IFAC
INTERNATIONAL FEDERATION OF AUTOMATIC CONTROL

NEWSLETTER

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IN THIS ISSUE

IFAC Fellows 2023-2026

continuation of a series

This is a continuation of a series in which Newsletter readers have the opportunity to learn more about each of the 2023-26 IFAC Fellows. The full list of Fellows is available at: ifac-control.org/awards/ifac-fellows

IFAC Fellow: Thor Fossen

Thor I. Fossen (Ph.D. Engineering Cybernetics, 1991, Norwegian University of Science and Technology – NTNU) is Professor of Guidance, Navigation and Control at NTNU and Key Scientist at the Norwegian Center of Embodied AI (NCEI). He is internationally recognized for pioneering contributions to the modeling, guidance, and control of marine and aerial vehicles. His research has shaped the field of marine cybernetics, notably through the development of what is known as the Fossen model for marine craft dynamics, now widely adopted in simulation and control system design

Fossen has authored several influential textbooks, including *Handbook of Marine Craft Hydrodynamics and Motion Control* (Wiley, 2011; 2nd ed. 2021) and *Guidance and Control of Ocean Vehicles* (Wiley, 1994). He has published over 150 journal papers and more than 400 refereed works, cited approximately 50,000 times. He is a Fellow of the IEEE and an elected member of the Norwegian Academy of Science and Letters (DNVA) and the Norwegian Academy of Technological Sciences (NTVA).

Beyond academia, Fossen co-founded Marine Cybernetics AS (acquired by DNV) and ScoutDI AS, serving as Vice President in both companies. Through these ventures, he has translated research in control and autonomy into industrial innovation. His research and innovations continue to shape the development of guidance, navigation, and control systems for ships and autonomous marine and aerial vehicles worldwide.

IFAC Fellow: Jacquelien M.A. Scherpen

Jacquelien M.A. Scherpen received her M.Sc. and Ph.D. degrees in 1990 and 1994 from the University of Twente, the Netherlands. She then joined Delft University of Technology and moved to the University of Groningen (UG) in 2006 at the Engineering and Technology institute Groningen (ENTEG), Faculty of Science and Engineering. She was scientific director of ENTEG and director of engineering at the UG. Currently, she is the rector magnificus of the UG. Furthermore, she has been Captain of Science of the Dutch top sector High Tech Systems and Materials (HTSM). Jacquelien has held various visiting research positions, e.g., University of Tokyo, Kyoto University, Japan, Old Dominion University, USA, Université de Compiegne, SUPÉLEC, France.

She has been at the editorial board of a few international journals, including the *IEEE Transactions on Automatic Control*, and the *International Journal of Robust and Nonlinear Control*. She received the 2017-2020 Automatica Best Paper Prize. In 2019 she received a royal distinction as Knight in the Order of the Netherlands Lion, and she is fellow of IEEE and IFAC, and was awarded the Prince Friso prize for Engineer of 2023 in The Netherlands. She is the 2025 H.W. Bode lecturer at the IEEE CDC. She has been active at the International Federation of Automatic Control (IFAC) and at the IEEE Control Systems Society. She was president of the European Control Association (EUCA), and has chaired the SIAM Activity Group on Control and Systems Theory.

Scherpen's current research interests include model reduction methods for networks, nonlinear model reduction methods, nonlinear control methods, modeling and control of

physical systems with applications to electrical circuits, electromechanical systems, mechanical systems, smart energy networks and distributed optimal control applications to smart grids.

IFAC Fellow: Guang-Ren Duan

Guang-Ren Duan received his Ph.D. degree in Control Systems Sciences from Harbin Institute of Technology (HIT), Harbin, China, in 1989. After a two-year post-doctoral experience at HIT, he became full professor of control systems theory at HIT in 1991. From December 1996 to October 2002, he visited the University of Hull, the University of Sheffield, and also the Queen's University of Belfast, UK. He is the founder and presently the Honorary Director of the Center for Control Theory and Guidance Technology at HIT. From 2021 to 2024, he established the discipline of control science and engineering at the Southern University of Science and Technology (SUSTech), Shenzhen, China, and served as the dean for the School of Automation and Intelligent Manufacturing at SUSTech.

Duan's research interests include linear and nonlinear control. Particularly, he discovered in 2021 the mathematically generalized fully actuated system (FAS) models for general dynamical systems and established the FAS approach for control. He is the author and coauthor of five books and over 600 SCI-indexed publications. He has been general chairs for several international conferences including the 23rd IFAC ACA Symposium, and FASTA 2022~2025, and has been invited to give plenary talks at more than 40 international conferences, including IFAC TDS 2021, IEEE ICRA 2021, and IEEE IECON 2023. He is ranked No.1 in the subfield of Industry Engineering and Automation in the Elsvier-Stanford "World's Top 2% Scientists" program by Single Recent Year Scientific Impact (2025) .

He is a Member of the Science and Technology Committee of the Chinese Ministry of Education, the chair for the TC on Fully Actuated System Approach, IEEE SMC Society, and the Editor-in-Chief for the Springer Book Series on Fully Actuated System Approach for Control and AI. Also, he is an Academician of the Chinese Academy of Sciences, and Fellow of IEEE, IFAC, IET, and CAA.

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affiliates.ifac-control.org/

IFAC Fellow: Alberto Bemporad

Alberto Bemporad is a Full Professor at the IMT School for Advanced Studies Lucca, Italy, where he has been since 2011. He received his Master's degree cum laude in Electrical Engineering in 1993 and his Ph.D. in Control Engineering in 1997, both from the University of Florence, Italy. In 1996–1997, he was with the Center for Robotics and Automation, Department of Systems Science and Mathematics, Washington University in St. Louis. From 1997 to 1999, he held a postdoctoral position at the Automatic Control Laboratory, ETH Zurich, Switzerland, where he collaborated as a Senior Researcher until 2002. From 1999 to 2009, he was with the Department of Information Engineering at the University of Siena, Italy, becoming an Associate Professor in 2005. In 2010–2011, he was with the Department of Mechanical and Structural Engineering at the University of Trento, Italy.

Since 2011, he has been with the IMT School for Advanced Studies Lucca, where he served as Director of the institute from 2012 to 2015. He has also spent visiting periods at Stanford University, the University of Michigan, and Zhejiang University.

Bemporad's research interests include model predictive control, numerical optimization, nonlinear system identification, hybrid systems, and automotive control. He is the author or coauthor of several software packages for model predictive control design and implementation, including the Model Predictive Control Toolbox (The MathWorks, Inc.) and the Hybrid Toolbox for MATLAB, as well as for learning dynamical models from data, including the Python package jax-sysid. In 2011, he co-founded ODYS S.r.l., a company specializing in the development of model predictive control systems for industrial production. He is the co-inventor of 21 patents.

He served as an Associate Editor of the IEEE Transactions on Automatic Control from 2001 to 2004 and as Chair of the Technical Committee on Hybrid Systems of the IEEE Control Systems Society from 2002 to 2010. He received the IFAC High-Impact Paper Award for the 2011–2014 triennial, the IEEE CSS Transition to Practice Award in 2019, the 2021 SAE Environmental Excellence in Transportation Award, the 2024 Beale–Orchard-Hays Prize for Excellence in Computational Mathematical Programming, and an ERC Advanced Research Grant in 2024. In addition to being an IFAC Fellow Bemporad has been an IEEE Fellow since 2010.

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From the IFAC President

Feedback in Busan: Korea and IFAC in a Mutual Control Loop

You may have noticed a feedback diagram on the homepage of the IFAC World Congress 2026 Busan and the phrase *"Feedback in Busan."* The Korean Organizing Committee selected this motto to reflect IFAC's return to Korea after 18 years, feedback control as our field of study, and the longstanding interaction between Korea's control academia and industry.

In the early 2000s, Korea promoted the slogan "Dynamic Korea", emphasizing people's adaptability alongside technological and economic growth. This has been reflected in Korea's rapid transformation, as Korea evolved from a heavy-industry exporter such as steel and automobiles in 2008 into a networked, semiconductor-driven, and AI-enabled economy today. Alongside technological progress, Korea's transformation has also included a growing global presence in areas such as K-food, K-pop, and K-culture, showing competitiveness beyond technology.

Between 2009 and 2013, Korea became one of the first major internet societies through smartphone adoption and broadband deployment. This continued with LTE and 5G after 2013, enabling streaming services, cloud platforms, and large-scale automation. Since around 2013, Korea has also entered a Semiconductor Superpower Era. Memory technologies became the economic backbone, and more recently, HBM (High Bandwidth Memory) has emerged as a key enabler of modern AI systems. Shipbuilding and automobiles also remain competitive through modernization and automation.

Feedback control principles have been central to these technological shifts. Motion and process control are essential in automation, production, and logistics. Model-based feedback control is increasingly combined with data-driven methods in industrial AI, forming hybrid approaches that integrate physical models and learning algorithms in real-world deployment. Korea has built strong capabilities in industrial robotics, used in fabs and automotive lines, and has ranked number one in robot density for most years since 2010.

In Korea, the control community has been closely connected with industry through the Institute of Control, Robotics and Systems (ICROS), the IFAC NMO. Its leadership alternates between academic and industrial leaders, ensuring interaction between research and practice. This model may offer insights for other IFAC NMOs seeking closer ties between academe and industry.

"Feedback in Busan" thus conveys these three ideas: IFAC's return to Korea, the central role of feedback control itself, and the interaction between academe and industry that has supported Korea's technological advances. As we approach the end of the year and look toward a new one, I warmly invite all IFAC colleagues to Busan, where we can experience "feedback" and enjoy the city's natural beauty. Warm wishes for a healthy, peaceful, and inspiring year ahead.

Dong-Il "Dan" Cho,
IFAC President 2023-2026

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IFAC Fellow: Anders Rantzer

Anders Rantzer was appointed professor of Automatic Control at Lund University, Sweden, after a PhD at KTH Stockholm in 1991 and a postdoc 1992/93 at IMA, University of Minnesota. The academic year of 2004/05 he was visiting associate faculty member at Caltech and 2015/16 he was Taylor Family Distinguished Visiting Professor at University of Minnesota. Rantzer is a member of the Royal Swedish Academy of Engineering Sciences and a Fellow of IEEE and IFAC. He has been chairman of the Swedish Scientific Council for Natural and Engineering Sciences as well as the Royal Physiographic Society in Lund. His research interests are in modeling, analysis and synthesis of control systems, with particular attention to scalability and adaptation.

IFAC Fellow: Hideaki Ishii

Hideaki Ishii received the B.Eng. degree from the University of Tsukuba, Japan, in 1996, the M.Eng. degree from Kyoto University, Japan, in 1998, and the Ph.D. degree from the University of Toronto in 2002.

He was a Postdoctoral Research Associate at the University of Illinois at Urbana-Champaign, USA, from 2001--2004, and a Research Associate at The University of Tokyo, Japan, from 2004--2007. He was an Associate Professor and then a Professor at the Tokyo Institute of Technology, Yokohama, Japan, in 2007--2024. Currently, he is a Professor at the Department of Information Physics and Computing, The University of Tokyo, Japan, since 2024.

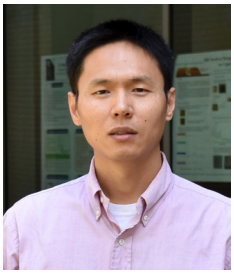
He was a Humboldt Research Fellow at the University of Stuttgart, Germany, from 2014--2015. He has also held visiting positions at CNR-IEIIT at the Politecnico di Torino, the Technical University of Berlin, and the City University of Hong Kong. His research interests include networked control systems, multiagent systems, distributed algorithms, and cyber-security of control systems.

Ishii has served as an Associate Editor for Automatica, the IEEE Control Systems Letters, the IEEE Transactions on Automatic Control, the IEEE Transactions on Control of Network Systems, and the Mathematics of Control, Signals, and Systems.

Ishii was a Vice President for the IEEE Control Systems Society (CSS) in 2022--2023, the Chair of the IFAC Coordinating Committee on Systems and Signals in 2017--2023, and the Chair of the IFAC Technical Committee on Networked Systems for 2011--2017.

He served as the IPC Chair for the IFAC World Congress 2023 held in Yokohama, Japan. He received the IEEE Control Systems Magazine Outstanding Paper Award in 2015. Ishii is a Fellow of IEEE and IFAC.

IFAC Fellow: Wei Ren



Wei Ren is a Professor with the Department of Electrical and Computer Engineering, University of California, Riverside. He received his Ph.D. in Electrical Engineering from Brigham Young University, Provo, UT, in 2004. His research interests include distributed control and networked control systems. He was a recipient of the IEEE Control Systems Society Antonio Ruberti Young Researcher Prize in 2017 and the National Science Foundation CAREER Award in 2008.

He served as an Associate Editor for IEEE Transactions on Automatic Control, Automatica, IEEE Transactions on Control of Network Systems, and Systems and Control Letters. Ren was an IEEE Control Systems Society Distinguished Lecturer (2020-2024) and is a Fellow of IEEE and IFAC.

IFAC Fellow: Franco Blanchini

Franco Blanchini was born on December 29, 1959, in Legnano, Italy. He is the Director of the Laboratory of System Dynamics at the University of Udine.

He has played an active role in organizing several international conferences. Notably, he served as Program Vice-Chair of the Joint CDC-ECC 2005 (Seville, Spain); Program Vice-Chair of CDC 2008 (Cancun, Mexico); Program Chair of ROCOND 2012 (Aalborg, Denmark); and Program Vice-Chair of CDC 2013 (Florence, Italy).

He is co-author of the book Set Theoretic Methods in Control (Birkhäuser) and has received several prestigious awards. He was co-recipient of the 2001 ASME Oil & Gas Application Committee Best Paper Award for the article Experimental Evaluation of a High-Gain Control for Compressor Surge Instability. In 2002, he received the IFAC Survey Paper Prize for his article *Set Invariance in Control – A Survey* (*Automatica,* November 1999), which was later recognized with a High Impact Paper Award. In 2017, he received the Nonlinear Analysis: Hybrid Systems Best Paper Award for the paper *A Switching System Approach to Dynamic Race Modeling* (*Nonlinear Analysis: Hybrid Systems*, vol. 21, no. 8, pp. 37–48, 2016).

He has delivered several invited lectures, including the plenary lecture *Lyapunov and Invariance Methods in Control Design* at the IFAC Joint Conference (Grenoble, February 2013); the plenary lecture *Set Invariance and Lyapunov Method*s at the 32nd Benelux Meeting on Systems and Control; and the semi-plenary lecture *Structural Analysis: The Control Language to Understand Mechanisms* at the 59th IEEE Conference on Decision and Control (Jeju Island, Republic of Korea, December 14–18, 2020).

Blanchini served as an Associate Editor for *Automatica* from 1996 to 2006 and again from 2017 to 2020, and for *IEEE Transactions on Automatic Control* from 2012 to 2016. He was also an Editor for *IEEE CSS Letters* from 2016 to 2018.

Outside of his academic work, Blanchini is a passionate rock climber and plays the violin. He is a member of the University of Udine Orchestra.

IFAC Fellow: Keum-Shik Hong

Keum-Shik Hong received his B.S. and M.S. degrees in Mechanical Engineering from Seoul National University and Columbia University in 1979 and 1987, respectively, and both an M.S. degree in Applied Mathematics and a Ph.D. degree in Mechanical Engineering from the University of Illinois at Urbana-Champaign in 1991. He is a Member of the Korean Academy of Science and Technology and the National Academy of Engineering of Korea, and a Fel-

low of IEEE, ACA, and ICROS. From 1993 to 2022, he was with the School of Mechanical Engineering at Pusan National University. He is currently a Distinguished Professor at the Institute for Future, School of Automation, Qingdao University. He has served as an Associate Editor for Automatica and as Editor-in-Chief of the Journal of Mechanical Science and Technology and the International Journal of Control, Automation, and Systems. He is a former President of the Institute of Control, Robotics and Systems and the Asian Control Association. He has received the Presidential Award and the Service Merit Medal from the Korean government.

K.-S. Hong pioneered the field of cogno-mechatronics, which aims to develop hardware and software techniques for decoding and encoding brain signals. He has developed non-invasive brain–computer interface methods to assist individuals with severe motor disabilities and explored non-invasive brain stimulation techniques using DC/AC currents. By applying recursive estimation methods, he bridged control theory and brain signal processing to identify unknown parameters in brain models, including physiological noise. His other notable research contributions include model reference adaptive control for parabolic partial differential equations, sliding-mode control for offshore container cranes, riser control, and vehicle suspension control. He is also the author of two books: *Dynamics and Control of Industrial Cranes* and *Control of Axially Moving Systems*.

IFAC Fellow: Maarten Steinbuch

Maarten Steinbuch received his M.Sc. degree in Mechanical Engineering in 1984 and his Ph.D. Degree in 1989, both from Delft University of Technology. From 1987-1998 he was with Philips Research Labs., Eindhoven as a Member of the Scientific Staff. From 1998-1999 he was manager of the Dynamics & Control group at Philips Center for Manufacturing Technology. Since 1999 he is full professor Systems and Control and chair of the Control Systems Technology group of the Mechanical Engineering Department of Eindhoven University of Technology. In 2013 he was appointed Distinguished University Professor at TU/e.

He was Editor-in-Chief of the IFAC Journal *Mechatronics* (2009-2015), and served as AE in various journals, such as *IEEE Trans. on Control Systems Technology*. He was chairman of the supervisory board of MyWheels, and is member of the supervisory board of the Topsector High Tech Systems and Materials (Dutch Ministry of Economic Affairs), (adv) board member MAEVE Aerospace, Nobleo Technology, Lumo Labs, WorldEmp, ScoutInScience, DSPE, Saluqi Motors, Herlaer Energy, NPM Capital, and The Sharing Group, and (co)founder of MI-Partners, Mechatronics Academy, Preceyes, MicroSure, Eindhoven Medical Robotics, ZEnMO, NRG2Fly and Steinbuch in Motion.

Steinbuch was Scientific Director of the TU/e High Tech Systems Center 2014-2020. Since 2018 he is Scientific Director of Eindhoven Engine. In 2003, 2005, 2008 and 2015 he obtained the 'Best-Teacher' award of the Dept. of Mech. Eng.

In 2008 and 2014 his research group obtained the QANU excellence rating [5555]. In 2015 he received the KIVI Academic Society Award, and in 2016 he was awarded as Simon Stevin Meester 2016, the highest Dutch award for Scientific Technological research. He is IEEE Fellow, IFAC Fellow and Fellow of the Netherlands Academy of Engineering.

Maarten Steinbuch is most known for his work in the field of advanced motion control, as well as in robotics for high precision surgery. Steinbuch is a prolific blogger and a key opinion leader on the influence of new technologies on society. He is well known as an advocate of electric vehicles and airplanes.

IFAC Fellow: Xinghuo Yu

Xinghuo Yu received Bachelor of Engineering and Master of Engineering degrees from the University of Science and Technology of China, Hefei, China, in 1982 and 1984, and Doctor of Philosophy degree from Southeast University, Nanjing, China in 1988, respectively. He started his academic career in 1989 as a Postdoctoral Fellow with the University of Adelaide, Adelaide, Australia. In 1991, he joined Central Queensland University, Rockhampton, Australia, where he held various positions such as Lecturer, Senior Lecturer, Associate Professor, Professor, and Associate Dean. Since 2002, he has been with RMIT University (Royal Melbourne Institute of Technology), where he is currently a Distinguished Professor and an Associate Deputy Vice-Chancellor, having occupied senior roles such as Professor, Associate Dean, Executive Director, and Associate Deputy Vice-Chancellor.
His research interests include Control Systems, Complex and Intelligent Systems, and Power and Energy Systems. He has served as an Associate Editor of IEEE Transactions on Automatic Control, IEEE Transactions on Circuits and Systems I: Regular Papers, IEEE Transactions on Industrial Electronics, IEEE Transactions on Industrial Informatics, and several other academic journals. He received a number of awards and honors for his contributions, including 2013 Dr.-Ing. Eugene Mittelmann Achievement Award of IEEE Industrial Electronics Society, 2018 Australasian Artificial Intelligence Distinguished Research Contribution Award from Australian Computer Society, and 2018 M A Sargent Medal from Engineers Australia. He is a Fellow of the Australian Academy of Science, an Honorary Fellow of Engineers Australia, and a Fellow of IEEE, Australian Computer Society, and Australian Institute of Company Directors. He is also an Engineering Executive and a Chartered Professional Engineer of Engineers Australia. He served as the President of IEEE Industrial Electronics Society in 2018 and 2019.

IFAC Fellow: Kevin A. Wise

Kevin A. Wise is a VP, Distinguished Senior Technical Fellow, Flight Controls, in The Boeing Company, is President and CEO of Innovative Control Technologies, LLC, and is a Chief Advisor at Kelda Dynamics in Norway. He received his BS, MS, and Ph.D. in ME from the University of Illinois Urbana-Champaign in 1980, 82, and 87, respectively. He is Boeing's Defense, Space, and Security Systems (BDS) chief architect for their autonomous aircraft, personally responsible for engineering the X-45A J-UCAS, QF-16 Full Scale Aerial Target, and the Hydrogen-powered Phantom Eye VMS and GNC systems, whose algorithms have been transitioned into in the Navy's MQ-25 Stingray refueling drone. He has developed commercial and military aircraft and weapon VMS architectures, conventional and adaptive flight control systems, ML-based optimal guidance laws, guidance and control law design tools and processes based on optimal control theory, and conventional and managed pressure drilling solutions for oil and gas production.

Wise has been a pioneer in the development and application of robust adaptive control theory, and has transitioned this technology into production weapon systems at Boeing. He is the co-author of the textbook Robust Adaptive Control Theory with Aerospace Examples, and teaches both undergraduate and graduate level control theory at Washington University – STL, and the University of Illinois - UC. He has personally contributed advanced control theory algorithms to the USAF T-7A Red Hawk, KC-46 Tanker boom, 777X Autoflight, Dominator UAS, Phantom Eye Hydrogen Powered UAS, QF-16 Full Scale Aerial Target, X-45

J-UCAS, X-36, Small Diameter Bomb (SDB), the Joint Direct Attack Munition (JDAM) family of munitions and the MK-82 Laser-JDAM, and the HAVE SLICK air-to-surface missile.

In addition to being an IFAC Fellow, Wise is a member of the National Academy of Engineering (2019), IEEE Fellow (2007), and Fellow of the AIAA (2013). He was awarded a Hagler Institute Fellowship from Texas A&M in 2024, UIUC MechSE Distinguished Alumni award 2019, AIAA Intelligent Systems award 2018, the IEEE Technical Excellence in Aerospace Control award 2016, AACC Babatunde A. Ogunnaike Control Practice Award 2007, and the AIAA Mechanics and Control of Flight Award 2004. His research interests include intelligent autonomy and battle management, aircraft and missile dynamics and control, hypersonic GNC, robust adaptive control, optimal control, robustness theory, and intelligent drilling solutions.

IFAC Journal Awards: Call for Nominations

The International Federation of Automatic Control awards several triennial journal paper prizes to recognize outstanding papers published within the three years preceding the IFAC World Congress in IFAC's official journals.

Nomination Deadline: The deadline for submitting nominations for all journal paper prizes is: 15 April 2026.

Journals concerned:
Automatica: Three paper prizes
Control Engineering Practice: Three paper prizes
Annual Reviews in Control: One paper Prize
Journal of Process Control: Three paper prizes in the following categories: Survey, Theory/Methodology, Application
Engineering Applications of Artificial Intelligence: Two paper prizes in the following categories: Theory, Application
Mechatronics: Three paper prizes
Nonlinear Analysis: Hybrid Systems: Two paper prizes
IFAC Journal of Systems and Control: One Paper Prize

Description and Presentation of the Awards: The prizes are given for outstanding contributions in the specific field and category of the IFAC journal concerned. The number of prizes in each triennium for each journal is indicated above. The funds are provided by the publisher of IFAC journals, Elsevier Science Ltd. For this triennium, the prizes will be presented during the Awards Ceremony at the 23rd IFAC World Congress, to be held in Busan, Republic of Korea, 23-28 August 2026.

Eligibility: To be considered for an IFAC Journal Paper Prize, papers must have appeared in a volume published during the calendar years 2023, 2024, or 2025. Papers authored by members of the respective Selection Committees and by the Editors-in-Chief or the Senior Editors of the respective journal are not eligible.

Nominations: For each IFAC Journal Paper Prize, a complete nomination should include:
a) A nomination letter that contains the full title of the paper and name(s) of the author(s), as well as the issue (year, month, number) of the journal where the paper has appeared.
b) A brief description of the contributions of the paper, and why (in the opinion of the nominator) the paper deserves the prize.
Any person is eligible to serve as a nominator with the exception of members of the selection committee for the respective award. Self-nominations are not allowed.

Submission: For each Journal Paper Prize, nominations should be submitted in electronic form (again, no later than 15 April 2026) to the email address of the chair of the selection committee of the related journal paper prize.

The names and email addresses of the chairs of the selection committees are as follows:
Automatica: Bob Bitmead. Email: rbitmead@ucsd.edu
Control Engineering Practice: Angeliki Pantazi. Email: AGP@zurich.ibm.com
Annual Reviews in Control: John Lygeros. Email: jlygeros@ethz.ch
Journal of Process Control: Isabelle Queinnec. Email: isabelle.queinnec@laas.fr
Engineering Applications of Artificial Intelligence: Thomas Schön. Email: thomas.schon@uu.se
Mechatronics: Klaus Janschek. Email: klaus.janschek@tu-dresden.de
Nonlinear Analysis: Hybrid Systems: Christophe Prieur Email: Christophe.Prieur@gipsa-lab.grenoble-inp.fr
IFAC Journal of Systems and Control: Hong Chen. Email: 19029@tongji.edu.cn

For questions concerning the awards or the procedures please consult the IFAC website or contact the IFAC Awards Chair Frank Allgöwer at frank.allgower@ist.uni-stuttgart.de.

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X
x.com/IFAC_Control

Bluesky
bsky.app/profile/ifac-control.bsky.social

YouTube
www.youtube.com/@ifacyoutube3132

December 2025 IFAC Affiliates Statistics

As of the date of November 23, 2025, the IFAC database contains 6071 affiliates. Compared to statistics from the previous issue of the Newsletter it is a drop of about 2600, which is due to the promised process of removing profiles of people who never connected since mid 2023. The database still contains 1629 profiles coming from the old database. These were not erased yet as they have, or had, roles in the IFAC structure. Among all affiliates, 52% have or had roles. Roles are for example being a Technical Committee member, but range also up to President and to awardee of IFAC Prizes and Medals.

Among the 6071 affiliates, 1167 are 'Web public', that is visible for any visitor of the affiliates. ifac-control.org portal. 2401 profiles are 'IFAC public', that is visible to all affiliates who connected to the Portal. There is room for improvement.

Note that it is requested to be an IFAC affiliate to become a Technical Committee member. The process of selecting TC members for the 2026-2029 triennium shall start in early 2026. It is highly recommended to be registered and to make one's profile at least 'IFAC public' in order to be part of the Technical Committees. If you have any difficulty in doing so, please contact secretariat@ifac-control.org.

If you are interested in any statistics for the future Newsletter issues, do not hesitate to suggest a topic on which to focus by writing to newsletter@ifac-control.org. The Newsletter email address is read by Dimitri Peaucelle, editor-in-chief of this Newsletter, as well as Elske Haberl in the IFAC Secretariat who is responsible for its layout.

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

Emails to this email address are seen by Dimitri Peaucelle (Newsletter EiC) and Elske Haberl (IFAC Secretariat).

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.

IFAC Cartoon Archive is available!
ifac-control.org/publications/cartoons

Call for musicians: Join the IFAC Control Orchestra at IFAC 2026!

With Christmas and New Year just around the corner, why not use the holidays to rediscover your musical side and give your instrument some well-deserved attention? After its virtual debut in 2020 and the first live performance at the closing ceremony of IFAC 2023, the IFAC Control Orchestra will return at the 23rd IFAC World Congress 2026 in Busan.

We are once again assembling an orchestra made up entirely of members of the automatic control community, rehearsing on site during the congress and performing live during the event. If you play an instrument and would like to be part of this unique, dynamic, and nonlinear musical control system, we would love to hear from you!

To join the orchestra or to stay informed about the next steps, please subscribe to our mailing list:

ifac2026.org/fairBbs.do?selAction=view&FAIRMENU_IDX=21664&BOARD_IDX=72535

More information and past performances are available at ifac-control.org/about/ifac-control-orchestra.

Submitted by: Julian Berberich (DE), IFAC Control Orchestra Organization

IFAC Distinguished Lecturer Lecture Report

September 2025

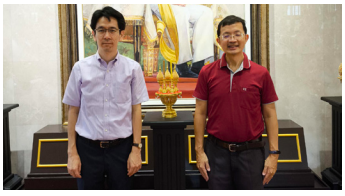
Thailand: Hideaki Ishii

Hideaki Ishii (JP) visited Thailand to deliver a seminar as an IFAC Distinguished Lecturer at the Department of Electrical Engineering of the Chulalongkorn University in Bangkok on September 15, 2025. The visit was hosted by Prof. David Banjerdpongchai.

Hideaki Ishii delivered a lecture in the afternoon, titled *"Resiliency in Multi-Agent Consensus under Adversarial Attacks."* The abstract of the lecture is as follows: "In this talk, we provide an overview on the recent advances in the research of multi-agent systems operating in hostile environments. We will focus on the influence of misbehaving agents in a network capable to inject false data in their transmissions and how to mitigate such attacks by the approach based on the so-called mean subsequence reduced algorithms and their variants. Agents equipped with such algorithms will ignore their neighbors taking extreme state values. We will see that characterizations on the properties necessary for network topologies have been established, and moreover that network resiliency can be enhanced when more communication and computational resources are available. We will further discuss extensions of such algorithms to problems of averaging, leader-follower consensus, parameter estimation, and clock synchronization in wireless sensor networks.

The seminar was followed by discussions with the participants, which gave Hideaki the opportunity to learn about the research activities in the control group and the department. He was also guided by Prof. Banjerdpongchai to the Chula Memorial Hall, where the history and the development of the university is archived and diplayed in various forms of documents and items since its establishment as the first university by the Thai dynasty.

Hideaki's visit to the university was arranged as part of his trip to Thailand to attend the 2025 SICE Festival with Annual Conference (SICE FES), which is the international conference organized by the Society of Instrument and Control Engineers (SICE) of Japan. This event is held outside of Japanevery five years, and this time it was organized in cooperation with the partner society of Thailand, the Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI). Prof. Banjerdpongchai was the General Co-Chair of the conference, representing ECTI. SICE FES is the largest event of SICE covering a broad range of areas from measurement and control to robotics and systems and from theory to application. The conference was held in Cheng Mai, an ancient capital in the north of Thailand. Through the conference and the visit to the university, Hideaki had a great experience and is thankful to the colleagues in the automatic control community of Thailand.



Hideaki Ishii with Prof. David Banjerdpongchai in Bangkok, TH in September 2025

IFAC Distinguished Lecturer Lecture Report

July 2025

Indonesia: Lei Guo

Lei Guo visited Indonesia as an IFAC Distinguished Lecturer for two events held there July 2–4, 2025, both of which took place at the Holiday Inn Resort Baruna Bali on Bali Island, Indonesia.

The first event was the 2025 IEEE International Conference on Industrial 4.0, Artificial Intelligence and Communication Technology (IAICT 2025). This conference aims to provide a forum for researchers, academicians, professionals, and students from various engineering fields—with cross-disciplinary interests—who work in Industry 4.0, Artificial Intelligence, and Communications Technology. It was organized and sponsored by the IEEE Indonesia Communications Society Chapter. First launched in 2014, the conference has been held annually in recent years.

Lei Guo delivered a keynote lecture on the morning of July 3, titled *"Adaptive Learning-Based Feedback Control of Uncertain Dynamical Systems"*. The abstract of the lecture is as follows: Learning and feedback are two fundamental mechanisms for addressing uncertainties in dynamical systems. Learning underpins the design of adaptive systems, while feedback enables these systems to maintain desired performance in open environments plagued by various uncertainties. This keynote presents foundational results on adaptive systems that integrate online learning with feedback control. First, the celebrated Self-Tuning Regulator (STR) in adaptive control of uncertain linear stochastic systems was revisited, wherein the STR is designed by combining a recursive least-squares estimator with a minimum tracking variance controller. Despite its intuitive structure, the global convergence of this adaptive system has long remained a longstanding open problem in control theory. Next, the theoretical rationale underpinning the widespread industrial success of Proportional-Integral-Derivative (PID) control for nonlinear uncertain systems was investigated, and a novel, robust online learning-based design framework was introduced. Finally, fundamental questions concerning the inherent capabilities and limitations of feedback mechanisms in nonlinear systems were explored. This talk synthesizes classical and contemporary perspectives to elucidate the synergistic potential of learning and feedback in tackling complex dynamical uncertainties.

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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 Innovation, Mobilität, und Infrastruktur „BMIMI" gefördert.

Federal Ministry
Innovation, Mobility
and Infrastructure
Republic of Austria

The second event was a forum organized by the Asian Control Association (ACA), under the theme *"Future Technologies in a Rapidly Changing World"*, held on July 3, 2025, at the same venue as the IAICT conference. The ACA is an organization comprising researchers in automatic control from Asian countries and regions, and it hosts the biennial Asian Control Conference (ASCC). The next ASCC will be held in Bali in June 2026. Lei Guo serves as a member of the ACA Advisory Committee.

Lei Guo (CN) at one of his IFAC Distinguished Lecturer lecture events in Indonesia

The forum was held in conjunction with the ACA Steering Committee Meeting. At the forum, approximately 30 members of the Steering Committee delivered brief presentations on their automatic control research, with several giving their talks virtually. Lei Guo gave a presentation in the afternoon of July 3, titled *"Adaptive Zero-Sum Differential Games"*.

The forum provided a valuable opportunity for all members to share their current research and engage in interaction during the technical sessions. A group of local students also attended the presentations delivered at the forum.

IFAC Distinguished Lecturer Lecture Report

July 2025

Colombia: Alexandre Dolgui

In July 2025, Alexandre Dolgui from IMT Atlantique (France) visited Colombia as an IFAC Distinguished Lecturer. The visit included two talks at the International Conference on Production Research (ICPR) - unisabana.edu.co/icpr2025 - with around 250 attendees: faculty members, PhD students, and professionals from industry, organized by the University de La Sabana (Chia, in 20km from Bogota). The visit was hosted by Dr. Gonzalo Mejía and Dr. Jairo R. Montoya-Torres from the University de La Sabana, the co-chairs of the organizing committee of the conference.

In his IFAC Distinguished Lecture, presented as a plenary invited keynote talk at the conference ICPR and titled *"Artificial Intelligence in Production Systems: Insights from the European project ASSISTANT"*, Alexandre Dolgui reported the key challenges and major results of the European project ASSISTANT (2020- 2024), coordinated by him and completed one year ago. The lecturer demonstrated how AI techniques can be combined with optimization and control algorithms to develop advanced data-driven decision-aid systems for manufacturing and assembly lines. Alexandre Dolgui presented some elements of advanced models and ideas of developed algorithms.

As a final result, the project provided a system of interconnected digital twins with decision-aid techniques based on simulation, control, artificial intelligence and optimization that helps process engineer and production planner to design and operate collaborative mixed-model assembly lines based on the data collected from IoT devices and external data sources. The developed in the project system of decision-aid tools helps planners to design the assembly line, plan the production, operate the line, and improve process tuning. In addition, the system controls the line in real-time, ensures that all required resources are available, and allow fast re-planning when necessary. The developed tool helps to make cost-effective decisions while ensuring product quality, safety and well-being of the workers, and managing the various sources of uncertainties. The digital twin system is data-driven, agile, autonomous, collaborative and explainable, safe but reactive. The system was tested on 3 case studies from Siemens (Germany), Atlas Copco (Belgium) and Stellantis (France): 3 different assembly lines. The results of the project were extremely appreciated by experts of the European Commission.

Alexandre Dolgui (FR) at his IFAC Distinguished Lecturer lecture in Colombia

The second talk titled *"Supervised Learning-Based Human and Cobot Availability Modeling for Resilient Collaborative Assembly"* was done in one of sessions of the conference. The presented work is an extension of the previous research (including in ASSISTANT) on a specific problem Human Robot Collaboration (HRC) in assembly lines, and is a part of contributions of a new European project ACCURATE. Most scheduling models for HRC still assume that resources (robots, workers) are available. In this work, supervised learning–based resource availability prediction is developed as well as a mixed-integer linear programming model to build resilient collaborative assembly schedules. Extreme Gradient Boosting (XGBClassifier) models are trained on available data sets of individual cobots and human operators. The predicted availability indicators are then embedded as parameters in the optimization model. The proposed approach provides a practical path toward maintaining productivity under realistic disruption scenarios in assembly lines with HRC.

Editor's Note: Further information about the Pawel Nowacki IFAC Distinguished Lecturer Program is available at: ifac-control.org/areas/ifac-distinguished-lecturer-program

IFAC Affiliates portal

The portal gives access to IFAC services:

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- Get reduced registration fees at IFAC Conferences. Conferences are typically 10€ (or the local equivalent) less expensive for IFAC Affiliates, than for non-affiliates
- Participate in IFAC Technical Activities
- Organize IFAC Conferences
- Participate in IFAC Journals
- Be nominated to IFAC Awards
- Apply to the IFAC Activity fund
- More to come in the future!

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Calendar of IFAC Conferences

Title	2026	Place	Further Information
AACC, IFAC, et al. Conference on American Control Conference (in cooperation with IFAC)	May 25 – 29	New Orleans, LA USA	acc2026.a2c2.org/
EUCA/IFAC Conference on European Control Conference (in cooperation with IFAC)	July 7 – 10	Reykjavik Iceland	hecc26.euca-ecc.org/ ecc26@euca-ecc.org
International Symposium on Mathematical Theory of Networks and Systems (in cooperation with IFAC) MTNS 2026	August 17 – 21	Waterloo, ON Canada	uwaterloo.ca/international-symposium-mathematical-theory-networks-systems
23rd IFAC World Congress WC 2026	August 23– 28	Busan Republic of Korea	ifac2026.org ifac2026@ifac2026.org
17th APCA International Conference on Automatic Control and Soft Computing CONTROLO 2026	September 9 – 11	Coimbra Portuga	https://controlo2026.apca.pt/ controlo2026@apca.pt
67th SIMS/IFAC International Conference of Scandinavian Simulation Society SIMS 2026	September 16 – 17	Eskilstuna Sweden	scansims.org/events.php?sid=41&src=db1557571001&udpview=show-event
6th AACC/IFAC Conference on Modeling, Estimation and Control MECC 2026	October 25 – 28	Phoenix (AZ) USA	
6th IFAC Workshop on Cyber-Physical Human Systems CPHS 2026	December 11 – 12	Redondo Beach, CA USA	

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: ifac-control.org/events/

IFAC 2026 World Congress information

The submission for regular and invited papers closed on December 5, with a total of 3898 submissions, including 563 submitted with the simultaneous journal review option. Despite many requests, the Organizing Committee maintained the final deadline after only one-time 9-day extension from November 26.

If you missed the deadline, please do not despair. Late-breaking/discussion papers can be submitted until February 28, 2026. Unlike regular/invited papers, accepted submissions will appear only in the Congress preprints, not in IFAC-PapersOnLine. This is useful if you are planning a later journal submission or cannot disclose full details due to NDAs but still wish to attend and discuss your work. Dissemination and tutorial papers can also be submitted until February 28. Please see the World Congress homepage for details, and we warmly invite you to come to Busan to enjoy the excellent technical program and the vibrant atmosphere of the Congress.

Season's Greetings from the IFAC Secretariat Team!

Please note that the IFAC Secretariat office will be closed over the winter holidays in Austria from 24 December 2025- 6 January 2026.