

2015 IFAC Officers' Meeting and Technical Lecture, Austria

The 2015 Informal meeting of the IFAC officers was held from 6-9 May 2015. The yearly gathering of the IFAC officers is a tradition that dates back to the time when communications were slower and more expensive. This meeting is for discussion purposes, not for undertaking formal decisions. In addition it affords IFAC the opportunity to celebrate its ties to Austria, as IFAC's permanent Secretariat has been located in Laxenburg, Austria since 1978 at the invitation of the Austrian government.

As in years past a technical lecture was held at an Austrian university. This year's lecture was held on Thursday, 7 May at the Erzherzog Johann University/Technical University in Graz and was presented by IFAC Technical Board Chair Prof. Francis Doyle III, University of California- Santa Barbara (US.) IFAC is grateful to Prof. Martin Horn and Ms. Alexandra Doczy at the TU Graz who assisted with local arrangements and hosted the IFAC group at the university. In addition the officers had the opportunity to see some of the facilities of the TU Graz and interact with students and colleagues in the Austrian control engineering community, as well as see some of the Old Town of Graz, Austria's second-largest city.

The 2015 technical lecture, "Automatic Control of the Artificial Pancreas", was presented by Prof. Francis J. Doyle III, currently of the University of California-Santa Barbara (Dean of the Harvard School of Engineering and Applied Sciences as of 1 August 2015) and was titled "Automatic Control of the Artificial Pancreas." The abstract of the lecture follows below:

Type 1 diabetes mellitus (T1DM) is a chronic autoimmune disease affecting approximately 35 million individuals world-wide. Current treatment requires either multiple daily insulin injections or continuous subcutaneous (SC) insulin infusion (CSII) delivered via an insulin infusion pump. More than 30 years ago, the idea of an artificial endocrine pancreas for patients with type 1 diabetes mellitus (T1DM) was envisioned.

In the ensuing years, a number of theoretical research studies were performed with numerical simulations to demonstrate the relevance of advanced process control design to the artificial pancreas, with delivery algorithms ranging from

simple PID, to H_{∞} , to model predictive control. With the advent of continuous glucose sensing, which reports interstitial glucose concentrations approximately every minute, and the development of hardware and algorithms to communicate with and control insulin pumps, the vision of closed-loop control of blood glucose is approaching a reality. In the last 15 years, our research group has been working with medical doctors on clinical demonstrations of feedback control algorithms for the artificial pancreas. In this talk, I will outline the difficulties inherent in controlling physiological variables, the challenges with regulatory approval of such devices, and will describe a number of feedback algorithms we have tested in clinical experiments for the artificial pancreas.

On 7 May the officers travelled back to Vienna after the technical lecture in Graz for the President's Dinner, held at Kristian's Monastiri, an Austrian restaurant in Neubau, Vienna's trendy 7th district. Prof. Janan Zaytoon, IFAC President, hosted representatives of the Austrian IFAC community, as well as from an additional other international organization located in Laxenburg (IFIP), current and past IFAC officers and current and former IFAC Secretariat staff members.

Meetings were held by the IFAC officials- President Janan Zaytoon (FR), President-Elect Frank Allgöwer (DE), Executive Board Chair Sergio Bittanti (IT), Technical Board Chair Francis Doyle III (US), Immediate Past President Ian Craig (ZA) and Treasurer John Lygeros (CH), as well as the IFAC Secretary Kurt Schlacher (AT) at the Secretariat premises on Friday, 8 May and continued on Saturday, 9 May.

Topics this year included the expressions of interest received from six IFAC NMOs (Austria, Australia, Japan, Turkey, UK, and US) for the 2023 IFAC World Congress, status reports from the IFAC officers, as well as the upcoming IFAC Council and Related Meetings, which will be held in Chicago, IL, US from 2-4 July 2015 in conjunction with the 2015 American Control Conference.

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June 2015

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Offenlegung: Das Medienwerk 'IFAC Newsletter' wird als Organ der 'International Federation of Automatic Control' (IFAC) verlegt und ist Eigentum dieser Internationalen Föderation, deren Tätigkeit der Förderung von Wissenschaft und Technik automatischer Regelung und Steuerung dient. Die Föderation hat ihren Sitz in Zürich und ist nach Schweizer Recht als gemeinnütziger Verein angemeldet. Sie verfolgt weder wirtschaftliche noch praktische Ziele.

Das Sekretariat der IFAC befindet sich seit 1978 aufgrund eines Übereinkommens mit der Österreichischen Bundesregierung mit der Österreichischen Akademie der Wissenschaften in Laxenburg.

Der 'IFAC Newsletter' erscheint sechsmal jährlich in englischer Sprache unter der Redaktion des Generalsekretärs der IFAC, Univ.Professor Kurt Schlacher. Die Zeitschrift dient der Information über die Aktivitäten der IFAC. Sie wird kostenlos an Abonnenten in 50+ Länder versandt. Die Kosten werden von der IFAC aus Beiträgen der derzeit 49 Mitgliedsländer getragen.

Präsident der IFAC für 2014-2017 ist Prof. Janan Zaytoon (Frankreich), Vizepräsidenten sind Prof. Sergio Bittanti (Italien) und Prof. Francis C. Doyle III (USA). Alle Funktionen werden ehrenamtlich ausgeübt.

(To our readers: To comply with the Austrian 'Media Act', every publication must contain a declaration once a year concerning ownership and purpose, as above.)

Introducing the 2011 – 2014 IFAC Fellows

Continuation in a series

Michel Verhaegen

Michel Verhaegen received an engineering degree in aeronautics from the Delft University of Technology in the Netherlands, in August 1982, and the doctoral degree in applied sciences from the Catholic University Leuven, Belgium, in November 1985.

He has been a research fellow of the Flemish government agency for Innovation by Science and Technology (IWT) from 1982 to 1985, of the American National Research Council (NRC) from 1986 to 1988 and of the Dutch Academy of Sciences (KNAW) from 1989 to 1994. By these research fellowships he was subsequently affiliated with the Catholic University Leuven, the NASA Ames Research Center in California (USA) and the Network Theory Group of the Delft University of Technology. From 1994 to 1999 he was associate professor of the control laboratory of the Delft University of Technology and became full professor at the faculty of Applied Physics of the University of Twente in 1999.



In 2001 Verhaegen moved back to the Delft University of Technology as a full professor of the Delft Center for Systems and Control. His awards include: the NASA Technical Recognition Award in 1989; with J. Dong and B. Kulcar the first Paul Frank Theory Paper Award at the IFAC Safe Process Symposium 2009; and with J.W. van Wingerden, A. Hulskamp, T. Barlas, I. Houtzager, H. Bersee and Gijs van Kuik the IEEE Transactions on Control Systems Technology Outstanding Paper Award in 2012. In 2013 he acquired the prestigious Advanced Grant of the European Research Council. He has served as associate editor for IFAC Journal Automatica from 2004 to 2008 and is currently associate editor for the Transactions on Automatic Control.

Verhaegen's main research interest is in the interdisciplinary domain of numerical linear algebra and system theory. In this field he has published over 130 papers in peer refereed Journals and co-authored one book. Current

activities focus on new methodologies for identification, distributed, fault tolerant control and data driven controller design.

Many of these research activities are inspired by the incentive to innovate technology developments in areas like wind-energy and high resolution imaging making use of smart, active optics.

Mark Spong

Mark W. Spong received the B.A. degree, Magna Cum Laude and Phi Beta Kappa, in mathematics and physics from Hiram College, Hiram, Ohio, USA in 1975, the M.S. degree in mathematics from New Mexico State University in 1977, and the M.S. and D.Sc. degrees in systems science and mathematics in 1979 and 1981, respectively, from Washington University in St. Louis. He has held faculty positions at Lehigh University (1981-82), Cornell University (1982-84), and at the University of Illinois at Urbana-Champaign (1984-2008), all in the USA.

Spong is currently the dean of the Erik Jonsson School of Engineering and Computer Science and Professor of Electrical Engineering at the University of Texas at Dallas. At UTD he holds both the Lars Magnus Ericsson Chair and the Excellence in Education Chair.



Spong has held visiting positions at the University of Waterloo, Canada, the CINVESTAV del IPN, Mexico City, Mexico, the Lund Institute of Technology, Sweden, the Laboratoire d'Automatique de Grenoble, France, the Université de Technologie de Compiègne, France, the Katholieke Universiteit, Leuven, Belgium, the National University of Singapore, and the Technical University of Munich, Germany, and has served as a consultant to industry and government.

Spong is a past president of the IEEE Control Systems Society, a Fellow of the IEEE and has served as both Editor-in-Chief and Associate Editor of the IEEE Transactions on Control System Technology, and as Associate Editor of the IEEE Transactions on Robotics and Automation, the IEEE Control Systems Magazine, and the IEEE Transactions on Automatic Control. He served as Vice President for Publication Activities from 2000-2002 and is a past member of the Board of Governors of the IEEE Control Systems Society.

He served as General Chair of the 2010 IEEE Conference on Decision and Control and the 2001 IEEE Conference on Control Applications.

Spong's main research interests are in robotics, mechatronics, and nonlinear control theory. He has authored or coauthored more than 300 technical articles in control and robotics, four books and holds one patent. He has made fundamental contributions in robust and nonlinear control of robot manipulators, teleoperators, bipedal walking robots, and multi-robot systems.

Notable awards won by Spong include the 2011 Pioneer Award from the IEEE Robotics and Automation Society, the first IROS Fumio Harashima Award for Innovative Technologies in 2007, the IEEE Transactions on Control Systems Technology Outstanding Paper Award, the Senior Scientist Research Award from the Alexander von Humboldt Foundation, the Distinguished Member Award from the IEEE Control Systems Society, the John R. Ragazzini and O. Hugo Schuck Awards from the American Automatic Control Council (the U.S. IFAC National Member Organization), and the IEEE Third Millennium Medal.

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.

Photos from IFAC Officers' Meeting and President's Dinner



IFAC President Janan Zaytoon and wife Florence Zaytoon welcomed guests to the annual IFAC Presidents' Dinner, Vienna, Austria.



Prof. Alexander Weinmann, TU Vienna, speaks with Prof. Peter Kopacek, TC 9.5 vice-chair, Austria, representing ÖGART, the Austrian IFAC NMO



IFAC Secretary Kurt Schlacher, JKU Linz, speaks with Prof. Georg Schitter, Technical University Vienna.



IFAC President Janan Zaytoon (FR) and Immediate Past President Ian Craig (ZA) with IFIP Secretary Mr. Eduard Dundler (AT.)



IFAC Advisor Vladimir Kucera (CZ), IFAC President 2002-2005 and wife Jarmila Faitova Kucerova made the trip from Prague to Vienna to attend the President's Dinner



Prof. Andreas Kugi, TC 6.2 chair and Editor-in-chief, Control Engineering Practice, Austria

IFAC and IFIP are both proud to call Laxenburg, Austria the home of their permanent Secretariats. The IFAC Secretariat has been located in Austria upon the invitation of the Austrian government at Schlossplatz 12 in Laxenburg since 1978



IFAC Secretariat staff members Katharina Willixhofer (left) and Elske Haberl (right) with Ernestine Rudas, center.

Ernestine Rudas is enjoying an active retirement in Vienna after 27 years employed with IFAC (Rudas and colleague Barbara Aumann retired from IFAC in 2012.)



The President's Dinner is a time for the IFAC community to celebrate its ties with Austria, host country of the permanent IFAC Secretariat located in Laxenburg (south of Vienna.)

The tradition of these gatherings around the Informal Officers' Meeting started during the presidency of IFAC President 1978-1981 Yoshikazu Sawaragi (JP). The annual informal meeting tradition continues as it is often more effective to discuss IFAC issues and business face-to-face than via email, video conference, etc..

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/nahts>

Calendar of IFAC Events

Title	2015	Place	Further information
American Control Conference (in cooperation with IFAC) ACC 2015	July 01 – 03	Chicago, IL USA	http://www.a2c2.org/conferences/acc2015/ e-mail: braatz@mit.edu
5th IFAC Workshop on Lagrangian and Hamiltonian Methods for Nonlinear Control LHMNC 2015	July 04 – 07	Lyon France	http://www.lhmnlc15.org/ e-mail: not yet available
10th IEEE, IEEE CSS, IFAC Workshop on Robot Motion and Control RoMoCo 2015	July 06 – 08	Poznan Poland	http://romoco.put.poznan.pl/ e-mail: piotr.mieszala@put.poznan.pl
8th IFAC Symposium on Robust Control Design ROCOND 2015	July 08 – 11	Bratislava Slovakia	http://www.rocond15.sk e-mail: info@rocond15.sk
European Control Conference (in cooperation with IFAC) ECC 2015	July 15 – 17	Linz Austria	http://www.ecc15.at/ e-mail: secretariat@ecc15.at
12th INSTICC Conference on Informatics in Control, Automation and Robotics (in cooperation with IFAC) ICINCO 2015	July 21 – 23	Colmar, Alsace France	http://www.icinco.org/ e-mail: icinco.secretariat@insticc.org
CACHE Meeting on Foundations of Systems Biology in Engineering (in cooperation with IFAC) FOSBE 2015	August 09 – 12	Boston, MA USA	http://fosbe.org/ e-mail: rcraven@fosbe.org
4th IFAC Workshop on Engine and Powertrain Control, Simulation and Mod- eling E-COSM 2015	August 23 – 26	Columbus, OH USA	https://e-cosm2015.engineering.osu.edu/ e-mail: not yet available
10th IFAC Conference on Manoeuvring and Control of Marine Craft MCMC 2015	August 24 – 26	Copenhagen Denmark	http://www.conferencemanager.dk/mcmc2015/ e-mail: secretariat@mcmc2015.dk
4th IFAC Workshop on Mining, Mineral and Metal Processing MMM 2015	August 25 – 27	Oulu Finland	http://ifacmmm2015.automaatioseura.fi/ e-mail: office@automaatioseura.fi
4th IFAC Conference on Analysis and Control of Chaotic Systems CHAOS 2015	August 26 – 28	Tokyo Japan	http://ctrl.mech.se.tmu.ac.jp/chaos2015 e-mail: not yet available
11th IFAC Symposium on Robot Control SYROCO 2015	August 26 – 28	Salvador, BA Brazil	http://www.syroco2015.org/ e-mail: syroco2015@ece.ufrgs.br
9th IFAC Symposium on Biological and Medical Systems BMS 2015	Aug. – Sept. 31 – 02	Berlin Germany	http://www.bms2015.org e-mail: info@bms2015.org
9th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes SAFEPROCESS 2015	September 02 – 04	Paris France	http://safeprocess15.sciencesconf.org/ e-mail: contact@safeprocess2015.fr
SAFER, IFAC, IEEE, ITSC Symposium on Future Active Safety Technology Towards zero traffic accidents FAST-zero	September 09 – 11	Gothenburg Sweden	http://fastzero15.net/ e-mail: info@fastzero15.net
5th IFAC Workshop on Distributed Estimation and Control in Networked Sys- tems NecSys 2015	September 10 – 11	Philadelphia USA	http://necsys2015.seas.upenn.edu/index.html e-mail: not yet available
5th IFAC Conference on Nonlinear Model Predictive Control NMPC 2015	September 17 – 20	Sevilla Spain	http://disa.us.es/nmpc15/ e-mail: dlm@us.es

Calendar of IFAC Events

Title	2015	Place	Further information
IEEE IFAC Multi-Conference on Systems and Control MSC 2015	September 21 – 23	Sydney Australia	http://www.msc2015.org/ e-mail: info@msc2015.org
16th IFAC Conference on Technology, Culture and International Stability TECIS 2015	September 24 – 27	Sozopol Bulgaria	http://www.tecis.tu-plovdiv.bg/ e-mail: tecis@tu-plovdiv.bg
16th IFAC Workshop on Control Applications of Optimization CAO 2015	October 06 – 09	Garmisch-Partenkirchen Germany	http://cao2015.de/ e-mail: Stefan.pickl@unibw.de
1st IFAC Workshop on Linear Parameter Varying systems LPVS 2015	October 07 – 09	Grenoble France	http://www.gipsa-lab.fr/LPVS2015/ e-mail: lpvs2015@gipsa-lab.grenoble-inp.fr
5th IFAC Conference on Analysis and Design of Hybrid Systems ADHS 2015	October 14 – 16	Atlanta, Georgia USA	http://adhs15.gatech.edu/ e-mail: magnus@gatech.edu
17th IFAC/IEEE/CSS Symposium on System Identification SYSID 2015	October 19 – 21	Beijing China	http://sysid2015.info/index.html e-mail: secretariat@sysid2015.info
OTM – DOA Institute IFAC Workshop on Enterprise Integration, Interoperability and Networking EI2N 2015	October 28 – 29	Rhodes Greece	http://www.onthemove-conferences.org/index.php/ei2n2015 e-mail: secre@onthemove-conferences.org
3rd IFAC Workshop on Internet Based Control Education IBCE 2015	November 04 – 06	Brescia Italy	http://ibce15.unibs.it/ e-mail: ibce15@unibs.it
Eng. Australia and others Conference on Australian Control Conference (in cooperation with IFAC) AUCC 2015	November 05 – 06	Gold Coast Australia	http://www.aucc.org.au/AUCC2015/ e-mail: not yet available
7th INSTICC (SCITEPRESS) IFAC International Conference on Computational Intelligence IJCCI 2015	November 12 – 14	Lisbon Portugal	http://www.ijcci.org/ e-mail: ijcci.secretariat@insticc.org
12th European EACD/IFAC Workshop on Advanced Control and Diagnosis ACD 2015	November 19 – 20	Pilsen Czech Republic	http://acd2015.zcu.cz/ e-mail: acd2015@kky.zcu.cz
9th IFAC Symposium on Control of Power and Energy Systems CPES 2015	December 09 – 11	New Delhi India	http://www.cpes2015.org/ e-mail: info@cpes2015.org

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://www.ldic-conference.org/ 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

Calendar of IFAC Events

Title	2016	Place	Further information
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
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
8th IFAC/IEEE and others 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://not yet available e-mail: not yet available
6th IFAC Workshop on Periodic Control Systems PSYCO 2016	June – July 29 – 01	Eindhoven Netherlands	http://not yet available e-mail: not yet available
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
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://not yet available e-mail: not yet available
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 06 – 09	Loughborough University United Kingdom	http://www.mechatronics2016.lboro.ac.uk/ e-mail: mechatronics2016.lboro.ac.uk
20th IFAC World Congress 2017	July 09 – 14	Toulouse France	http://www.ifac2017.org/ e-mail: contact@ifac2017.org

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.



Bundesministerium
für Verkehr,
Innovation und Technologie