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New IFAC Journal Editors: Editor-in-Chief Changes in 2023

IFAC and Elsevier are delighted to begin the new year by welcoming three new Editors-in-Chief to the journals *IFAC-PapersOnLine*, *Nonlinear Analysis: Hybrid Systems* and the *IFAC Journal of Systems and Control*.

In January 2023, the above-named three journals saw changes to their editorial teams as their previous Editors-in-Chief stepped down at the end of their terms. Our sincere thanks go to Juan De La Puente (*IFAC-PapersOnLine*, 2007-2022), Alessandro Giua (*Nonlinear Analysis: Hybrid Systems*, 2014-2022) and Robert Bitmead (*IFAC Journal of Systems and Control*, 2017-2022) for their outstanding service editing the three journals and for all the growth, development and impact they drove forward during their editorial terms. They hand over the titles in excellent health and well set up for further great progress in the future!

We are now pleased to welcome:

Editor-in-Chief, *IFAC-PapersOnLine*: **José Luis Díez** (Polytechnic University of Valencia, Spain)



Editor-in-Chief, *Nonlinear Analysis: Hybrid Systems*: **Maurice Heemels** (Eindhoven University of Technology, the Netherlands)



Editor-in-Chief, *IFAC Journal of Systems and Control*: **J. Geoffrey Chase** (University of Canterbury, New Zealand)



All the best of luck to them for 2023 and beyond as they begin their new roles.

Submitted by Kay Tancock,
IFAC Elsevier Representative

Introducing IFAC^x: Co-Sponsorship for Domestic IFAC Events

New in 2023 IFAC is offering IFAC co-sponsorship “light” for NMOs: IFAC^x. This service allows IFAC NMOs to give an IFAC label to some domestic technical events organized under their supervision.

IFAC^x Events: Each NMO can request the IFAC^x COUNTRY/REGION label for at most two domestic events. These may typically be a domestic conference + one other event such as a summer school, a webinar series, etc.

The labeled events are not required to be held in English. IFAC has no financial liability with respect to these events. The technical and scientific quality is the responsibility of the NMO, without any verification by IFAC. The events should be well aligned with IFAC’s mission of promoting automatic control, and respectful of IFAC’s code of conduct www.ifac-control.org/about.

Application Document:

In a single document, the NMO provides for each event:

- Name of the event, location, dates
- Type of event: Conference, School, etc.
- Website (used by IFAC to promote the event)
- Short description (typically 1 or 2 sentences)

No.1

February 2023

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The IFAC Journals

Automatica

journals.elsevier.com/automatica

Control Engineering Practice

journals.elsevier.com/control-engineering-practice

**Engineering Applications of
Artificial Intelligence**

journals.elsevier.com/engineering-applications-of-artificial-intelligence

Journal of Process Control

journals.elsevier.com/journal-of-process-control

Annual Reviews in Control

journals.elsevier.com/annual-reviews-in-control

**Journal on
Mechatronics**

journals.elsevier.com/mechatronics

**Nonlinear Analysis: Hybrid
Systems**

journals.elsevier.com/nonlinear-analysis-hybrid-systems

**IFAC Journal of
Systems & Control**

journals.elsevier.com/ifac-journal-of-systems-and-control

IFAC-PapersOnLine

journals.elsevier.com/ifac-papersonline

Validation by IFAC: Submitted requests receive the approval of the Technical Board and Conference Board Chairs. Approval ensures advertisement of the event in the IFAC channels (website, newsletter, social media etc.) and gives the right to use the "IFAC^x COUNTRY/REGION" logo.

Eleven countries will host an IFAC^x event in 2023: Brazil, France, Germany, Ireland, Italy, Japan, Republic of Korea, Mexico, Slovakia, Slovenia, and Spain.

The following events were approved for 2023:

BRAZIL



1. XVI Simpósio Brasileiro de Automação Inteligente (SBAI 2023, XVI Brazilian Symposium on Intelligent Automation)

2. X Simpósio Brasileiro de Sistemas Elétricos (SBSE 2023, X Brazilian Symposium on Electrical Systems) to be held in Manaus (Amazonas, Brazil), from 15-18 October 2023, at Studio 5 Centro de Convenções, Av. Rodrigo Otávio 3373, Crespo, Manaus / AM.

Type: Joint national symposia.

Website: the website will be hosted at www.sba.org.br.

These two Symposia are organized biannually by the SBA. They are the main scientific events on Intelligent Systems, Automation, and Control (SBAI) and on Electrical Systems (SBSE), including control, automation and optimization, of the Brazilian community and the bigger conferences in their respective areas in Latin America. Usually SBAI receives 650 submissions and accepts about 450 papers; SBSE receives 430 works and accepts around 300 papers. In both events, papers can be written in Portuguese, English, or Spanish and are subject to a rigorous peer-review process.

FRANCE



SAGIP 2023, Marseille, France, June 6-8, 2023

Type of event: National Conference

Website: sagip2023.lis-lab.fr

The national congress SAGIP 2023 will be organized in Marseille, France on June 6-8 2023 by the LIS laboratory (Laboratoire d'Informatique et Systems) (lis-lab.fr). It is co-sponsored by the SAGIP national association and by the CNRS GDR MACS. The objective of the annual SAGIP national congress is to present the research in the field of automatic control and industrial engineering carried out in French universities, public research organizations and laboratories, and in companies, as well as the use and insertion of automatic control and industrial engineering in industry, services, and communities.

GERMANY



1) the annual German AUTOMATION congress
Name, location, dates:

VDI Congress AUTOMATION, Congress Center Baden-Baden, June 27 and 28, 2023 (annually)

Type of event: Conference

Website: vdi-wissensforum.de/automatisierungskongress/

AUTOMATION is the leading congress in measurement and automation technology and a partner event of the VDI Wissensforum and the VDI/VDE-GMA. With six parallel tracks, the congress is the largest networking event in the field of automation, bringing together science and industry in Germany. This congress is a call for paper event with paper selection by a program committee consisting of experts of academia and industry. Seven main topics form the framework of this event: Factory Automation, Process automation, Methods and synergies, Automation Technology, Artificial Intelligence & Autonomous Systems, Industrial Communication and Data Science for Automation.

2) Annual scientific workshop

Joint workshop of technical committees "Modeling, identification and simulation in automation" and "Systems theory and control", Anif near Salzburg, Austria, September 2023 (annually)

Type of event: Scientific Workshop

Website: tu-dresden.de/ing/elektrotechnik/rst/das-institut/gma-fa-1-40

Two technical committees of GMA's automation technology methodology division organize an annual joint workshop with lectures and intensive discussion. Traditionally, this workshop of the German member organization GMA takes place near Salzburg in Austria. The GMA Technical Committee FA 1.30/FA 2.13 is dedicated to questions of modeling, identification and simulation of dynamic systems at the interface to control engineering. The focus is on theoretical aspects and numerical methods as well as concrete applications from industry and research. The GMA Technical Committee FA 1.40/FA 2.14 deals with current developments in control theory and their application in the industrial environment. The main topics are model predictive control of dynamic systems, nonlinear observers and state estimators as well as control of networked and distributed parametric systems.

IRELAND



1st International Workshop on Quantum Algorithms, Machine Learning and Control, 29-30 May 2023, Trinity College Dublin, Ireland.

Type of event: Workshop

This workshop focusses on theory and applications in the emerging field of quantum algorithms and their applications to problems in science and engineering. Two special areas

From the IFAC President

Dear IFAC Friends and Colleagues,

IFAC Executive Officers will be gathering in Vienna, Austria in April 2023 for the annual Executive Officers' Meeting. The annual meetings in Austria started in earlier times when international communications were not what they are today, but the tradition thrives today because there is no substitute for gathering people together in one place for discussions, planning, etc. It is also a way to IFAC to renew and invigorate its ties with Austria, the host country of the permanent IFAC Secretariat since 1978.

One of the traditions around the officers' meeting is a technical lecture. These annual lectures are an excellent opportunity especially for younger members of the IFAC community to have the chance to meet with and hear from world-renowned control experts. It has always been open to the Austrian control community (due to its location) and usually takes place in or near an Austrian university, but in recent years with advances in communication it has become hybrid, as participants can listen live from around the world. This year's lecture „Addressing complexity in contemporary control applications via data-driven and distributed optimization“ will be presented by Maria Prandini (IT, Politecnico di Milano), IFAC President-Elect 2026-29.

The lecture will take place on 20 April 2023 at 16:15 CET (Vienna, Berlin, Paris, etc.) at the Technical University in Vienna. As the time gets closer the Zoom link will be posted on the publically-accessible section of the IFAC website, so no advance registration is necessary. Mark your calendars now for what is sure to be an interesting and informative lecture!

In addition to attending the technical lecture the IFAC Executive Officers will, amongst other meeting topics, be preparing for the upcoming IFAC Council and Related Meetings, which will take place in a few short months in conjunction with the 2023 IFAC World Congress. The IFAC 2023 team is hard at work and making many arrangements for the congress, and hopes to welcome many of you to Yokohama, Japan this July. Check out the IFAC 2023 website ifac2023.org/ and if you haven't already I heartily encourage you to plan to join us in Japan for the first in-person IFAC World Congress since 2017!

Best regards,

Hajime Asama
IFAC President 2020- 2023

of focus are Quantum Machine Learning and Quantum Control.

ITALY



Name of the event: SIDRA PhD School on Automatica

Location: Bertinoro (FC), Italy

Dates: The School is usually organized in the first or second week of July (2023 edition: July 3-8, 2023)

Type of event: Summer school for PhD students in systems and control

Website: sidra2022.dei.unibo.it/ (2022 edition). The list of previous schools is available at automatica.it/scuole-di-dottorato/

The SIDRA PhD School on Automatica is organized annually since 1997 by SIDRA, the Italian Society of PhD and Researchers in Automatica. The School is always held in July in the beautiful location of Bertinoro (FC). It consists of a week of classes: usually two parallel courses by renown international researchers in the field, and the topics are selected trying to cover both theoretical and technical aspects. The School is held in a friendly and stimulating environment and every year approximately 60 PhD students from Italy and other countries attend it. A final exam is organized for students for obtaining the credits. The School has two scientific coordinators selected by SIDRA. Since 2012 Prof. Maria Elena Valcher (University of Padova) and Prof. Claudio Melchiorri (University of Bologna) have been indicated as coordinators of the School. This initiative also has the sponsorship of the IEEE RAS and IEEE CSS Italian Chapters.

JAPAN



Name of the event, location, dates:

66th Japan Joint Automatic Control Conference (JJACC), Sendai, Japan, October 7 and 8, 2023

Type of event: Conference

Website: sice.jp/rengo66/

Short description:

JJACC has been held annually since 1958 and is organized by the Japan NMO, which is part of the Science Council of Japan. The conference is sponsored by seven societies related to automatic control including SICE (The Society of Instrument and Control Engineers), ISCIE (The Institute of Systems, Control and Information Engineers), and JSME (The Japan Society of Mechanical Engineers).

KOREA, REPUBLIC OF



Name of the event: 2023 The 38th ICROS Annual Conference (ICROS 2023)

Location: Sol Beach Hotel & Resort Samcheok in Samcheok, Korea

Dates: June 21-23, 2023

Type of event: Conference

Website: 2023.icros.org/

ICROS 2023 is the main domestic conference of ICROS (Institute of Control, Robotics and Systems). The main themes of the conference are control and robotics. The conference language is Korean.

MEXICO



1) Conference

Name: Congreso Nacional de Control Automático, CNCA 2023.

Location: Acapulco de Juárez, Guerrero, México.

Dates: October 23-27, 2023

Website: amca.mx/congresos/cnca2023/

The CNCA is recognized as the Mexican conference dedicated to presenting and sharing the advancement of the theory and practice of systems and control. The CNCA is hosted by the NMO AMCA (Asociación de México de Control Automático) in cooperation with Mexican academic institutions.

2) Summer School

Name: Escuela de verano de Control Automático

Location: Mexico City, Mexico

Dates: June 26-30, 2023.

Website: amca.mx/escuelas/

The AMCA-Summer School is mainly intended for master's and Ph.D. students, researchers, and scholars interested in the theory and practice of automatic control and new and emergent related areas.

SLOVAKIA



24th International Conference on Process Control, Strbske Pleso, Slovakia, June 6-9, 2023

Type of event: Conference

Website: process-control.sk/

The conference's objective is to bring together theory experts and control systems practitioners to evaluate the new avenues for techniques, design procedures and instruments in process control. This conference has a long tradition of inviting plenary speakers who are at the top of their fields while opening the possibility of submitting papers in 4 main domains, like Linear and Nonlinear Control, Optimization and Computing in Control, Machine Learning and Control, and Sustainable Industrial Production and Applications.

SLOVENIA



Name of the event, location, dates:

Conference on Automation in Industry and Economy, which will be held from April 13-14 2023 in Maribor, Slovenia

Website: aig.si/; on the site the web pages of all past AIG conferences from 1999 to 2021 are shown, while the 2023 conference web page will appear on the website in the near future.

The AIG conference is the main event in the field of automation in Slovenia with local and foreign professional keynote speakers, and professional or scientific papers reflecting good manufacturing practices. The main topic of the 2023 conference will be Factories of the future and the green transition to society 5.0.

SPAIN



Name of the event, location, dates: Jornadas de Automática 2023, Zaragoza, 6-8 September 2023

Type of event: Conference

Website: jautomatica.es

Short description:

"Jornadas de Automática" is CEA's flagship event. It is an annual event with more than 40 years of history. The event brings together a large number of control professors from all over Spain and other countries. In addition to thematic meetings, the event allows the presentation of new results in poster form.

**IFAC World Congress 2023:
Notification of acceptance:
Early March 2023**
ifac2023.org/

**The IFAC Conference App
is available!**

The App is paid for by IFAC and can be used free of charge by IFAC conference organizers and attendees.

How to download:

App Store apple.co/3mpaER7

Google Play bit.ly/3lazFjx

You can also search for 'IFAC' in the Apple App Store or in the Google Play Store.

IFAC is on social media!

Facebook

facebook.com/groups/632582025190533

LinkedIn

linkedin.com/groups/13400016/

Twitter

twitter.com/IFAC_Control

YouTube

youtube.com/channel/UCLcWoqbVNxo9rVSS9NKQDeA

Introducing the 2020-2023 IFAC Fellows

This is the third in a series in which Newsletter readers can learn more about the 25 new 2020-2023 IFAC Fellows.

Maria Elena Valcher



M. Elena Valcher (Ph.D. Degree, 1995) is Professor of Control Theory at the University of Padova (IT) since 2005. Her current research interests include social networks, Boolean control networks, multi-agent systems and consensus problems, positive systems. She is the author of approximately 90 journal papers, 18 book chapters, 110 conference papers and three textbooks. She has been an active volunteer since 1999, serving in various roles for IEEE Control Systems Society, IEEE, IFAC and EUCA.

She served as AE for several journals, including *IEEE Transactions on Automatic Control* (2000-2003), *Systems and Control Letters* (2004-2010), *Automatica* (2006-2013), *SIAM J. on Control and Optimization* (2012-2014), and *IEEE Access* (2014-2019). She is currently on the editorial boards of *Multidimensional Systems and Signal Processing* (2004-today) and the *European Journal of Control* (2013-today). She is the Founding Editor-in-Chief of the *IEEE Control Systems Letters* (2017- present).

At IEEE Valcher served as Vice President Member Activities (2006-2007); Vice President Conference Activities (2008-2010); President-Elect (2014); President (2015) of the IEEE Control Systems Society. Distinguished Lecturer of the IEEE CSS (2011-2014). She was a member of several IEEE committees including IEEE Control Systems Award committee (2013-2015), IEEE Fellow Committee (2016), IEEE PSPB and IEEE Product and Services Committee (2019-2021), IEEE Periodicals Committee (2021-2022), IEEE Mulligan Medal (2019-2021), IEEE Medal of Honor (2020-2022). She won the 2011 IEEE CSS Distinguished Member Award and has been an IEEE Fellow since 2012.

Valcher is a member of the IFAC Technical Board since 2017, currently responds part of the selection committees for two IFAC Journals: *Automatica* (2014-2017) and *NAHS* (2014-2017 & 2017-2020). She is currently a member of the Quazza Medal Selection Committee (2020-2023).

In addition Valcher was the Italian representative serving on the EUCA Board (2017-2021) and she is currently the EUCA Vice President.

P.R. Kumar



P. R. Kumar obtained his B.Tech. in Electrical Engineering (Electronics) from IIT Madras (IN) in 1973, and D.Sc. from Washington University, St. Louis (MO, US) in 1977. He served in the Department of Mathematics at the University of Maryland- Baltimore County (MD, US) from 1977-84, and in the Department of Electrical and Computer Engineering and the Coordinated Science Lab at the University of Illinois, Urbana-Champaign (IL, US) during 1985-2011.

Since 2011 he has been in the Department of Electrical and Computer Engineering at Texas A&M University (TX, US), where he is a Regents Professor, a University Distinguished Professor, and holds the O'Donnell Foundation Chair I. He is a member of the U.S. National Academy of Engineering, the World Academy of Sciences, and the Indian National Academy of Engineering.

Kumar is the recipient of a Doctor Honoris Causa from Eidgenossische Technische Hochschule, Zurich (CH). He has received the Alexander Graham Bell Medal of IEEE, the IEEE Field Award for Control Systems, and the Outstanding Contribution Award of ACM SIGMOBILE. He has also received the Donald Eckman Award of AACC, the Ellersick Prize of the IEEE Communication Society, the Infocom Achievement Award, the SIGMOBILE Test-of-Time Paper Award, and the COMSNETS Outstanding Contribution Award. In addition to being an IFAC Fellow Kumar is a Fellow of IEEE and ACM.

In addition Kumar was awarded a Distinguished Alumnus Award from IIT Madras, Alumni Achievement Award from Washington University, St. Louis, and Drucker Eminent Faculty Award from the University of Illinois, Urbana-Champaign. He is an Honorary Professor at IIT Hyderabad (IN). He was the Leader of a Guest Chair Professor Group at Tsinghua University (CN), and a Gandhi Distinguished Visiting Professor at IIT Bombay (IN).

Richard M. Murray



Richard M. Murray received the B.S. degree in Electrical Engineering from California Institute of Technology in 1985 and the M.S. and Ph.D. degrees in Electrical Engineering and Computer Sciences from the University of California, Berkeley, in 1988 and 1991, respectively. He joined the faculty at Caltech in 1991 in Mechanical Engineering and helped found the Control and Dynamical Systems program in 1993.

From 1998-99 Murray took a sabbatical leave and served as the Director of Mechatronic Systems at the United Technologies Research Center in Hartford, CT. Upon returning to Caltech, Murray served as the Division Chair (dean) of Engineering and Applied Science at Caltech from 2000-2005, the Director for Information Science and Technology (IST) from 2006-2009, and interim Division Chair from 2008-2009. He is currently the Thomas E. and Doris Everhart Professor of Control & Dynamical Systems and Bioengineering at Caltech and the Division Chair for Biology and Biological Engineering (BBE).

Murray holds an honorary doctorate from Lund University (SE) and is an elected member of the National Academy of Engineering (2013). His research is in the application of feedback and control to networked systems, with applications in biology and autonomy.

Current projects include analysis and design of biomolecular feedback circuits, synthesis of discrete decision-making protocols for reactive systems, and design of highly resilient architectures for autonomous systems. Murray is a co-author of three textbooks, a co-developer of the Python Control Systems Library (python-control), a co-founder of Tierra Biosciences, and a founding member of the Defense Innovation Board (2016-2020).

Ioannis Paschalidis



Ioannis Ch. Paschalidis is a Distinguished Professor of Engineering and a Founding Professor of Computing & Data Sciences at Boston University (MA, US). He is the Director of the Rafik B. Hariri Institute for Computing and Computational Science & Engineering. He obtained a Ph.D. (1996) from the Massachusetts Institute of Technology (MIT) in Electrical En-

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Acknowledgement to IFAC would be appreciated.

gineering and Computer Science. His current research interests lie in the fields of data science and artificial intelligence, robotics and autonomous systems, optimization, networks, computational biology, and computational medicine. He is the author of a monograph and more than 250 refereed publications in these topics. His work has been recognized with a CAREER award from the National Science Foundation, several best paper and best algorithmic performance awards, and an IBM/IEEE Smarter Planet Challenge Award. He was an invited participant at the Frontiers of Engineering Symposium organized by the National Academy of Engineering, and at the 2014 National Academies Keck Futures Initiative Conference. He is a Fellow of IFAC and IEEE and was the founding Editor-in-Chief of the IEEE Transactions on Control of Network Systems.

Qing-Long Han



Qing-Long Han is Pro Vice-Chancellor (Research Quality) and a Distinguished Professor at Swinburne University of Technology, Melbourne, Australia. He held various academic and management positions at Griffith University, Australia and Central Queensland University, Australia. He received the Ph.D. degree in Control Engineering from East China University of Science and Technology in 1997.

Han has been conducting research in the areas of networked control systems, cyber physical systems, time-delay systems, multi-agent systems, smart grids, offshore structure, unmanned surface vehicles, cyber security, and neural networks. Since 2001 as of 26 January 2023, he has authored or co-authored four hundred and nineteen (419) fully-refereed high quality journal articles including two hundred and thirty-four (234) articles in the most prestigious IEEE Transactions and forty-two (42) articles in Automatica. He has also authored or co-authored one hundred and eighty-eight (188) international leading conference papers, six (6) monographs, one (1) research-based book chapter, and edited four (4) conference proceedings and ten (10) special issues. As of 26 January 2023, his research work has been cited 42,985 times with an h-index of 113, an i10-index of 376 according to Google Scholar. Moreover, his research work has been cited 36,604 times with an h-index of 107 according to SCOPUS, and 32,879 times with an h-index of 103 according to Clarivate Web of Science Core Collection.

Han was awarded the 2021 Norbert Wiener Award (the highest award in systems science and engineering, and cybernetics) and the 2021 M. A. Sargent Medal (the Highest Award of the Electrical College Board of Engineers Australia). He is a Highly Cited Researcher

in both Engineering and Computer Science (Clarivate Analytics, 2019-2022). He was one of Australia's Top 5 Lifetime Achievers (Research Superstars) in Engineering and Computer Science (The Australian's Research Magazine, 2019-2020). He was the recipient of The 2022 IEEE Systems, Man, and Cybernetics Society Andrew P. Sage Best Transactions Paper Award, The 2021 IEEE/CAA Journal of Automatica Sinica Norbert Wiener Review Award, The 2020 IEEE Systems, Man, and Cybernetics Society Andrew P. Sage Best Transactions Paper Award, The 2020 IEEE Transactions on Industrial Informatics Outstanding Paper Award, and The 2019 IEEE Systems, Man, and Cybernetics Society Andrew P. Sage Best Transactions Paper Award.

Han is a Foreign Member of the Academia Europaea (The Academy of Europe). He is a Fellow of The Institute of Electrical and Electronic Engineers (IEEE), a Fellow of the International Federation of Automatic Control (IFAC), and a Fellow of The Institution of Engineers Australia (IEAust). He has served as an AdCom Member of IEEE Industrial Electronics Society (IES), a Member of IEEE IES Fellows Committee, a Member of IEEE IES Publications Committee, Chair of IEEE IES Technical Committee on Network-based Control Systems and Applications, a Member of IEEE IES Technical Committee on SmartGrids, a Member of IFAC Technical Committee on Networked Systems, a Member of IFAC Technical Committee on Linear Control Systems, and a Member of IFAC Technical Committee on Power and Energy Systems. Currently, he is Editor-in-Chief of IEEE/CAA Journal of Automatica Sinica, Co-Editor-in-Chief of IEEE Transactions on Industrial Informatics, and Co-Editor of Australian Journal of Electrical & Electronics Engineering.

Ilya V. Kolmanovsky



Ilya V. Kolmanovsky has received his Ph.D. degree in Aerospace Engineering in 1995, his M.S. degree in Aerospace Engineering in 1993 and his M.A. degree in Mathematics in 1995, all from the University of Michigan, Ann Arbor (MI, US). He is presently a full professor in the Department of Aerospace Engineering at the University of Michigan.

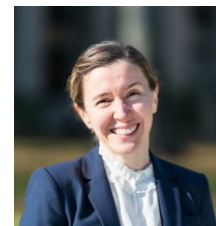
Kolmanovsky's research interests are in control theory for systems with state and control constraints, and in control applications to aerospace and automotive systems. Before joining the University of Michigan in January 2010, he was with Ford Research and Advanced Engineering in Dearborn, Michigan for close to 15 years.

He is a Fellow of IEEE, an Associate Fellow of AIAA, a past recipient of the Donald P. Eckman

Award of American Automatic Control Council, of 2002 and 2016 IEEE Transactions on Control Systems Technology Outstanding Paper Awards and several technical achievement, innovation and publication awards of Ford Research and Advanced Engineering.

Kolmanovsky's publication record includes over 220 journal articles, over 400 conference papers, over 20 book chapters, 4 edited books, as well as 104 United States patents. He serves as a Senior Editor for IEEE Transactions on Control Systems Technology.

Asu Ozdaglar



Asu Ozdaglar is the Mathworks Professor of Electrical Engineering and Computer Science (EECS) at the Massachusetts Institute of Technology (MIT) in Cambridge (MA, US). She is the department head of EECS and deputy dean of academics of the Schwarzman College of Computing at MIT.

Her research expertise includes optimization, machine learning, economics, and networks. Her recent research focuses on designing incentives and algorithms for data-driven online systems with many diverse human-machine participants. She has investigated issues of data ownership and markets, spread of misinformation on social media, economic and financial contagion, and social learning.

Ozdaglar is the recipient of a Microsoft fellowship, the MIT Graduate Student Council Teaching award, the NSF Career award, the 2008 Donald P. Eckman award of the American Automatic Control Council, the 2014 Spira Teaching Award, and Keithley, Distinguished School of Engineering and Mathworks professorships. She is an IEEE Fellow, IFAC Fellow, and was selected as an invited speaker at the International Congress of Mathematicians. She received her Ph.D. degree in electrical engineering and computer science from MIT in 2003.

Readers of this Newsletter are kindly requested to keep their contact details updated with the IFAC Secretariat.

The IFAC Story E-book is available!
ISBN 978-3-902823-73-1

<https://www.ifac-control.org/about/the-ifac-story>

2nd Modeling, Estimation, and Control Conference (MECC 2022) 2-5 October 2022 Jersey City, NJ, USA

The 2nd Modeling, Estimation, and Control Conference (MECC 2022) took place from 2-5 October 2022 at the Westin Hotel in Jersey City, New Jersey, USA. The first in-person meeting of this newly established conference series, MECC 2022 was mainly sponsored by the IFAC technical committees in Mechatronic Systems (TC 4.2) and Control Education (TC 9.4). The conference attracted 264 participants from twelve countries.

Qingze Zou (Rutgers University, NJ, US) served as the NOC General Chair, and Tom Oomen (Eindhoven University of Technology, Eindhoven, NL) served as the IPC Chair. Xu Chen (University of Washington, WA, US) served as the NOC Vice Chair, Cedric Clevy (Bourgogne Franche-Comté University, FR) and Jason Rhee (General Motors Inc., Michigan, USA) are the IPC Vice Chairs, and Qian Wang (Pennsylvania State University, PA, US) serves as the Editor. Ellen Yi Mazumdar (Georgia Institute of Technology, GA, US) served as the Students and Young Members Chair, and Cong Wang (New Jersey Institute of Technology, NJ, US) was responsible for local arrangements.

The Organizing Committee and all MECC 2022 participants are grateful to the members of the Editorial Board and IPC for handling the reviews of 201 submitted manuscripts, abstracts and posters. We are also grateful to Siemens Inc. (Gold), Rutgers University (Silver), University of Washington (Silver), and Processes Publication Inc. (Bronze), for their generous sponsorship.

The technical program of MECC 2022 comprised 129 peer-reviewed contributed papers, 49 abstracts of articles published in IFAC-affiliated journals last year, and 17 poster presentations. As in MECC2021, the technical program featured 3 plenary lectures, 8 invited sessions, 16 contributed sessions, 12 special sessions, 2 tutorial sessions, one rapid-fire poster presentation session, and poster presentations on each day of the conference (October 3rd-5th). We were particularly excited to have three distinguished scholars representing three generations to deliver the plenary talks (in chronological order):

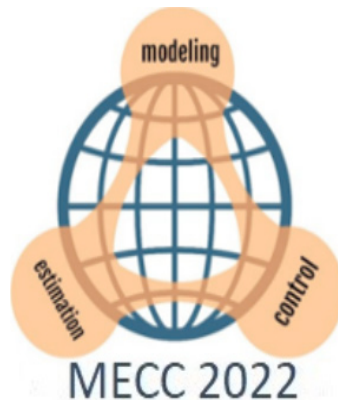
1. Masayoshi Tomizuka (UC Berkeley, US): *Exploration in the Forest of Mechanical Systems Control*
2. Jing Sun (University of Michigan, US): *Exploration in the Forest of Mechanical Systems Control*
3. Aaron Dollar (Yale University, US): *Exploration in the Forest of Mechanical Systems Control*

The conference also provided a platform for the Dynamic Systems and Control Division (DSCD) of ASME to conduct its societal func-

tions, including the following the following lectures given by the two winners of ASME Rufus T. Oldenburger Medal and the Nyquist Lecturer:

1. Wayne Book (GeorgiaTech, US, emeritus): Rufus T. Oldenburger Lecture: *Strong, Swift Arms on a Diet*
2. Reza Moheimani (Univ. of Texas- Dallas, US): Nyquist Lecture: *Control of Scanning Tunneling Microscope for Silicon Quantum Device Fabrication: Mechatronics at the Atomic Scale.*

A variety of activities were organized and hosted for students and young members of the community during the MECC 2022 conference. The best student paper competition attracted 18 applications internationally, and top six finalists were invited to present their work in front of a panel consisting of five professors. Close-to-graduation Ph.D. students and postdocs were invited to participate the newly-created ASME DSCD Rising Stars Invited Talks, and 29 applications were accepted and grouped into five sessions covering Robotics, Automotive, Vibrations & Energy, Mechatronics, and Biomedical Engineering. A Careers in Academia Panel was organized with four young Professors sharing their experience with the students. The conference also provided partial travel support to 73 students through the generous funding from AACC and ASME-DSCD.



The conference also featured a series of special sessions and tutorial sessions to promote interactions with funding agencies and industrial companies. Program Directors from National Science Foundation (NSF) and Air Force Office of Scientific Research (AFOSR) were invited to present one in-person and one remote/online funding agency talks during the conference, and one special session on New Advances in Systems and Control from the recent DSCD Career Awardees. Two special sessions towards control application in industrial were organized by both Industrial researchers (on "Industry Stories in Controls") and academia scholars (on "Toward Dynamic Learning and Decision Making Using Artificial Intelligence in Manufacturing Systems") were organized as well. This has been complemented with two tutorial sessions on "Modelling, Estimation, and Control for Single Molecule Investigation" and

"Control and Testing of Connected and Automated Vehicles".

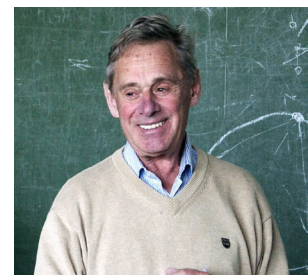
The conference also offers ample social events for networking and communication. Starting with the opening reception in the evening eve of the first day, the conference hosted the ASME-DSCD general meeting on the first night (of which a large portion of the attendees participated), and the conference banquet on the noon of the second day. Finally, the conference concluded with a sushi and seafood bar in the afternoon of the third day

Submitted by: Qingze Zou (US), MECC 2022 NOC/General Chair

Transition: Boris Polyak 1935- 2023

After a serious illness, Professor Boris T. Polyak, Doctor of Sciences, a wonderful man, an out-standing scientist, a dear friend to many of us, and a wise mentor who brought up many generations of scientists, passed away at the age of 88 on 3 February 2023.

Boris Polyak was born on 4 May 1935 in Moscow, where he lived all his life. In 1958 he graduated from the Moscow Institute of Steel, and in 1963 he completed his post-graduate studies at the Dept. of Mechanics and Mathematics of the Moscow State University. In 1964 he defended his PhD thesis on methods of gradient descent in abstract functional spaces and worked at MSU Computer Center, and from 1971 until Boris' last days he was with the Trapeznikov Institute of Control Science, Russian Academy of Sciences, in the Y.Z. Tsympkin laboratory (Lab. 7), which he headed from 1997 to 2013. In 1978 he defended his D.Sc. thesis, in which theory and problems of stochastic approximations were analyzed.



Boris Polyak is the author of five monographs, including the famous "Introduction to Optimization", as well as around 500 articles in journals and proceedings of Russian and international conferences. It is difficult to overestimate his contribution to the development of numerical optimization methods, control theory, and stochastic optimization. Generations of specialists in the USSR and Russia, as well as abroad, were brought up on his articles and books. Some of Boris' results that surely establish his name in the history of science include the Tsympkin-Polyak frequency criterion in

robust stability, Polyak step-size in gradient descent for non-smooth optimization problems, a projection method for finding a common point of sets, the heavy-ball method (which became the forerunner of all modern accelerated/momentum methods of convex optimization), the Polyak conjugate gradient method, the Polyak-Lojasiewicz gradient dominance condition (one of the most popular relaxations of the strong convexity concept), optimal algorithms of stochastic aggregation by Polyak-Tsytkin, a stochastic approximation method with Polak-Ruppert-Juditsky averaging... This list could go on for a very, very long time.

The many scientific merits and achievements of Boris Polyak have been internationally recognized over the years. He was the first Russian to be named as an IFAC Fellow (2006), a holder of the Gold Medal of the European Association for Operations Research EURO (2012), a laureate of the Khachian Prize of the INFORMS Optimization Society (2021) and numerous prizes and awards of the Russian Academy of Sciences. Internationally Boris worked in universities in the US, France, Italy, Israel, Mexico, Taiwan, Finland, in addition to other countries and regions.

In addition to being an outstanding scientist Boris was an excellent organizer and leader. He trained more than 25 candidates and doctors of sciences; for a quarter of a century he led the All-Moscow weekly seminar "Theory of automatic control and optimization"; on his initiative and with direct active participation, the annual All-Russian traditional youth summer schools "Control, Information and Optimization" were held for a decade. For many years he was the deputy Editor-in-Chief of the journal "Automation and Remote Control," and his contribution to the well-being and successful development of the journal is invaluable. Additionally in IFAC Boris was a member of TC 2.5 (Robust Control).

Boris led a very active life, and literally until his last days he participated in various scientific events, always radiating positivity. He never strived for fame, awards, prizes, led a modest but very dignified life, was a kind, but principled person. He had the most remarkable human qualities: a broad soul, responsiveness, sense of humor, optimism, sociability, he was always glad to share scientific ideas with colleagues, to give kind advice. Everyone who was fortunate enough to be acquainted with him can say only good things about him.

Many pleasant memories of Boris Polyak's bright personality will forever remain with his cherished friends and colleagues, and they will

help provide us with the optimism that he professed throughout his wonderful life.

Submitted by: Pavel Shcherbakov (RU), Member of IFAC TC 2.5, Friend/Colleague of Boris Polyak at the Institute of Control Science, Russian Academy of Sciences

All material proposed for publication in the IFAC Newsletter should be sent to NEWSLETTER@IFAC-CONTROL.ORG.

The latest edition of the IFAC Newsletter is available on the IFAC homepage, as well as an online archive dating back to the early 2000s.

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

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 (CH) 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, Dr. Dimitri Peaucelle (Frankreich). 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 48 Mitgliedsländer getragen.

Präsident der IFAC für 2020-2023 ist Prof. Hajime Asama (Japan), Vizepräsidenten sind Prof. Dr. John Lygeros (Schweiz), Prof. Dr.-Ing. Carlos Eduardo Pereira (Brasilien), Dr. Dimitri Peaucelle (Frankreich), Prof. Maria Prandini (Italien), und Prof. Sarah K. Spurgeon (Vereinigtes Königreich). Alle Funktionen werden ehrenamtlich ausgeübt.

Invitation: IFAC Technical Lecture "Addressing complexity in contemporary control applications via data-driven and distributed optimization"

Thursday, 20 April
16:15 CEST (Vienna, Berlin, Paris)
Technical University Vienna (Austria)
room EI 9 Hlawka HS- ETIT, number: CAEG17,
Stiege 1, Erdgeschoss, Gusshausstr. 27-29,
1040 Vienna)

In conjunction with the annual IFAC Executive Officers' meeting in Austria Prof. Maria Prandini (IT, IFAC Vice-President, Conferences & IFAC President Elect 2026-2029) will present the technical lecture.

ABSTRACT:

Motivated by the revolution that the energy domain is experiencing, we shall discuss the key role that data-driven and distributed optimization can take in addressing the challenges posed by the uncertain and multi-agent nature of the systems involved.

In particular, we shall describe recent results in scenario-based stochastic control with probabilistic constraints and in distributed optimization for large-scale multi-agent systems characterized by both discrete and continuous decision variables.

Examples of applications that can facilitate the integration of renewable energy resources in the electrical grid will be considered, which include the aggregation of distributed energy resource units and the optimization of the V2G energy exchange of a fleet of electric vehicles.

The introduction will begin at 16:15 and be given by Dr. Dimitri Peaucelle (FR), IFAC Secretary/VP of Operations, with the lecture itself to begin at around 16:30. The lecture will conclude with Discussion/Q&A at 17:15, which will be moderated by Dr. Peaucelle.

It is planned that IFAC affiliates unable to attend the lecture in-person will be able to access a link on the IFAC website closer to 20 April to access the event.

If you have any questions regarding the technical lecture please contact the IFAC Secretariat.

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 Bundesministerium
Klimaschutz, Umwelt,
Energie, Mobilität,
Innovation und Technologie

Calendar of IFAC Conferences

Title	2023	Place	Further Information
Conference on American Control Conference (in cooperation with IFAC) ACC 2023	May/June 31 – 02	San Diego, CA USA	acc2023.a2c2.org/
9th International Conference on Control, Decision and Information Technologies CoDIT 2023	July 03 – 06	Rome Italy	codit2023.com/
22 nd IFAC World Congress 2023 WC 2023	July 09 – 14	Yokohama Japan	ifac2023.org/ ifac2023@congre.co.jp
Conference on European Control Conference (in cooperation with IFAC) ECC 2023	July 13 – 16	Bucharest Romania	ecc23.euca-ecc.org/ ecc2023@euca-ecc.org
3 rd AACC Conference on Modeling, Estimation and Control Conference MECC 2023	October 02 – 05	Lake Tahoe, NV USA	mecc2023.a2c2.org/
Title	2024	Place	Further Information
12 th IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes SAFEPROCESS 2024	June 04 – 07	Ferrara Italy	
7 th IFAC Conference on Analysis and Control of Nonlinear Dynamics and Chaos ACNDC 2024	June 05 – 07	London United Kingdom	
Conference on American Control Conference (in cooperation with IFAC) ACC 2024	July 08 – 12	Toronto Canada	
12 th IFAC Symposium on Advanced Control of Chemical Processes ADCHEM 2024	July 14 – 17	Toronto Canada	
20 th IFAC Symposium on System Identification SYSID 2024	July 17 – 19	Boston, MA USA	
8 th IFAC Conference on Nonlinear Model Predictive Control NMPC 2024	August 27 – 30	Kyoto Japan	
4 th IFAC Conference on Modelling, Identification and Control of Nonlinear Systems MICNON 2024	September 04 – 06	Lyon France	

The IFAC Calendar of Conferences is constantly updated as additional IFAC Conferences (Workshops, Symposia, and Conferences) are approved. Please check back often for the current status. The complete version of the IFAC Calendar of Conferences is available online at: <https://www.ifac-control.org/events/>