INTERNATIONAL FEDERATION OF AUTOMATIC CONTROL

NEWSLETTER

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IN THIS ISSUE

IFAC and the Use of AI Tools

The use of generative AI tools such as ChatGPT and Large Language Models is expanding rapidly in the scholarly community. While such tools may be very useful to analyse and draw insights from data as part of the research process or may help with checking language and grammar in writing, these tools have the potential to impact adversely on academic, scientific, and intellectual integrity.

IFAC is a technical society that organizes multiple conferences/events and has a long-term partnership with Elsevier in publishing a set of IFAC Journals and the IFAC PapersOnLine Conference Proceedings. Journal policies on the use of AI tools for both authors and reviewers are clearly documented by Elsevier and can be found at the following link: elsevier.com/about/policies-and-standards/publishing-ethics#Authors

Publishing ethics | Elsevier policy

In terms of conference organization, IFAC events and the publication process for IFAC PapersOnLine, the expectations of authors and reviewers in relation to the use of AI-tools in paper writing and reviewing are informed by the same COPE and Elsevier policies. In this way our position is consistent for our community whether they are reviewing or publishing in any IFAC outlet. The IFAC position is that:

• **In writing** papers and documents, AI and AI-assisted technologies should only be used to assist the author to improve readability and language. The authors remain responsible for the document produced. Any such use of AI tools for the purpose of assisting with writing must be formally declared in any paper or document submitted for consideration for presentation at an IFAC event or for publication in PapersOnLine.

• **In reviewing** papers and documents, reviewers must not upload any paper or document into a generative AI tool under any circumstances. Generative AI or AI-assisted technologies should not be used by reviewers to assist them in any manner.

The Organizers Guide will be updated accordingly. Conference organizers will have to accept (in the Publication Agreement they must sign for IFAC PapersOnLine publication of the Proceedings) that all authors and reviewers in the event must follow the "IFAC Statement of the use of AI Tools". The papers template will also be modified so that in these cases a statement can be inserted at the end of the manuscript, immediately above the references, by the authors to specify the tool that was used and the reason for using the tool.

Prepared by: José Luís Diez (EiC IFAC PapersOnLine), Carlos Pereira (Chair, Technical Board) and Sarah Spurgeon (Chair, Publications Board)

IFAC Fellows 2023- 2026

The IFAC Fellow Award is given to persons who have made outstanding and extraordinary contributions in the field of interest of IFAC, in the role as an Engineer/Scientist, Technical Leader, or Educator. The first Fellows were elected at the IFAC World Congress in Prague in July 2005.

Plaques and certificates will be presented at the 2026 IFAC World Congress in Busan, KR.

The IFAC Fellows 2023-2026 are:

Daniel Y. Abramovitch: *For contributions to modeling and control of high-precision, high-speed mechatronic systems, and efforts disseminating control systems' broad impact.*

Alberto Bemporad: *For contributions to model predictive control and its applications in automotive industrial production.*

Franco Blanchini: *For contributions in robust control, set invariant theory, and biochemical systems.*

Guang-Ren Duan: *For contribution to parametric control systems design and for proposing the concept of high-order fully actuated (HOFA) systems.*

Thor I. Fossen: *For contributions to the modelling, guidance, navigation, and control of marine and aerial vehicles.*

Emilia Fridman: *For contributions to time-delay, sampled-data, and distributed parameter systems.*

Vijay Gupta: *For contributions to networked and distributed cyber-physical systems.*

Sandra Hirche: *For contributions to learning and data-driven control systems, networked control, human-machine interaction, and robotics.*

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

Keum-Shik Hong: *For innovations in controlling industrial mechanical systems and recursive estimation of human brain signals via functional near-infrared spectroscopy.*

Naira Hovakimyan: *For contributions to robust adaptive control, safe learning in autonomous systems, and technology transitions to practice.*

Hideaki Ishii: *For contributions to distributed control of networked systems.*

John Lygeros: *For contributions to hybrid systems and optimal control.*

Silviu-Iulian Niculescu: *For contributions to the analysis and control of dynamical systems with delays.*

Kristin Y. Pettersen: *For leadership in the research, development, and commercialization of snake robots*.

Anders Rantzer: *For contributions to robust control, nonlinear control, and large scale systems.*

Wei Ren: *For contributions to distributed coordination and control of multi-agent systems.*

John Ringwood: *For contributions to the development of wave energy control technology.*

Jacquelien M.A. Scherpen: *For contributions to nonlinear balancing, model reduction, and passivity-based control.*

Maarten Steinbuch: *For innovations in the control of precision motion systems and the transfer of these into industrial applications as well as for academic leadership.*

Mario Sznaier: *For contributions to data driven control, identification, and dynamic vision.*

Sophie Tarbouriech: *For contributions to nonlinear control design, the theory of control with limited information, and related applications.*

Dawn M. Tilbury: *For contributions to manufacturing and networked control, expanding control applications to computing and human-robot interaction, and engineering leadership.*

Kevin A. Wise: *For industrial and scientific contributions to optimal and adaptive control technologies for aerospace systems.*

Xinghuo Yu: *For contributions to the discontinuous control of systems and applications in intelligent and complex systems.*

Wei Xing Zheng: *For contributions to distributed control of networked systems.*

Editor's Note: Newsletter readers will have the chance in upcoming issues to read more about the new IFAC Fellows.

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.

IFAC Major Awards 2023- 2026

A description of each Major IFAC Award/Medal, as well as information such as past winners can be found at:
ifac-control.org/awards/major-awards

IFAC Major Awards/Medals will be presented at the 2026 World Congress in Busan, KR.

Industrial Achievement Award: Raffaello D'Andrea (CH), For pioneering, high-impact contributions to distributed robotic and aerial systems.

High Impact Paper Award: R. Ortega, A. van der Schaft, B. Maschke and G. Escobar (MX, NL, FR), paper: ***"Interconnection and damping assignment passivity-based control of port-controlled Hamiltonian systems,"*** **Automatica, Vol. 38, pp. 585-596, April 2002.**

Nichols Medal: Stephen P. Boyd (US), Foundational contributions to the field of control through research, teaching, and leadership that advanced and developed convex optimization as a cornerstone of modern control theory and engineering.

Thoma Medal: Yongxin Chen (US), Fundamental contributions to stochastic control and its applications.

Quazza Medal: Arthur J. Krener (US), For fundamental contributions to the analysis, estimation, control, and optimization of nonlinear systems.

Editor's Note: Newsletter readers will have the chance in upcoming issues to read more about the new IFAC Major Award winners.

Harold Chestnut Control Engineering Textbook Prize: Upcoming Deadlines

The Call for Nominations, submission portal and materials for the 2023-2026 Harold Chestnut Engineering Textbook Prize of the International Federation of Automatic Control will be available starting mid-October 2025!

The Harold Chestnut Control Engineering Textbook Prize is presented at each triennial IFAC World Congress for the best control engineering textbook. In 2026 the textbooks will be considered for which the first edition occurred after the 2017 IFAC World Congress and not later than the 2023 IFAC World Congress. The Prize recognizes the author(s) of the textbook judged to have most contributed to the education of control engineers. The prize consists of a monetary prize and a certificate and will be presented at the World Congress in Busan. Nominations are due by February 1, 2026. So, start thinking about nominating your favorite textbook already now!

Submitted by: Frank Allgöwer (DE), IFAC Awards Committee Chair 2023-2026

From the IFAC President

Dear IFAC Friends and Colleagues,

The previous edition presented the outcome of two Presidential TFs related to IFAC technical areas. This edition presents the outcome of the TF on IFAC's Two-Year vs. Three-Year Cycle. The TF members were composed of all eight IFAC Executive Officers.

Founded in 1957, IFAC began with 2-year presidential and council terms, changing to 3 years from 1963. The IFAC World Congress, first held in 1960, has since been held every three years. IFAC directly organizes about 60 conferences per triennium, including 19 Master Plan Symposia.

A review of 182 conferences (2015–2023) found that 18 TCs held at least one conference between two Congresses, 16 held fewer than one, and five held none, though all contributed to World Congresses. In fast-moving fields, more frequent meetings could strengthen continuity and relevance.

The following were the key TF observations:

Conferences: A 2-year cycle would allow faster responses to emerging topics and sustained momentum, particularly in rapidly developing areas. However, one TC already holds 2–3 conferences annually, which could make the total number excessive for that TC.
Publications: Journal editors serve 3-year terms independent of leadership cycles; no change needed.
Treasury: Handover takes about a year, but VPs typically serve six or more years, so operations can remain stable.
Technical Committees: Shorter cycles enable faster leadership rotation, involving more members and new ideas. However, it will involve more administrative work.
Awards: Timelines can be adapted without affecting operations but may reduce prestige. Administration & Volunteers: Requires adjustments but opens more opportunities for participation. However, the changes required would be significant and complex.
Digital Platform: Can be adapted, but substantial effort is required.
NMOs & Congresses: More opportunities for NMOs to host Congresses and nominate Presidents. Prior Congress experiences suggest shorter planning cycles are feasible.

The TF concluded that a 2-year cycle offers advantages in responsiveness, participation, and opportunity. However, it would reduce the 3-year prestige that IFAC currently holds, and the efforts needed to implement the change would outweigh the benefits. Therefore, the final recommendation is to retain the current 3-year cycle with the following actions:

- Jointly hold IFAC conferences to reduce financial burdens and travel requirements.
- Rotate TC and CC Chairs every triennium to increase volunteer participation.
- Continue reviewing the possibility of switching to a 2-year cycle in the future.

Implementing these recommendations will strengthen IFAC's sustainability, maintain its resiliency, and ensure its continued and robust leadership in the global control community.

Finally, I would like to remind you that the deadline for Invited Session and Open Invited Track proposals for the 2026 IFAC World Congress in Busan, KR is September 16, 2025, and the final paper submission deadline is November 26, 2025.

Sincerely,

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

IFAC Activity Fund Report:
(Re)CreativeRobot: (Re)Creative Mobile Robotics for Kids

The aim of this project was to propose new on-site perennial interactive workshops for children and youths to develop practical skills on mobile robots and drones, motivating them to continue their curriculum in engineering. The developed resources and workshops were presented during numerous events, including the large-scale French national science festival and at Centrale Supélec, Laboratory of Signals and Systems, and Paris-Saclay University.

Activity Organizer: Cristina Stoica (CentraleSupélec/L2S, Gif-sur-Yvette cedex, France)

IFAC Sponsor: TC 9.2

Description: The aim of this project was to propose new on-site perennial interactive workshops for children and youths to develop practical skills on mobile robots and drones, motivating them to continue their curriculum in engineering.

These Mobile Robotics workshops were initially intended to be implemented during the annual national event "Fête de la Science", which is a large-scale science festival, created more than 30 years ago, and organized yearly by the French Ministry of Higher Education, Research and Innovation to promote and popularize science in France. In addition, the developed resources and workshops were presented during numerous events in CentraleSupélec, Laboratory of Signals and Systems, and Paris-Saclay University.

The project had two phases:

- Phase I (Workshop on Mobile Robotics, "Fête de la Science 2022" edition and beyond): A first workshop involving the use of ground robots (DJI Master Robot S1) was proposed in October 2022 for the general public visiting the flight arena of CentraleSupélec. The scientific content of the workshop goes from Programming (in Scratch) to Robotics and Control Engineering, with specific pedagogical approaches, developed in the following three steps, see [1]:

I.1. Single robot & Single child: The first version of the workshop proposed several basic exercises in Scratch allowing each kid to control one mobile robot, i.e. single robot control by one kid.

I.2. Single robot & Multiple children: In the next stage, the workshop was adapted in order to allow one small group of children to implement elementary exercises in Scratch (e.g., tracking a specific trajectory or a specific robot) on the robot allocated to their group, i.e. single robot control by several children. Two sessions were organized for the 9-years old pupils (who already have basic notions of Scratch) of the primary school Roger Ferdinand, in Palaiseau (in the Paris Region), allowing them to work in teams of two or three kids on the same robot.

I.3. Multiple robot & Multiple children: These approaches were developed to teach children the advantages of collaborative work and to make the link with basic notions of Multi-Agent Systems, e.g., implementing basic leader-follower/platooning concepts with five robots, drawing the IFAC logo via light painting with one or several robots. Indeed, each group of children programmed a specific task on one robot. Putting together the work of all the groups led to a much elaborated result (see video example youtu.be/3UXQVUPvKN4).

Part of the developed pedagogical material is available on github.com/L2S-lab/ReCreative_Robot_ICSTCC2023.

- Phase II (Workshop involving both ground and aerial vehicles, "Fête de la Science 2023" edition and beyond): A second workshop was proposed for the 2023 edition of this science festival, in the flight arena of CentraleSupélec. For this event, a new pedagogical game was developed: the classic Atari Pong game was adapted to a real-world setup with two mobile ground robots acting as paddles and one drone as ball. A repository containing the open-source code is available at github.com/L2S-lab/dropong. A video illustrating the different stages of the DroPong development (2D case with three ground robots, 3D case with two ground robots and one drone, both in simulation and experimentation) is provided at youtu.be/whsnMcFf8ZQ. The workshop timeline, together with feedback from participants and lessons learned are provided in [2].

In addition, all these activities were proposed for children (approx. 350 children and youths) and general public visiting CentraleSupélec, Laboratory of Signals and Systems, and Paris-Saclay University at numerous occasions, e.g.:
- several 15-16 years old children during their 1-week or 2-week internships at CentraleSupélec,

- numerous visits for secondary and high-school learners organized by the Center of Diversity and Inclusion of CentraleSupélec,

- one visit for children with disabilities organized by TREMPLIN Handicap, Nov 2023,

- the traditional Closing day OSER ("Journée de Clôture OSER"), May 2023 & Mai 2024, organized by the CentraleSupélec students' association OSER, committed to equal opportunity, inclusion and diversity,

- CentraleSupélec Quinquennial 2023 and 2024 involving alumni participants and their families.

The developed workshops were also presented during several local events (e.g., annual Pedagogical Days "Journée pédagogique de l'Université Paris-Saclay" 2023) and conferences (27th International Conference on System Theory, Control and Computing 2023, European Control Conference 2024, meeting of the TC 9.2 during the IFAC World Congress 2023).

Current work focuses on the update to ROS2 of the flight arena allowing us to use all the ground robots and drones at the same time, to offer more impressive Mobile Robotics experimentations.

Publications:

[1] C. Stoica, S. Bertrand, A. Thakker, T. Chevet, J. Gombert, Y. Ngnie-Tekou, J. Godoy, J. Bourgeois, "(Re)CreativeRobot: Popularizing Workshop to Promote Control and Mobile Robotics for Kids", 27th International Conference on System Theory, Control and Computing, Timisoara, Romania, 2023, available on ieeexplore.ieee.org/document/10308506 and hal.science/hal-04261238

[2] S. Bertrand, C. Stoica, A. Thakker, C. Croon, A. Hanne, C. Hosxe, S. Kretz, A. Mol, A. Philippe, "DroPong: Enthusing Learners about Control Engineering by Revisiting the Pong Game with Aerial and Ground Drones", European Control Conference, Stockholm, Sweden, 2024, available on hal.science/hal-04646583

IFAC Affiliates Portal Statistics

affiliates.ifac-control.org/

At the date of August 6, 2025, the IFAC database contains 8607 affiliates. 49% of these (4205) registered to the new IFAC Portal and thereby provide useful data about IFAC volunteers around the globe. New affiliates register regularly and are accepted manually by the IFAC Secretariat after a quick verification aiming at avoiding (a) duplicate profiles for the same person, (b) artificial affiliations of people outside of the Automatic control field. For fast processing of your affiliation, it is recommended that you provide a link to a web page that illustrates your activities in the field.

Affiliates are invited to select among all provided data, what data is kept Private (visible only to Secretariat for statistics), made IFAC Public (visible to all registered affiliates) or Web Public (visible to any visitor of the IFAC Portal). Among all registered affiliates 1118 names are Web Public, 1188 are IFAC Public and the remaining 1899 are Private. Affiliates are encouraged to make at least their name public in order to facilitate exchanges among IFAC people.

The technical activities in IFAC are organized in areas composed of technical committees (TCs) grouped under coordinating committees (CCs) and whose scope is defined by a group of keywords. Affiliates are invited to select their fields of interest described as a list of keywords. This allows to evaluate the importance of TCs within IFAC. The figures below are the numbers of registered affiliated interested in the areas of the CCs and TCs.

CC1 Signals and Systems: 2245 (53%)
TC1.1 Modeling, Identification and Signal Processing: 1249
TC1.2 Adaptive and Learning Systems: 1040
TC1.3 Discrete Event and Hybrid Systems: 553
TC1.4 Stochastic Systems: 522
TC1.5 Networked Systems: 700

CC2 Design Methods: 2461 (59%)
TC2.1 Control Design: 1426
TC2.2 Linear Control Systems: 1244
TC2.3 Non-linear Control Systems: 1456
TC2.4 Optimal Control: 1404
TC2.5 Robust Control: 1139
TC2.6 Distributed Parameter Systems: 452

CC3 Computers, Cognition and Communication: 980 (23%)
TC3.1 Computers for Control: 521
TC3.2 Computational Intelligence in Control: 615
TC3.3 Telematics: Control via Communication Networks: 228

CC4 Mechatronics, Robotics and Components: 1481 (35%)
TC4.1 Human Machine Systems: 775
TC4.2 Mechatronic Systems: 505
TC4.3 Robotics: 1078

CC5 Cyber-Physical Manufacturing Enterprises: 1140 (27%)
TC5.1 Manufacturing Plant Control: 501
TC5.2 Management and Control in Manufacturing and Logistics: 590
TC5.3 Integration and Interoperability of Enterprise Systems: 204
TC5.4 Large Scale Complex Systems: 544

CC6 Process and Power Systems: 1190 (28%)
TC6.1 Chemical Process Control: 431
TC6.2 Mining, Mineral and Metal Processing: 182
TC6.3 Power and Energy Systems: 652
TC6.4 Fault Detection, Supervision & Safety of Technical Processes – SAFEPROCESS: 409

CC7 Transportation and Vehicles Systems: 1592 (38%)
TC7.1 Automotive Control: 722
TC7.2 Marine Systems: 293
TC7.3 Aerospace: 594
TC7.4 Transportation Systems: 523
TC7.5 Intelligent Autonomous Vehicles: 898

CC8 Bio- and Ecological Systems: 867 (21%)
TC8.1 Control in Agriculture: 341
TC8.2 Biological and Medical Systems: 409
TC8.3 Modeling and Control of Environmental Systems: 363
TC8.4 Biosystems and Bioprocesses: 254

CC9 Social Systems: 1174 (28%)
TC9.1 Economic, Business, and Financial Systems: 266
TC9.2 Systems and Control for Societal Impact: 327
TC9.3 Control for Smart Cities: 316
TC9.4 Control Education: 724
TC9.5 Technology, Culture and International Stability (TECIS): 141

If you are interested in any statistics for future Newsletter issues, do not hesitate to suggest a topic on which to focus by writing to newsletter@ifac-control.org. As mentioned in earlier issues of the Newsletter, IFAC will erase the data concerning affiliates who never connected to the Portal. This was initially planned for January 2025 and is postponed for technical reasons but will apply in the near future.

Transition: Shankar Prasad Bhattacharyya
1946-2024

Shankar Prasad Bhattacharyya (IFAC Fellow)—an internationally renowned scholar, educator, and pioneer in the field of control systems—passed away on July 3, 2024, at the age of 78 after a brief illness. Over a distinguished career spanning more than five decades, Professor Bhattacharyya made transformative contributions to control systems research and inspired generations of engineers, researchers, and students around the globe.

Born in Yangon (formerly Rangoon), Myanmar, in 1946, Professor Bhattacharyya earned his B.Tech. with honors in Electrical Engineering from the Indian Institute of Technology Bombay in 1967. He went on to receive his M.S. and Ph.D. degrees in Electrical Engineering from Rice University in 1969 and 1971, respectively, studying under J.B. Pearson. He began his academic journey at the Federal University of Rio de Janeiro in Brazil, where he founded the country's first Ph.D. program in control systems. In 1980, he joined Texas A&M University, where he served as a central pillar in the Department of Electrical and Computer Engineering for over four decades, holding the prestigious Robert M. Kennedy Professorship.

At Texas A&M, Professor Bhattacharyya developed and taught a broad array of courses in control engineering. He created hands-on laboratory courses to supplement theoretical instruction and supervised numerous doctoral and master's theses (12 and 20, respectively, as of 2021). His dedication to international academic collaboration was exemplified by his founding of the Brazil Engineering Study Abroad Program, which connected generations of Aggie engineers with partner institutions in Brazil. He also held visiting appointments in India, Taiwan, Italy, Japan, and Brazil, earning a global reputation for fostering academic exchange.

Professor Bhattacharyya's outstanding contributions were recognized with numerous prestigious honors. He was named an IEEE Fellow in 1989 and an IFAC Fellow in 2011. He was also elected a Foreign Member of the Brazilian Academy of Sciences (2011) and the Brazilian Academy of Engineering (2015). He served as a NASA Research Fellow and the Boeing Welliver Faculty Fellow, and he received Texas A&M's Outstanding ECEN Professor Award in 2009 and the Kenneth L. Clinton Award for International Programs. Over his prolific career, he authored eight scholarly books and nearly 300 research publications.

Professor Bhattacharyya's research focused on automatic control systems, multivariable control system analysis and design, computer-aided control system design (CACSD), analytical PID controller design, robust stability and control theory, especially for parametric uncertainties, and most recently, model-free data-driven controller design. His work significantly advanced the field in multiple ways, influencing both academic and practical applications. At several points in his career, he discovered, along with co-researchers, fundamental and surprising results that have had a transformative and path-changing effect on the direction of the field. A brief description of some of these follows.

•In 1971, Professor Bhattacharyya was the first researcher to solve the Linear Multivariable Servomechanism problem, a central open problem in the field at that time. His solution, which used the newly emerging Geometric Approach to Multivariable Systems being developed by W.M. Wonham, was complete and general and was published with his Ph.D. advisor, J.B. Pearson. (see [l], [2], and [3] below).

•In 1984, Kharitonov's Theorem, a new and startling result, inspired Shankar to dive into the field of Robust Control. Professor Bhattacharyya pursued this subject for over ten years and developed many original and sharp results, including a useful generalization of Kharitonov's Theorem. The results were published in a research monograph [4], which received glowing reviews and is highly and consistently cited.

•In 1997, Professor Bhattacharyya was co-author of the paper *"Robust, Fragile or Optimal?"* [5], which proved the extreme fragility of most of the modern high-order optimal controller designs. One positive effect of this was a substantial and critical rethinking of the modern control philosophy and its pitfalls. This well-cited paper arguably changed the course of the field and revived the control community's interest in low-order and low-complexity con-

trollers, which continues till today and which will be an important and fundamental factor in the control of large-scale systems.

•Beginning in the late 1990's Professor Bhattacharyya and his co-researchers developed an extensive array of results on the low-order control problem. The central place is occupied by the PID controller, accounting for 99% of the controllers in use in all industries. His work has changed the landscape of PID control by introducing new and crisp theory along with its computer-aided design algorithms to allow designers to automatically satisfy multiple specifications. These results have been reported in three monographs [6], [7], [8] and have generated much interest in this area in the community [9], [10], [11].

•In the 2000's Professor Bhattacharyya worked to develop a model-free, data-driven approach to engineering design. In this area he and his colleagues have had two spectacular successes i) controller design directly from frequency response data without constructing an identified model [12] and ii) a measurement-based approach to circuits, systems and block diagrams which is a generalization and extension of Thevenin's Theorem to general linear systems [13], [14], [15]. This approach will have a large impact on the engineering field, which is currently mired in models that are often unavailable in the real world.

•More recently, Professor Bhattacharyya worked on Multivariable Controller design using limited available outputs for feedback, without state variable models. State variables more often than not lack physical significance or even physical units, and state feedback designs are in such cases unimplementable and meaningless. His results in this direction have been reported in [16], [17], [18]. His work in this area aims to bring the design capabilities of single-input single-output systems to multivariable control systems.

In addition to his active research life, Professor Bhattacharyya was a gifted and dedicated engineering educator. He acquired research funding, mentored graduate students, authored textbooks (most recently a graduate text on linear control theory [19]) and monographs in addition to his many archival research papers, and developed and taught numerous courses at both graduate and undergraduate levels, including controls labs. He was also a very active lecturer of short courses and workshops, having given over 95 invited lectures and workshops as of 2021. In Brazil, he influenced many future Brazilian professors of the whole country, from the North to the South. During his time there, the Alberto Luiz Coimbra Institute for Graduate Studies and Research in Engineering (COPPE) was launching the first graduate program in Engineering and attracting students from all regions. He supervised dissertations and theses and, above all, built lasting friendships. His legacy in the development of Controls Systems in Brazil is unquestionable and he can be recognized as one of the founders and the first leader of the Control area at COPPE. He was tireless as a lecturer and recently completed a rigorous 5-day lecture schedule in a workshop at Seoul National University in the summer of 2023, while managing his illness.

Professor Bhattacharyya was not "just" an academic, however. He had a rich, well-rounded life. A colleague noted that, "…Shankar genuinely liked people and was generous to them…" (acr.iitbombay.org/prof-shankar-prasad-bhattacharyya/) while another noted that his "… smile was ever-present and infectious …" (obituaries.nationalcremation.com/obituaries/katy-tx/shankar-bhattacharyya-11886562).

One of us (Ortega) fondly recalls that he "… came to teach at the National University of Mexico twice and in both occasions all our researchers and students were fascinated with the depth and clarity of exposition of all the material he covered. During these visits we enjoyed his company while taking him around the touristic and cultural places of Mexico. I remember, in particular, our trip (together with Prof. Vidyasagar, who was also teaching in our faculty), to the Teotihuacan pyramids, which is a 3000 year old UNESCO World Heritage Site, and I was pleasantly surprised by their interest and knowledge about our pre-Columbian civilizations … I had the pleasure to host Professor Bhattacharyya once in my house, where he showed his appreciation for our Mexican cuisine dishes and music. I also had the honor of visiting him in his College Station house where he delighted me and my students with delicious Indian food and a sarod concert, that the masterfully played - actually, I left his house with a CD of his music that he generously gave me!" Another of us (Moore) notes that to this day "… I host students at my house, because that's what `Dr. B' did and it had a strong impact on those of us under his influence at the time (he introduced many of us to Indian food and entertained us on his sarod). And, his mentoring continued after his students graduated. I always sought his advice on a variety of issues, not always technical, since I graduated. He was always interested in my career, my family, and me. These are traits of a master teacher and educator."

To these memories we can add that Professor Bhattacharyya had a natural curiosity that led him to embrace life as he encountered it. What set him apart from many is that for him, teaching, research, service to his institution, music, learning, and life were not separate things. Indeed, as alluded to above, beyond his academic accomplishments, he was also an accomplished sarod player, having studied under the legendary Ustad Ali Akbar Khan. His music reflected the same precision, depth, and passion found in his scholarly work. For him, music was more than a hobby—it was a lens through which he explored symmetry, rhythm, and harmony in both control systems and life. Fluent in English, Portuguese, Hindi, and Bengali, he embodied the spirit of a global citizen and a Renaissance scholar. While he will be missed, Professor Bhattacharyya's legacy endures through his groundbreaking work, his students, and the global academic bridges he helped build.

Submitted by: Kevin Moore, Lee Keel, Vilma Alves de Oliveira & Romeo Ortega

Editor's Note: Numbers referring to particular writings of Shankar Bhattacharyya are available on an extended version of this text, which is available in the IFAC Secretariat. Photo credits go to Texas A&M University.

1st IFAC Workshop on Engineering Diabetes Technologies (EDT 2025)

8-9 May 2025
Valencia, ES

The 1st IFAC Workshop on Engineering Diabetes Technologies (EDT 2025), held in Valencia, Spain, from May 8 to 9, 2025, marked a significant milestone in the interdisciplinary effort to advance technologies for diabetes care. Bringing together engineers, clinicians, data scientists, and industry leaders, the workshop fostered a unique collaboration and knowledge exchange environment at the intersection of engineering, biomedical innovation, and translational research.

More than 70 people attended the workshop, that was organized in a new format, always including enough time for discussion among all the presenters after each 3-4 papers session. Each day started with a special round table including 3 keynotes and more time for discussion. The first day was devoted to the Diabetes Technology point of view from a Medical Specialist (Kirsten Nørgaard, from Steno Diabetes Center Copenhagen), an Engineer (Marc Breton, from University of Virginia), and a Patient (Ana Alvarez-Pagola, from #dedoc° / INNODIA / FID Blue Circle Voices). The second day the keynotes were about technology transfer experiences of an Investor (Iker Marcaide, from Zubi Group), a Technological Incubator (Ema Grabenweger, from Diabetes Center Berne), and an Entrepreneur (Greta Preatoni, from Mynerva).

Participants of EDT 2025

Throughout the workshop, 29 papers were presented and participants engaged in thought-provoking discussions and presented cutting-edge research addressing the multifaceted challenges of diabetes management. Topics ranged from physiological modeling and closed-loop control systems to machine learning approaches for personalized therapy and wearable medical devices. The diversity and

depth of the contributions showcased the rapid progress being made (and the immense potential that lies ahead) in engineering solutions that improve the lives of people living with diabetes.

The collaboration with industry sponsors such as Insulet Corporation, Tandem Diabetes Care, and Roche allowed up to 15 students have a registration grant, and also a travel grant to the authors of three outstanding works: Hadija Marchiori from the Università degli Studi di Padova, and Meryem Altın Karagöz and Elliott Pryor, both from the University of Virginia. On the first day a social dinner was held, discussion was fostered in several coffee breaks and, after two intense days of work and discussions, the meeting finalized with a sightseeing tour to show the beautiful city of Valencia.

The strong engagement from the engineering community in the field underscored the urgency of the diabetes epidemic and the value of interdisciplinary collaboration in tackling it. It was especially inspiring to see early-career researchers and seasoned experts sharing insights, forging connections, and laying the groundwork for future breakthroughs. The IPC and NOC are confident that EDT 2025 will serve as a foundation for a growing community dedicated to advancing engineering approaches to diabetes technologies. Committees look forward to continuing this momentum organizing special track/session in other IFAC events and also future workshop editions.

Submitted by: Jose Luis Díez (ES), EDT 2025 NOC Chair

IFAC Council & Related Meetings 2025

16-19 July 2025
Paris, FR

The 2025 IFAC Council and Related Meetings took place in Paris, FR from 16-19 July 2025 at the Sorbonne University in the Latin Quarter neighborhood.

The IFAC Council listened to presentations from 3 candidates for IFAC President 2029-2032 (Richard Braatz- US, Dimitri Peaucelle- FR, and Fei-Yue Wang- CN) and 2 NMOs for hosting the 2032 IFAC World Congress (BR- Rio de Janeiro and US- Hawaii). This is the second IFAC trinnium in which these decisions are made separately, instead of one vote combining both IFAC's president and a congress location into a single decision.

Dimitri Peaucelle (FR) will serve as IFAC President 2029-2032. He was born in Leningrad, USSR, in 1974. He obtained his Ph.D. degree in 2000 from Toulouse University (FR). Since 2001 he is a full-time researcher at the French National Center for Scientific Research (CNRS), working at LAAS in Toulouse.

His research interests are in robust control, and extend to convex optimization over linear matrix inequalities (LMIs), positive systems, time-delay systems, time-varying systems, static output-feedback design and direct adaptive control. He is also involved in computer-aided control design activities and is the main contributor to the Randomized and Robust Multi-Objective Control (R-RoMulOC) Toolbox. Over the years he build strong international cooperations in Japan with main collaborators Y. Ebihara, Y. Hosoe, M. Sato, in Italy with F. Dabbene, Roberto Tempo and in Russia with B. Andrievsky, A. L. Fradkov, P. Pakshin, B. Polyak and many others. He has been involved in several industrial projects with aerospace partners for launcher, aircraft, and satellite robust control. He is the co-author (with Y. Ebihara and D. Arzelier) of the monograph "S-Variable Approach to LMI-Based Robust Control". Since 2021 he is head of the French national network on Modeling, Analysis and Control of Dynamical Systems (GdR MACS).

D. Peaucelle has been a member of the IFAC TC 2.5 on Robust Control since 2009. He participated in the organisation of IFAC-ROCOND in 2006 and served as General Chair for the 20th IFAC World Congress held in Toulouse in 2017. He was Program Chair for the European Control Conference held (online from Saint Petersburg) in May 2020 and for the IFAC-ROCOND symposium held (online from Kyoto) in September 2022. He also served as Deputy Editor-in-Chief for *IFAC-PapersOnLine* from 2017 until 2020. Starting from July 2020 he is IFAC Vice-President for Operations, Secretary and Editor-in-Chief of the IFAC Newsletter.

The IFAC World Congress 2032 will take place in Hawaii (US).

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IFAC Affiliates portal

The portal gives access to IFAC services:

- Share with and consult information about other Affiliates
- Receive the IFAC Newsletter
- Receive alerts about the IFAC Conferences in your field/s of interest
- 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!

Any individual interested in Control Engineering should sign up at affiliates.ifac-control.org!

How do I connect?

- If you are not yet connected to IFAC and wish to join for free, select 'Sign-Up' and then 'Register for an IFAC Account'. Meanwhile you may also browse the Web public data.

- If you receive this Newsletter in your mailbox, this means you are already connected to IFAC and listed in our database. To create your access to the portal for the first time, please select 'Sign-Up' and then 'Register for an IFAC Account' as above. In order to link your access to your existing data and save some time, please complete the form with the exact email address at which you receive the Newsletter.

Detailed instructions are available at:
ifac-control.org/about/affiliate-registration

Free and Exclusive

Signing in as an IFAC Affiliate is free and you keep of the control of the shared data which shall not be used for commercial or non IFAC purpose.

Signing in as IFAC Affiliate is mandatory to benefit from IFAC services and to participate in IFAC activities. Affiliates who do not connect to the portal within a year will have their data removed from the database. They will still have the possibility to become an affiliate again, but it may temporarily prevent access to services.

For any additional information, or if you require any assistance, please contact secretariat@ifac-control.org

IFAC Portal: affiliates.ifac-control.org/

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

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Federal Ministry
Innovation, Mobility
and Infrastructure
Republic of Austria

Calendar of IFAC Conferences

Title	2025	Place	Further Information
15th IFAC Symposium on Intelligent Manufacturing Systems IMS 2025	September 11 – 12	Koszalin Poland	ims2025.pl/
7th IFAC Symposium on Telematics Applications TA 2025	September 15 – 18	Padova Italy	j3c.org/ info@j3c.org
1st IFAC Workshop on Engineering and Architectures of Automation Systems EAAS 2025	September 15 – 18	Padova Italy	j3c.org/ info@j3c.org
7th IFAC Conference on Intelligent Control and Automation Sciences ICONS 2025	September 15 – 18	Padova Italy	j3c.org/ info@j3c.org
5th IFAC Workshop on Thermodynamics Foundations of Mathematical Systems Theory TFMST 2025	September 19 – 21	Hangzhou China	tfmst2025.net/#/ gaochou@zju.edu.cn
66th International Conference of Scandinavian Simulation Society SIMS 2025	September 23 – 24	Stavanger Norway	nfea.no/arrangementer/sims-2025/ damiano.rotondo@uis.no
5th AACC Conference on Modeling, Estimation and Control MECC 2025	October 5 – 8	Pittsburgh, PA USA	mecc2025.a2c2.org/
20th IFAC Symposium on Optimization and Automation in Mining, Minerals and Metal Processing MMM 2025	October 5 – 8	Lima Peru	conferences.ifac-control.org/mmm2025/ mmm2025@pucp.edu.pe
IFAC Workshop on Control Aspects of Multi-Satellite Systems CAMSAT 2025	October 5 – 8	Würzburg Germany	informatik.uni-wuerzburg.de/camsat frankenberger@informatik.uni-wuerzburg.de
22nd INSTICC et al International Conference on Informatics in Control, Automation and Robotics ICINCO 2025	October 20 – 22	Marbella Spain	icinco.scitevents.org/ icinco.secretariat@insticc.org
16th INSTICC et al. International Workshop on Enterprise Integration, Interoperability and Networking EI2N 2025	October 23 – 24	Marbella Spain	in4pl.scitevents.org/EI2N.aspx
6th INSTICC et al International Conference on Innovative Intelligent Industrial Production and Logistics IN4PL 2025	October 23 – 24	Marbella Spain	in4pl.scitevents.org/ in4pl.secretariat@insticc.org
3rd IFAC Workshop on Control Methods for Water Resource Systems CMWRS 2025	November 6 – 7	Douai France	conferences.ifac-control.org/cmwrs-imt-nord-europe/
1st IFAC Workshop on Blockchain Intelligence and Knowledge Automation BIKA 2025	November 8 – 9	Macao China	2025.ifacbika.org/ ifacbika@gmail.com
16th IFAC Symposium on Analysis, Design and Evaluation of Human -Machine Systems HMS 2025	November 18 – 21	Beijing China	conferences.ifac-control.org/hms2025/ yinzhong@usst.edu.cn
19th IFAC Workship on Control Applications of Optimisation CAO 2025	December 10 – 13	Krakow Poland	conferences.ifac-control.org/cao2025/
13th IFAC Conference on Fractional Differentiation and its Applications ICFDA 2025	December 18 – 21	Algiers Algeria	conferences.ifac-control.org/icfda2025/

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/

Calendar of IFAC Conferences

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
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 addditional 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 Council & Related Meetings 2025

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All 3 candidates for IFAC President 2029-32 after giving their presentations and waiting for the results of closed Council deliberations on Saturday, 19 July 2025 in Paris, FR: Richard Braatz (US), Dimitri Peaucelle (FR), & Fei-Yue Wang (CN)

In addition to the decisions concerning IFAC's future leadership and the 2032 congress location many important updates, decisions and deliberations took place at Council over the 2 days of meetings.

• IFAC President-Elect Maria Prandini is chairing the Election Committee. She presented the current status of the slates.

• The winners of IFAC Fellows and Major Medals (the results are shown in this Newsletter and on the IFAC website) were voted on by IFAC Council, with Awards Committee chair Frank Allgöwer presenting the results. It should be noted that Fellows and Major Awards are chosen as a list, and not voted on individually.

• Updates were provided by all of the IFAC Vice-Presidents and many committee chairs (or persons reporting on their behalf). Some highlights include:

• IFAC's social media is growing. Persons interested in IFAC and control engineering should follow the IFAC social media channels. Derik le Roux serves as IFAC's Social Media chair this triennium.

• The IFAC Foundation (which is a separate legal entity from the IFAC Federation) has added a new Secretary (Julian Berberich).

• Silvia Mastellone, IFAC Vice President- Finances, presented the finance info. IFAC's finances are healthy. A spirited discussion concerning the conservative strategy took place.

• Several task forces have been working on decided topics this triennium and their results/progress were reported on. This includes the task force which studied 2 vs 3 year cycles, as noted in Dan Cho's President's Column on page 2 of this Newsletter.

• IFAC Secretary/Vice-President for Operations Dimitri Peucelle reported on some of the various technical improvements beneficial to the control community have been implemented and/or are in progress. IFAC affiliates who have not yet connected to the portal are kindly requested to do so (instructions are provided in this issue of the Newsletter and you can contact the Secretariat if you require assistance). Activity Fund Committee (Chaired by Tariq Samad) has been able to select activities supported by the IFAC community to assist with financial support to help them be carried out.

•Industry Committee (chaired by Kevin Brooks) has many workstreams and activities and would like to increase their numbers, especially from underrepresented geographic areas.

• Diversity and Inclusion Committee (chaired by Mary Doyle-Kent) is working with the Busan World Congress organizers, with plans to hold activities there.

IFAC is grateful to its many volunteers who came from many countries/regions to travel to and participate in the Paris meetings! Special thanks go to Mokrane Boudaoud and Micky Rakotondrabe and the team of organizers and volunteers from the joint Mechatronics/Robotics event which hosted this year's IFAC meetings.

In addition to the IFAC Council many other meetings took place, including all three boards (Conference, Technical, and Publications) and many committees.

On the Conference Board (chaired by Richard Braatz) side of things major changes are being made to the IFAC Organizer's Guide to reflect the current IFAC structure and offerings.

IFAC Technical Board is chaired by Carlos Eduardo Pereira. He has been working over many months with Dan Cho ro revise the IFAC keywords. Changes in the TCs and the number of CCs for 2026-29 are planned.

IFAC Publications are underseen by the Publications Board, chaired by Sarah Spurgeon. The journals are healthy with solid editorial teams and significant increases in submissions, especially to *EAAI*. The financial side of the publications is overseen by Publications Management Board (PUMB). Chaired by Ian Craig, PUMB has representatives appointed by IFAC and Elsevier, and discussions are underway concerning a new contract.

Silvia Mastellone, IFAC Vice President- Finances, presented the finance info. IFAC's finances are healthy. A spirited discussion concerning the conservative strategy took place.

The 2026 IFAC Council and Related Meetings are scheduled to take place in August 2026 in conjunction with the IFAC World Congress in Busan, KR. IFAC officials are encouraged to mark their calendars and plan to attend.

Written by: Elske Haberl (IFAC Secretariat)