



INTERNATIONAL FEDERATION
OF AUTOMATIC CONTROL

NEWSLETTER

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IFAC's New Presence on Social Media

Connect with IFAC on Facebook, Twitter and the IFAC Blog!

As part of the IFAC Social Media Strategy, IFAC has now established a blog (available at <http://blog.ifac-control.org>) and a presence in Twitter and Facebook.

Since the introduction of the new brand identity, IFAC has been developing and implementing a coordinated social media strategy with the aim of increased visibility and growing engagement of matters concerning automatic control. The ultimate goal is to share knowledge and stir conversation about the influence of automatic control in today's society with the wider public audience.

The first phase of the social media strategy, which was to establish an online presence, was collectively developed by the IFAC Social Media Liaison (Jakob Stoustrup) and Studio UHU, a Cape Town based design and communication agency responsible for the design of the IFAC identity in 2014 in cooperation with the IFAC President Janan Zaytoon and the IFAC Secretariat. It was during the first six months of 2015 that the planning and implementation of resources, infrastructure and operational capacity had to be confirmed before the prospect of launching the IFAC on social media was to be realized.

It is widely regarded that one of the cornerstones of a successful social media campaign is the ability to generate consistent, relevant and engaging content to one's audience. Taking into consideration the complexity, size and overlapping 'streams' of content it was decided to 'feed' content into the social media channels by means of articles generated by the IFAC Technical Committees. Taking into consideration the workload and responsibilities of the TC members, it was decided to rely on designated voluntary TC members and to initially limit the posting articles to two a month.

Contributed blog articles from the IFAC TCs are edited and curated by the IFAC Social Media Liaison before the scheduled post in order to ensure that the content and quality of each article

supports the mandate of the IFAC media policy. The primary contact point for the publishing of the articles takes place on the IFAC blog (blog.ifac-control.org) and is simultaneously announced on IFAC's Twitter (@IFAC_Control) and Facebook (IFACcontrol) pages as a means of driving traffic to the IFAC website and blog page.

To supplement each article and to drive continued discussion around this topic it is hoped that supplementing posts in Twitter and Facebook will grow the interest and subsequently the discussion around the primary themes. Where and when required, aggregated content related to each bi-monthly post will be shared on Twitter and Facebook to stir the conversation.

The activity and growth of these platforms are monitored using the latest social media analytics tools, which can publish results on either a high level or if required, show granular user activity. With the first two articles having been launched in September 2015 the Twitter account has gained over forty followers (and growing) while the blog has received over one hundred views. It is too early to evaluate the level of success, as one would require at least another three to six months of continuous engagement in order to establish a set pattern but it is clear that people are already taking notice of IFAC on social media. The prospect of building an online community and engaging with them on the role of automatic control in our modern society is looking good.

All readers of this newsletter are encouraged to support the IFAC Social Media Strategy by following and retweeting/sharing the IFAC blog and participating in the discussions at the IFAC Twitter and Facebook accounts. New material is constantly posted so check these sites often for updates and your chance to connect and discuss issues relating to control engineering with the worldwide IFAC community!

Submitted by Jakob Stoustrup, IFAC Social Media Liaison

No.6

December 2015

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Reminder: IFAC Major Medals and Fellow Nominations: Deadlines and Calls

The calls for nominations and all forms for IFAC Fellows and IFAC Major Medals for the 2014-2017 triennium are available on the IFAC website.

Deadlines

IFAC Fellow Nominations (Please note: IFAC Fellows are now awarded on a triennial and not yearly basis!)

Fellow Nominations: 12 January 2016

Fellow References: 2 February 2016

Major Medal Nominations: 15 February 2016.

All nominations and reference materials are to be sent to the IFAC Secretariat, secretariat@ifac-control.org.

American Control Conference 2015

1-3 July 2015, Chicago, IL, USA

The 2015 American Control Conference (ACC) was held July 1–3 2015 in Chicago, Illinois. The conference, organized under the auspices of the American Automatic Control Council (AACC) – the U.S. National Member Organization of IFAC – attracted more than 1400 registrants from more than 60 countries. The conference venue was the Hilton Palmer House, in downtown Chicago, just minutes away from Lake Michigan and many Chicago landmarks.

After Wednesday’s opening remarks by AACC President Tariq Samad and IFAC President Janan Zaytoon, Dr. Clas A. Jacobson of United Technologies Corporation described advances and future opportunities in systems engineering for energy-efficient buildings. Thursday morning opened with lectures by Professor Hamsa Balakrishnan of the Massachusetts Institute of Technology on control algorithms for modern air transportation systems and Professor Thomas F. Edgar of the University of Texas at Austin on advanced control of semiconductor manufacturing. Friday opened with lectures by Professor J. Karl Hedrick of the University of California-Berkeley on nonlinear control with applications to automobiles and Professor Benjamin Shapiro of the University of Maryland at College Park on magnetic control of therapy to hard-to-reach disease targets.



Richard Braatz

The annual Awards Ceremony of the AACC was held on Thursday morning. Professor Thomas F. Edgar of University of Texas-Austin received the Richard E. Bellman Control Heritage Award for “a career of outstanding educational and professional leadership in automatic control, mentoring a large number of practicing professionals, and research contributions in the process industries, especially semiconductor manufacturing.”

Professor Francis J. Doyle III of Harvard University, IFAC Technical Board Chair, received the Control Engineering Practice Award for “pioneering the enabling technology of automatic control for systems biology and biomedical devices, specifically the foundational accomplishments for development of the artificial pancreas.” Professor Magnus Egerstedt of Georgia Tech received the John. R. Ragazzini Education Award for “outstanding contributions to control education through innovative and effective classroom teaching, textbook development, and graduate student mentoring.” The Donald P. Eckman Award, which recognizes an outstanding young control engineer in the field of automatic control, was given to Professor Aaron D.

Ames of Texas A&M University for “fundamental contributions to the dynamic walking of bipedal robots, including foundational results for hybrid and nonlinear systems, together with the experimental realization of formal results on novel robotic platforms.”

Richard P. Mason and Antonis Papachristodoulou received the O. Hugo Schuck Best Paper Award for “Chordal Sparsity, Decomposing SDPs and the Lyapunov Equation,” and Matthew J. Bellman, Teng-Hu Cheng, Ryan J. Downey, and Warren E. Dixon received the award for “Stationary Cycling Induced by Switched Functional Electrical Stimulation Control.” The ACC Student Best Paper Award went to “Sensitivity-Based Interval PDE Observer for Battery SOC Estimation” by Hector E. Perez and Scott Moura. All finalists for the student best paper award received full travel support to attend the ACC and over 100 students also received partial travel support. Special sessions on job-hunting (one for academia and another for industry) were well attended by student attendees.



Tariq Samad, Thomas Edgar, and William S. Levine

The awards ceremony was followed by the conference banquet, which was held in the combination of the Grand and State Ballrooms. Danny Abramovitch, General Chair for the 2016 ACC, introduced a movie to encourage participants to attend the conference. The conference ended with a highly energetic closing reception in the Red Lacquer Room in the Palmer House Hilton, with unlimited food and drink that ran late into the night.



IFAC presidents present, past and future on boat cruise for IFAC officials at the ACC

The 7 gold and 14 silver sponsors are thanked for their financial support of the conference. The contributions of the strong operating conference, the Society Review Chairs, plenary and semi-plenary speakers, authors, and reviewers are also appreciated for contributing to the success of the conference.

Submitted by Richard D. Braatz, ACC 2015 General Chair

IFAC Council 2015

4 July 2015

The 2015 IFAC Council meeting was held on 4 July in Chicago, IL, USA, in conjunction with the American Control Conference.

For those who are not familiar with the structure of IFAC the IFAC Council is responsible to the General Assembly for the management of the Federation. It receives its mandate from the GA and reports to it on the state of the Federation not less frequently than at each Triennial Congress. The Council directs and supervises the functioning of the Federation, including both the technical and the executive activities

A new major medal, the Manfred Thoma Medal, was approved by vote of the council upon recommendation of a task force chaired by Paul van den Hof. The medal is named in honor of the late IFAC Advisor Manfred Thoma (Germany), who served as IFAC’s president from 1984-1987. Thoma was a leading contributor to the field of control and to IFAC, and supporter of the careers of many young scientists. The medal recognizes outstanding contributions of a young researcher and/or engineer under the age of 40 to the field of systems and control in its widest sense. The call for nominations for the Manfred Thoma Medal, as well as the other IFAC major awards, is available on the IFAC website with a nomination deadline of 15 February 2016.

The establishment of a new journal, IFAC Journal of Systems and Control, was approved by the Council. Reports were presented by task forces concerning industry, membership, research agenda and IFAC history.

Other activities reported on to Council included the new IFAC branding and social media presence. IFAC’s new website launched in January 2015. In addition a Youtube channel with content concerning IFAC history, as well as from IFAC events. Content is constantly being uploaded. The IFAC blog has been launched with content being contributed from IFAC technical committees. IFAC also has a presence on Facebook and Twitter. The IFAC community is encouraged to follow along and get involved in the discussions on the IFAC blog and social media.

Bids for the 2023 IFAC World Congress were presented by seven IFAC NMOs. In closed Council the seven bids were narrowed down to three. Australia, Japan and the USA (listed in English alphabetical order) will present bids for the second round of presentations at the 2016 IFAC Council meeting, scheduled to be held in Istanbul, Turkey in June 2016, where a final decision concerning the IFAC World Congress 2023 and IFAC President for the 2020-2023 triennium will be undertaken.

Mechatronics Journal: Changes

As of January 2016, I will assume the role of Editor-in-Chief of IFAC's Mechatronics journal. Mechatronics is the synergistic combination of precision mechanical engineering, electronic control and systems thinking in the design of products and manufacturing processes. It relates to the design of systems, devices and products aimed at achieving an optimal balance between basic mechanical structure and its overall control.

Mechatronics journal covers a wide range of application areas including consumer product design, instrumentation, manufacturing methods, computer integration and process and device control. Its objective is to attract readership from across both the industrial and academic research spectrum. The contributions are expected to illustrate innovations based on mechatronics design philosophy and demonstrate the benefits that are achieved by an a priori integration of functionality with embedded computer control.

Under the leadership of Maarten Steinbuch, Mechatronics has emerged as a remarkable journal that routinely publishes high-quality papers from top research groups from all around the world. I would like to congratulate Dr. Steinbuch and his editorial team for this achievement. My aim is to further develop the journal as a premier venue for mechatronics researchers to publish and access results of the highest caliber. I will endeavour to position the journal to attract highest quality submissions not only in the traditional areas of mechatronics, but in all emerging fields of interest to our multidisciplinary community, such as internet of things, micro and nanosystems, biomedical devices and systems, to name a few. In addition, I intend to increase the size and diversity of the editorial board, and implement a number of mechanisms to streamline the review process and make it more efficient. Details of these, and other forthcoming changes will be communicated with the readership through future editorial notes.



Reza Moheimani, IFAC TC 4.2 Chair, currently holds the James von Ehr Distinguished Chair in Science and Technology in the the Department of Mechanical Engineering at the University of Texas at Dallas. Prior to that he was a professor with the University of Newcastle, Australia. His current research interests include ultrahigh-precision mechatronic systems, with particular emphasis on dynamics and control at the nanometer scale, including applications of control and estimation in nanopositioning systems for high-speed scanning probe microscopy and na-

The IFAC Workshop on Internet Based Control Education was held in Brescia, Italy, from 4-6 November 2015. It was organized by the University of Brescia (Italy) in cooperation with Multisector Service and Technological Centre (CSMT), Brescia (Italy). IBCE15 has been sponsored by the IFAC Technical Committee on Control Education (TC 9.4) and co-sponsored by the IFAC Technical Committee on Computers for Control (TC 3.1) as well as by the IFAC Technical Committee on Control via Communication Networks (TC 3.3).

The workshop aimed at serving as an international forum for interaction among engineers, scientists, and practitioners of control engineering who are interested in adopting and promoting internet-based methodologies for teaching control engineering. In fact, student learning can be enhanced through the judicious and effective use of online resources and services accessible on the Internet. New Information and Communication Technology for Education provides many ways to enhance and expand educational activities and services. A wide range of educational material is now available in a variety of formats including moocs, e-books, audio and video podcasts, simulations and animations, interactive tools, virtual and remote labs, and is easily accessible through Internet. Web accessible databases and online laboratory resources allow teachers to share and reuse pedagogical material.



Attendees at IBCE

IBCE15 was supported by a large International Program Committee with 62 members from 27 countries. The number of papers submitted to the Conference has been 60 and there have been more than 180 reviews. Finally, 48 papers have been accepted and presented by their authors in seven oral sessions and three posters sessions. The presentations have been arranged in a single track so that there has been the chance to have fruitful discussions between the 61 participants from 13 different countries. The technical program of the workshop included three plenary lectures given by prominent pro-

nomanufacturing, modeling and control of microcantilever-based devices, control of microactuators in microelectromechanical systems, and design, modeling and control of micromachined nanopositioners for on-chip scanning probe microscopy.

Submitted by Reza Moheimani, *Mechatronics* Editor-in-Chief as of 1 January 2016

IBCE 2015 4-6 November 2015, Brescia, Italy

fessors and technical leaders very well known in the control education field. The first one, entitled "Facilitating the Creation of Virtual and Remote Laboratories for Engineering Education (Lessons From the past ten years and plans for the next "n")" presented by Prof. Francisco Esquembre, University of Murcia (Spain), presented the state of the art of tools for the creation of virtual and remote labs (and e-books) and how these tools can be employed to improve the learning of the students, especially by increasing their motivation.



**NOC chair Antonio Visioli,
Technical Board Education Liaison
Bozenna Pasik-Duncan
and Sebastian Dormido, TC 9.4 chair**

This latter issue has also been addressed in the second plenary talk entitled "Education Resources and Teaching Methodologies for the Modern Student and Busy Academic", presented by Prof. Anthony Rossiter, University of Sheffield (UK). In particular, the use of modern tools such as real-time voting systems, video lectures, etc. has been discussed, as these tools have already gained a great interest in the academic community but it has to be recognized that students do not always appreciate them so that a significant attention has to be paid in their use.

The third lecture "Computing Systems and the Network as a Control Education Arena" given by Prof. Alberto Leva, Polytechnic University of Milan (Italy). This lecture addressed the use of computing system as a very interesting field for both control research and education.

To conclude, it can be said that the IFAC Workshop on Internet Based Control Education has had a very active participation in the technical activities and the general feeling we have got from attendees' comments has been very positive. Of course, the success of the IBCE15 is the result of many people's effort.

On behalf of the NOC and IPC, we would like to thank all the authors, IPC members, NOC members, reviewers, session chairs and co-chairs and participants for their contributions. We are also grateful to the many volunteers who have contributed to the organization.

Submitted by Antonio Visioli, NOC Chair and Manuel Berenguel, IPC Chair

Fast-ZERO 9-11 September 2015 Goteborg, Sweden

The third Future Active Safety Technology Towards zero traffic accidents Symposium FAST-Zero '15 took place in Göteborg, Sweden from 9-11 September, organized by Chalmers University and SAFER. 190 delegates from 13 countries participated in 107 talks, technical visits and social events. A third of the participants came from industry, both local and international.

Emergencies functionality was demonstrated by Autoliv and IAV at the test site AstaZero. Test rides with autonomous driving vehicles were offered by IAV on the freeway in the city. At the technical visits VTI showed their driving simulator and Volvo Cars and Volvo Trucks demonstrated safety related functionality on their new vehicles.

The dinner banquet took place under the sea-level, next to sharks and other big fish at the museum Universeum:

www.universeum.se/en.

The technical program consisted of 107 talks, where the most common topics were: Driver Behavior Modeling, Vehicle Dynamics Control and autonomous driving, Active Safety Testing Methods and Tools. There were 4 keynote talks one from academia focusing on driver aspects, one governmental on traffic aspects of autonomous driving and two industrial talks from IAV and Volvo Cars covering the goals and challenges for them concerning autonomous driving.

25% of the participants came from Sweden, and equally many from Japan. Other well-represented countries were the Republic of Korea and Germany.

More information can be found at the website www.fastzero15.net.

Submitted by Jonas Sjöberg, Chalmers University, FAST-Zero General Chair

This Newsletter may be reproduced in whole or in part. We encourage electronic distribution of this Newsletter, as well as reprinting in national and local automatic control periodicals. Acknowledgement to IFAC would be appreciated.

Annual Reviews in Control: Recent Editorial Changes

Since April 2015, Francoise Lamnabhi-Lagarigue has served the journal as Editor-in-Chief. Further details about the transition are available in the October 2015 Newsletter at: http://www.ifac-control.org/newsletter_archive/IFAC_Newsletter_2015_5_October.pdf

The aim of Annual Reviews in Control is views of our field which is changing very fast now. Indeed, increasingly, both economic developments and societal needs depend upon collections of diverse systems working together to provide needed services, comfort, health, safety and security. Consequently, there is an increasing demand for new methodological and technical approaches which requires expertise from various disciplines. In order to tackle this great evolution, a new board of the journal has been set up. It is composed of experts covering a large palette of control research topics and belonging to research centers worldwide:

Honorary Editor

- Janos J. Gertler, George Mason University, Fairfax VA, USA

Deputy Editor-in-Chief:

- Anuradha Annaswamy, Massachusetts Institute of Technology, Cambridge MA, USA

Consulting Board:

- Christos Cassandras, Boston University, Brookline MA, USA
- Iven Michiel Yvonne Mareels, University of Melbourne, Parkville, Australia
- Tariq Samad, Honeywell, Minneapolis, MN, USA

Editorial Board:

- Hajime Asama, University of Tokyo, Japan
- Richard D. Braatz, Massachusetts Institute of Technology, Cambridge MA, USA
- Tianyou Chai, Northeastern University Shenyang, P.R. China
- Maria Domenica Di Benedetto, University of L'Aquila, Italy
- Christos Georgakis, Tufts University, Medford MA, USA
- Lei Guo, Chinese Academy of Sciences, Beijing, P. R. China
- Maurice Heemels, Technical University of Eindhoven, The Netherlands
- Marija Ilic, Carnegie Mellon University, Pittsburgh PA, USA
- Ilya V. Kolmanovskiy, University of Michigan, Ann Arbor MI, USA
- Miroslav Krstic, University of California, San Diego, La Jolla CA, USA
- P.R. Kumar, Texas A&M University, College Station TX, USA
- Jean-Jacques Lesage, Ecole Normale Supérieure de Cachan, France

- Kevin M. Lynch, Carnegie Mellon University, Pittsburgh PA, USA
- Lalit K. Mestha, Xerox PARC, Palo Alto, CA, USA
- Richard Murray, California Institute of Technology, Pasadena CA, USA
- Hervé Panetto University of Lorraine, France
- Carlos Eduardo Pereira, Universidade Federal Rio Grande Sul, Porto Alegre, Brazil
- Anders Rantzer, Lund Universitet, Sweden
- Pierre Rouchon, Ecole des Mines de Paris, France
- Sirish L. Shah, University of Alberta, Edmonton, Canada
- Rodolphe Sepulchre, University of Cambridge, UK
- Sarah Spurgeon, University of Kent, UK
- Alex Stankovic, Tufts University, Medford, MA, USA
- Arjan van der Schaft, University of Groningen, The Netherlands

Annual Reviews in Control will publish the following types of articles:

- **Survey Articles:** Review papers on main methodologies or technical advances,
- **Vision Articles:** Cutting-edge and emerging topics with visionary perspective on the future of the field or how it will bridge multiple disciplines, and
- **Tutorial Research Articles:** Fundamental guides for future studies.

Submitted by Francoise Lamnabhi-Lagarigue, Editor-in-Chief, Annual Reviews in Control

The Tables of Contents of the IFAC Journals can be found respectively at

Automatica

<http://www.elsevier.com/locate/automatica>

Control Engineering Practice

<http://www.elsevier.com/locate/conengprac>

Engineering Applications of Artificial Intelligence

<http://www.elsevier.com/locate/engappai>

Journal of Process Control

<http://www.elsevier.com/locate/jprocont>

Annual Reviews in Control

<http://www.elsevier.com/locate/arcontrol>

Journal on Mechatronics

<http://www.elsevier.com/locate/mechatronics>

Nonlinear Analysis: Hybrid Systems

<http://www.elsevier.com/locate/naahs>

Who's Who in IFAC: IFAC Council Member Radhakant Padhi

Dr. Radhakant Padhi received his Masters in Aerospace Engineering from the Indian Institute of Science, Bangalore, India in 1996, followed by his Ph.D. in Aerospace Engineering from Missouri University of Science and Technology (MST), Rolla, MO, USA in 2001. After two years of postdoctoral studies at MST-Rolla, he joined the Dept. of Aerospace Engineering, Indian Institute of Science, Bangalore, IN as a faculty member in December 2003, where currently he serves as an associate professor. He briefly served the Defence Research and Development Organisation of India as a scientist from 1996 through 1997.



Radhakant Padhi

Dr. Padhi's research interests are in the broad area of systems theory and applications, with emphasis on synthesis algorithms in optimal control, nonlinear control, intelligent control and state estimation. He works on diverse application areas such as guidance and control of aerospace vehicles, target tracking for guidance, integrated guidance, control and estimation, automatic drug delivery for biomedical systems, control of distributed parameter systems and industrial process control.

Dr. Padhi has more than 175 publications in international journals and conferences. He has received several awards for his valuable research contributions as well, which include the VNMM Award of IIT-Roorkee, Young Scientist award of the Aeronautical Society of India, Young Scientist Award of the System Society of India and the Young Engineer Award of Indian National Academy of Engineering.

Dr. Padhi is an Associate Fellow of American Institute of Aeronautics and Astronautics (AIAA), Senior Member of Institute of Electrical and Electronics Engineers (IEEE), Member of International Federation of Automatic Control (IFAC) Technical Committee on Aerospace and Life members of both Aeronautical Society of India and Systems Society of India. He is also the founding vice-president of the Automatic Control and Dynamic Optimization Society, which is the NMO of IFAC in India. He played a crucial role in establishing the society in 2011, getting the NMO status in IFAC for it and galvanizing the Indian control community for various professional activities, including hosting a number of IFAC events in India in quick succession.

At the General Assembly of IFAC at the World Congress in Cape Town in Aug 2014, Dr. Padhi was elected as a Council member for the 2014–2017 Triennium.

Submitted by Radhakant Padhi

DCDS 2015 27-29 May 2015, Cancun, Mexico

The 5th International Workshop on Dependable Discrete Systems (DCDS 2015) was organised by the Centro de Investigación y de Estudios Avanzados del IPN (CINVESTAV) Unidad Guadaluajara in the city of Cancun, Mexico.

DCDS provides the communities of safety/reliability analysis and of Discrete Event Systems with an opportunity to exchange information and new ideas, and to discuss new developments in the field of Dependable Control of Discrete Systems. Gathering researchers and practitioners of the two communities, contributes to a better interdisciplinary approach for control dependability improvement.

The workshop series started in 2007 in Cachan, France. Afterwards, the biannual event has been held in Bari, Italy (2009), Saarbrücken, Germany (2011), and York, UK (2013).

In the DCDS 2015 programme, three distinguished colleagues presented the following plenary talks:

- Real-Time Management of Complex Resource Allocation Systems: Necessity, Achievements and Further Challenges, presented by Spyros Reveliotis, Georgia Institute of Technology, USA.
- Intersections of Philosophy, Logic and Biology in Design, presented by Yiannis Papadopoulos, University of Hull, United Kingdom.
- Fault-Tolerant Supervisory Control, presented by Thomas Moor, Lehrstuhl für Regelungstechnik, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany.

The programme includes the three plenary papers, and 24 regular papers, which were selected from 41 submitted contributions after a careful reviewing process. Every submitted paper received in average three reviews. The organisers are very grateful to the IPC members and external reviewers who performed the reviewing within a short period of time. Submissions that were co-authored by the co-chairs and/or the members of their universities were handled anonymously by Mariagrazia Dotoli and Jean-Marc Faure who acted as associate editors. We thank these colleagues for their valuable help to manage the review of 10 submissions.

The 27 papers in the programme came from France (10), Germany (6), Mexico (4), Italy (2), United Kingdom (2), Sweden (1), USA (1), and Brazil (1). These papers involved 80 authors whose affiliations include institutes in China and Turkey.

Most of the accepted papers have been submitted as part of special sessions; such papers followed the regular reviewing process. We thank the organisers of these sessions, who promoted the submissions focussing on interesting research topics. The organisers and topics on the

four sessions were: Yiannis Papadopoulos (UK) and Frank Ortmeier (DE), "Tool-Supported Techniques for Model-Based Dependability Analysis and Optimisation of DES"; Alexandre Philippot (FR), "Diagnosis Approaches: What News Since Over 20 Years?"; Francesco Basile (IT) and Dimitri Lefebvre (FR), "Analysis and Control of DES with Petri Nets"; Eric Rutten (FR), "Dependable Discrete Control for Adaptive and Reconfigurable Computing Systems".

All the papers in the programme were presented as scheduled, and the attendance to the sessions has been numerous even though the nice external environment. Researchers had the opportunity to interact with other colleagues during the session and breaks as well as the social events.

The slides of the plenary talks and pictures of the event are available on the website:
www.gdl.cinvestav.mx/dcds2015/

We also express our gratitude to the members of the National Organising Committee for their valuable support in many duties regarding the preparation of this event in a city far from the organising institute.

Submitted by Ernesto Lopez-Mellado, NOC Chair

Check out IFAC's YouTube channel for new and historical IFAC video materials!

The link to the YouTube channel can be accessed via the IFAC website
www.ifac-control.org

IFAC is now on social media!

Check out IFAC's presence on Facebook, LinkedIn and Twitter.

In addition check out the IFAC Blog at

<http://blog.ifac-control.org>

Material is constantly uploaded and posted so check back often for updates

<http://www.ifac-control.org>

BMS 2015

31 August-2 September 2015, Berlin, Germany

The 9th IFAC Symposium on Biological and Medical Systems (BMS 2015) took place in Berlin, Germany at the historic Charlottenburg campus of the Physikalisch-Technische Bundesanstalt (PTB) from August 31- September 2, 2015. The symposium provided a forum for the presentation of new developments in the important interdisciplinary field of biological and medical systems. This involved the development and application of concepts, methods and techniques for modeling, analysis and control of complex biomedical and biological systems, as well as advances in medical technology.

It was the second time that this IFAC symposium was hosted in Germany after Karlsburg/Greifswald in 2000, when the symposium was still named "IFAC Symposium on Modelling and Control in Biomedical Systems". The application for Berlin as BMS 2015 location was an initiative of the German Technical Committee Automation in Medicine – AUTOMED.

The symposium was sponsored by the IFAC Technical Committee on Biological and Medical Systems (TC 8.2). Technical co-sponsors were five other IFAC TCs (TC 1.1, TC 1.2, TC 4.2, TC 4.3 and TC 9.4), the German VDI/VDE Society for Measurement and Automatic Control (GMA), the German Society for Biomedical Engineering within VDE (DGBMT), the German Technical Committees Automation in Medicine – AUTOMED – and Biosignals within DGBMT/GMA, the

Control Systems Group at the Technische Universität Berlin, and the Physikalisch Technische Bundesanstalt (PTB).

The proceedings of BMS 2015 include 99 papers with corresponding authors from 21 countries. The accepted papers have been selected from 124 submissions after a rigorous review process. The symposium was composed of 14 dual-track oral sessions and two single-track poster presentation sessions.

Three keynote lectures were held by Chiara Dalla Man (University of Padova, Italy), Steffen Leonhardt (RWTH Aachen University, Germany) and Yeong Shiong Chiew (University of Canterbury, New Zealand). An industrial and clinical plenary session on "Development of Medical Technology: Clinical and Industrial Perspectives" was chaired by Karsten Hiltawsky.



Chiara Dalla Man

A particular highlight of the welcome reception at the Technische Universität Berlin was the fa-

mous Berlin singer songwriter Siri Sveglar who performed live on stage with her band. The conference dinner took place in the restaurant "Sphere", which hovers 207 meters above the city center in the famous Berlin TV tower. At any table, a sightseeing tour was included: Within an hour the restaurant makes one turn about its own axis.



Lichthof, main building atrium at the TU Berlin where a welcome reception for BMS 2015 participants was held.

Photo copyright TU Berlin, taken from BMS 2015 website, www.bms2015.org

The symposium BMS 2015 was a great opportunity to exchange ideas, discuss exciting problems in our field, interact with colleagues, and make new friends. In total, 135 participants from 24 countries took advantage of this opportunity during the three days of the symposium.

Submitted by: Thomas Schauer, Technische Universität Berlin, DE and Olaf Simanski, Wismar University, DE

Calendar of IFAC Events

Title	2016	Place	Further information
4th ACDOS IFAC IEEE (MadrasSection&BangaloreSection) Conference on Advances in Control and Optimization of Dynamical Systems ACODS 2016	February 01 – 05	NIT Tiruchirappalli India	http://acods2016.nitt.edu/ e-mail: acods.2016@nitt.edu
7th IFAC Conference on Management and Control of Production and Logistics MCPL 2016	February 22 – 24	Bremen Germany	http://mcpl2016.logdynamics.de/ e-mail: pan@biba.uni-bremen.de
14th IFAC Symposium on Control in Transportation Systems CTS 2016	May 18 – 20	Istanbul Turkey	http://www.cts2016.itu.edu.tr/ e-mail: cts2016@itu.edu.tr
14th IFAC Symposium on Large Scale Complex Systems: Theory and Applications LSS 2016	May 26 – 28	Riverside USA	http://www.ee.ucr.edu/~ren/lss16 e-mail: not yet available
4th IFAC Conference on Intelligent Control and Automation Sciences ICONS 2016	June 01 – 03	Reims France	http://icons2016.univ-reims.fr/ e-mail: icons2016@univ-reims.fr
11th IFAC Symposium on Advances in Control Education ACE 2016	June 01 – 03	Bratislava Slovakia	http://www.ace2016.sk/ e-mail: info@ace2016.sk
11th IFAC Symposium on Dynamics and control of process systems, including biosystems DYCOPS 2016	June 06 – 08	Trondheim Norway	http://dycops2016.org/ e-mail: dycops2016@itk.ntnu.no
2nd IFAC/IEEE CSS Workshop on Control of Systems Governed by Partial Differential Equations CPDE 2016	June 13 – 15	Bertinoro Italy	http://www.cpde2016.org/ e-mail: cpde2016@gmail.com

Calendar of IFAC Events

Title	2016	Place	Further information
8th IFAC Symposium on Advances in Automotive Control AAC 2016	June 20 – 23	Kolmården Wildlife R. Sweden	http://aac2016.isy.liu.se/ e-mail: aac2016@isy.liu.se
13th IFAC Workshop on Time Delay Systems TDS 2016	June 22 – 24	Istanbul Turkey	http://www.tds2016.itu.edu.tr/ e-mail: tds2016@itu.edu.tr
6th IFAC Symposium on System Structure and Control SSSC 2016	June 22 – 24	Istanbul Turkey	http://www.sssc2016.itu.edu.tr/ e-mail: sssc2016@itu.edu.tr
8th IFAC/IEEE/IFORS/INFORMS Conference on Manufacturing Modelling, Management and Control MIM 2016	June 28 – 30	Troyes France	http://mim2016.utt.fr/ e-mail: mim2016@utt.fr
12th IFAC Workshop on Adaptation and Learning in Control and Signal Processing ALCOPS 2016	June – July 29 – 01	Eindhoven Netherlands	http://alcosp2016.wtb.tue.nl/ e-mail: alcosp2016@tue.nl
6th IFAC Workshop on Periodic Control Systems PSYCO 2016	June – July 29 – 01	Eindhoven Netherlands	http://psyco2016.wtb.tue.nl/ e-mail: alcosp2016@tue.nl
15th EUCA, IEEE CSS IFAC Conference on European Control Conference (in cooperation with IFAC) ECC 2016	June – July 29 – 01	Aalborg Denmark	http://www.ecc16.eu/index.shtml e-mail: ecc2016@es.aau.dk
9th IFAC/IEEE RAS Symposium on Intelligent Autonomous Vehicles IAV 2016	June – July 29 – 01	Messe Leipzig Germany	http://iav2016.inf.h-brs.de/ e-mail: paul.ploeger@h-brs.de
Conference on American Control Conference (in cooperation with IFAC) ACC 2016	July 06 – 08	Boston USA	http://acc2016.a2c2.org/ e-mail: daniel_abramovitch@agilent.com
IEEE (CSS) and IEEE (SSIT) IFAC Conference on Norbert Wiener in the 21st Century	July 13 – 15	Melbourne Australia	http://21stcenturywiener.org/ e-mail: NorbertWiener-2016@unimelb.edu.au
Univ. of Novi Sad, IFAC, IUTAM, IEEE B. of Serbia & M. Conference on Fractional Differentiation and its Applications ICFDA 2016	July 18 – 20	Novi Sad Republic of Serbia	http://www.icfda16.com/public/ e-mail: icfda16@uns.ac.rs
13th Intern. INSTICC Conference on Informatics in Control, Automation and Robotics (in cooperation with IFAC) ICINCO 2016	July 29 – 31	Lisbon Portugal	http://www.icinco.org/ e-mail: icinco.secretariat@insticc.org
5th IFAC Conference on Sensing, Control and Automation Technologies for Agriculture AGRICONTROL 2016	August 14 – 17	Seattle, WA USA	http://ifac.cahnrs.wsu.edu/ e-mail: manoj.karkee@wsu.edu
20th IFAC Symposium on Automatic Control in Aerospace ACA 2016	August 21 – 25	Sherbrooke, Québec Canada	http://aca2016.ngcaerospace.com/ e-mail: aca2016@ngcaerospace.com
10th IFAC Symposium on Non-Linear Control Systems NOLCOS 2016	August 23 – 25	Monterey, CA USA	https://www.math.ucdavis.edu/static/conferences/nolcos_2016/ e-mail: NOLCOS2016@math.ucdavis.edu
13th IFAC/IFIP/IFORS/IEA Symposium on Analysis, Design, and Evaluation of Human-Machine Systems HMS 2016	Aug. – Sept. 30 – 02	Kyoto Japan	http://www.syn.me.kyoto-u.ac.jp/IFACHMS2016/ e-mail: sec-ifachms2016@me.kyoto-u.ac.jp
17th IFAC and others Symposium on Mining, Mineral and Metal Processing MMM 2016	Aug. – Sept. 31 – 02	Vienna Austria	http://www.ifacmmm2016.org/ e-mail: contact@ifacmmm2016.org
7th IFAC and others Symposium on Mechatronic Systems MECHATRONICS 2016	September 05 – 08	Loughborough Uni- versity United Kingdom	http://www.mechatronics2016.lboro.ac.uk/ e-mail: mechatronics2016.lboro.ac.uk
6th IFAC Tokyo Institute of Techn. Workshop on Distributed Estimation and Control in Networked Systems NecSys 2016	September 08 – 09	Tokyo Japan	http://not yet available e-mail: not yet available

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9th EUROSIM IFAC Congress on Modelling and Simulation EUROSIM 2016	September 12 – 15	Oulo Finland	http://eurosim2016.automaatioseura.fi/ e-mail: office@automaatioseura.fi
10th IFAC Conference on Control Applications in Marine Systems CAMS 2016	September 13 – 16	Trondheim Norway	http://www.ifac-cams2016.com/ e-mail: cams@ifac-cams2016.com
12th APCA IFAC Portugese Conference on Automatic Control CONTROLO 2016	September 14 – 16	Guimarães Portugal	http://controlo2016.com e-mail: controlo2016@dei.uminho.pt
2nd IFAC Workshop on Thermodynamic Foundations for a Mathematical Systems Theory TFMST 2016	September 28 – 30	Vigo Spain	http://not yet available e-mail: not yet available
14th IFAC IEEE Conference on Programmable Devices and Embedded Systems PDES 2016	October 05 – 07	Brno Czech Republic	http://not yet available e-mail: not yet available
6th IFAC, CACHE, IEEE CSS TC on Systems Biology Conference on Foundation of Systems Biology in Engineering FOSBE 2016	October 09 – 12	Magdeburg Germany	http://not yet available e-mail: not yet available
IFAC CIGRE/CIREW Workshop on Control of Transmission and Distribution Smart Grids CTDSG 2016	October 11 – 13	Prague Czech Republic	http://www.ifac.ctdsg2016.cz/ e-mail: secretary@ifac.ctdsg2016.cz
1st IFAC Workshop on Control and Computers WOCO 2016	October 18 – 20	Valencia Spain	http://not yet available e-mail: not yet available
3rd IFAC/IFIP WG 5.7/ESRA Workshop on Advanced Maintenance Engineering, Service and Technology AMEST 2016	October 19 – 21	Biarritz France	http://ifac-amest16.com/ e-mail: not yet available
17th IFAC EUROSIM Conference on Technology, Culture and International Stability TECIS 2016	October 26 – 28	Durres Albania	http://tecis2016.ubt-uni.net/ e-mail: tecis2016@ubt-uni.net
4th IFAC Symposium on Telematics Applications TA 2016	November 06 – 09	Porto Alegre - RS Brazil	http://ifac telematics2016.ece.ufrgs.br/ e-mail: cpereira@ece.ufrgs.br
12th IFAC Workshop on Intelligent Manufacturing Systems IMS 2016	December 05 – 07	Austin USA	http://not yet available e-mail: not yet available
1st IFAC IEEE, EECI, NSF Conference on Cyber-Physical & Human-Systems CPHS 2016	December 07 – 09	Florianopolis Brazil	http://not yet available e-mail: not yet available
20th IFAC World Congress 2017	July 09 – 14	Toulouse France	http://www.ifac2017.org/ e-mail: contact@ifac2017.org
18th IFAC/IEEE CSS Symposium on System Identification SYSID 2018	July 09 – 11	Stockholm Sweden	http://not yet available e-mail: not yet available

Impressum:

Medieninhaber und Herausgeber:
International Federation of Automatic Control (IFAC), Zurich
Schlossplatz 12, 2361 Laxenburg, Austria

Verlagsort und Redaktion:
Univ.Prof. Dr. tech. K. Schlacher,
Schlossplatz 12, 2361 Laxenburg

Editor: Kurt Schlacher
Layout: Elske Haberl
published bimonthly

Das Sekretariat der IFAC befindet sich seit 1978 aufgrund eines Übereinkommens mit der Österreichischen Bundesregierung und mit der Österreichischen Akademie der Wissenschaften in Laxenburg und wird derzeit aus Mitteln des Bundesministeriums für Verkehr, Innovation und Technologie „BMVIT“ gefordert.