timrsport in Classic and Quantum Systems

 Complexity and Nonlinearity in Molecular Dynamics and Nano-Science

 Complexity and Fredds in Nonlinear Biological Physics and Social Systems

 Lie Group Analysics and Applications in Nonlinear Science

 Nonlinear Hydrodynamics and Turbulence

- Bifurcation and Stability in Nonlinear Dynamic Systems
- Nonlinear Orsa seeinly in Homer Cystems Systems
 Nonlinear Oscillations and Control with Applications
 Celestial Physics and Deep Space Exploretion
 Nonlinear Mechanics and Nonlinear Structural Dynamics
- Non-smooth Systems and Hybrid Systems

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