IFAC
INTERNATIONAL FEDERATION OF AUTOMATIC CONTROL

NEWSLETTER

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Distingushed Lecturer Program Report from Activities in South Africa

The IFAC Distinguished Lecture program (chaired by Hideakii Ishii) has taken off during this first post-pandemic triennium. In this issue Newsletter readers have the opportunity to learn about recent lectures given in South Africa by Na Li.

Na (Lina) Li
"Representation-based Control and Learning for Dynamical Systems"
October 2024,
Pretoria & Stellenbosch, ZA

In October 2024, Na (Lina) Li from Harvard University (US) visited South Africa as an IFAC Distinguished Lecturer. The visit included two talks and participation in an inspiring outreach program. The trip was hosted by Derik le Roux at the University of Pretoria (UP) and Tobi Louw at Stellenbosch University (SU), with the support of the South African Council for Automation and Control (SACAC), and the National Institute for Theoretical and Computational Sciences (NITheCS).

Li's lecture, titled *"Representation-based Control and Learning for Dynamical Systems"*, focused on advancing data-driven methodologies for controlling complex dynamical systems. Both of the talks at the University of Pretoria and at Stellenbosch University drew a diverse audience of faculty, students, and professionals from industry.

The lecture addressed key challenges in translating machine learning successes to dynamical systems, particularly the need for sample efficiency, computational feasibility, and safety. Li introduced a novel framework that represents stochastic nonlinear dynamics linearly in a nonlinear feature space, enabling efficient control and reinforcement learning methods. Concrete examples of real-world applications illustrated how these methods can overcome challenges such as the sim-to-real gap. The talks concluded with lively discussions, and Lina was impressed by the thoughtful questions and the depth of engagement from the audience.

As part of the trip, Li participated in the *Girls in Control* workshop at the Cape Town Science Center, organized by Syamala Krishnannair from the University of Zululand. This one-day program brought together 30 girls aged 9-13 from three Cape Town schools to inspire interest in science, technology, and engineering. During the workshop, Li shared her research on control systems and her journey from a child in a small town to a professor at Harvard University. The event featured hands-on activities, including a robotics session and Scratch coding tutorials, which encouraged the students to explore problem-solving and creativity. Additionally, the girls attended a science show hosted by the science center. Lina remarked that witnessing the excitement and engagement of the participants was deeply rewarding and reaffirmed the importance of nurturing young talent in engineering and science.

Cape Town, ZA
Girls in Control Workshop participants

The visit was organized by SACAC, the South African IFAC National Member Organization. Professors Derik le Roux, Tobi Louw, and Syamala Krishnannair were instrumental in organizing the talks and the outreach workshop. Lina expresses her great gratitude for their efforts and says it was an honor to contribute to these meaningful academic and community engagements.

Submitted by: Na (Lina) Li (US),
IFAC Distinguished Lecture lecturer

The IFAC Conference App is available!

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

How to download:
App Store apple.co/3mpaER7
Google Play bit.ly/3lazFjx
Web version ifac.floq.live

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

Log in is shared with the IFAC Affiliates Portal. There is no need for double registration.

No.6
December 2024

IN THIS ISSUE

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

Who's Who in IFAC: Distinguished Lecturer Program Lecturers

continuation of a series

Alexandre Dolgui

Alexandre Dolgui received his Engineer/MSc degree from Minsk Radioengineering Institute (1983), PhD degree from the National Academy of Sciences of Belarus (1990), Docent diploma from the Ministry of Sciences, Universities and Technical Policy of Russia (1992), Dr Habil degree from the University of Technology of Compiègne, France (2000). He was an Assistant then Associate Professor at the Belarusian State University of Informatics and Radioelectronics (former Minsk Radioengineering Institute) from 1986 to 1997, an invited researcher at Inria in France (1992 – 1995), Associate and Full Professor at the University of Technology of Troyes (1995 - 2003), Full Professor and a Research Center Director at the Mines St Etienne (2003 – 2015), he has received the Chinese Academy of Sciences Visiting Professorship for Senior International Scientists (2013) and since October 2015, he is a Distinguished Professor (Exceptional Class) and the Head of the Departement Automation, Production and Computers Sciences (116 persons) at IMT Atlantique, campus in Nantes, France.

He is an IISE Fellow. His research focuses on manufacturing line design, production planning, scheduling, and supply chain engineering. His main results are based on exact mathematical programming methods and their intelligent coupling with heuristics, metaheuristics and automatic control techniques. He has contributed to the theory of assembly line balancing, combinatorial design of machining lines, process planning, supply chain scheduling, lot sizing, and replenishment planning under uncertainties as well as to the theory of resilience and risk analysis in supply networks. He is the co-author of 5 books, the co-editor of 32 books or conference proceedings, the author of over 330 refereed papers in international journals.

He is the Editor-in-Chief of the *International Journal of Production Research*, an Area Editor of *Computers & Industrial Engineering*, former Associate Editor of *IEEE Transactions on Industrial Informatics* and *Omega*, Member of the Editorial Board of 24 other journals including the *International Journal of Production Economics*. He is an Active Fellow of the European Academy for Industrial Management, Member of the Board of the International Foundation for Production Research, former Chair (Vice-Chair now) of IFAC TC 5.2 Manufacturing Modelling for Management and Control, Member of IFIP WG 5.7 Advances in Production Management Systems, IEEE System Council Analytics and Risk Technical Committee, he has been Scientific Chair of many leading scientific conferences as IFAC INCOM 2006, 2009, 2012 and 2015, and IFAC MIM 2013, 2016, 2019 and 2022, and received several international, as well as in Belarus, China, United States and France, awards for his research. He was also awarded as Highly Cited Researcher in Engineering by Clarivate in 2021, 2022 and 2023.

Further information is available at: imt-atlantique.fr/en/person/alexandre-dolgui

Lecture Topics:

- Application of Artificial Intelligence Techniques in Manufacturing Systems
- Supply Chain Viability, Intertwined Supply Networks, and Digital Supply Chain
- Combinatorial Design of Machining Systems: Advanced Methods and Applications

Mihoko Niitsuma

Mihoko Niitsuma received her Ph. D. from the University of Tokyo in 2007. Since 2009, she has been with the Department of Precision Mechanics at Chuo University, Tokyo, Japan, where she is currently a full professor.

Niitsuma has been a member of TC 4.3 on Robot Control, IFAC, since 2018. She served as the IPC chair of the 1st IFAC Workshop on Robot Control 2019. She also served as an IEEE-IES AdCom member (2018-2021, 2021-2024), an associate editor of *IEEE Transactions on II* (2017-), a Member of the IEEE Medal for Environmental & Safety Technologies Committee (2015-2018), a vice-chair of IEEE-IES Technical Committee on Control, Robotics, and Mechatronics (2020-2023), and chair of the TC (2024-).

Research interests:

Her research interests include autonomous social robotics for human-robot interaction and collaboration. She applies this approach to robot-assisted parent-child interaction therapy and virtual-animal-assisted activity.

From the IFAC President

Dear IFAC Friends and Colleagues,

IFAC currently operates on a three-year cycle. The President serves for three years, and the World Congress is held every three years. Similarly, IFAC Awards are presented once every three years, during special ceremonies held at the World Congress. The last Awards were given in Yokohama 2023, and it is now time to identify the most deserving candidates for various Awards to be given in Busan 2026.

The highest awards, namely the Major Awards and the IFAC Fellows, are administrated by Council with two consequences: (a) Council members are excluded from being nominated and from nomination, (b) decisions need to be taken a year ahead. Therefore the selection procedure has already started. The details are available on the IFAC web site ifac-control.org/awards/award-nominations-2024.

The important deadlines are: Nominations for IFAC Fellows by 1 February 2025 and supporting letters by 1 March 2025; Nomination for Major Awards by 15 February 2025 and supporting letters by 15 March 2025.

Later, in early 2026, other calls shall concern the Harold Chestnut Control Engineering Textbook Prize, the Journal Paper Prizes and the Congress Prizes. In addition to these, the IFAC Outstanding Service Award is presented to individuals who have served as committee chairs or board members for more than nine years.

In parallel to these IFAC Awards and Prizes handed over during World Congresses, each Technical Committee can present their own awards, handed over during the IFAC Conferences, Symposia and Workshops. These comply to specific rules revised in 2021. Furthermore, two awards are administered by the IFAC Foundation: the Kwon Award for sustainable development and the Diversity and Inclusion Award.

I hope many of you will participate in nominating the most deserving candidates for these IFAC Awards, so their outstanding achievements can be recognized and celebrated.

I extend my greetings to the worldwide IFAC community and wish all the best for the upcoming new year 2025!

With best regards,

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

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.

Lecture topics:

- Etho-robotics for human-autonomous social robot interaction and its application
- Building environmental maps describing human walking activity using a 3D LiDAR for autonomous mobile robots

Eduardo D. Sontag

Eduardo D. Sontag received his Licenciado in Mathematics at the University of Buenos Aires (1972) and a Ph.D. in Mathematics (1977) under Rudolf E. Kalman at the University of Florida. From 1977 to 2017, he was at Rutgers University, where he was a Distinguished Professor of Mathematics and a Member of the Graduate Faculty of the Departments of Computer Science of Electrical and Computer Engineering and the Cancer Institute of NJ. He directed the undergraduate Biomathematics Interdisciplinary Major and the Center for Quantitative Biology, and was Graduate Director at the Institute for Quantitative Biomedicine.

In January 2018, Sontag became a University Distinguished Professor in the Departments of Electrical and Computer Engineering and of BioEngineering at Northeastern University, where he is also affiliated with the Mathematics and the Chemical Engineering departments. Since 2006, he has been a Research Affiliate at the Laboratory for Information and Decision Systems, MIT, and since 2018 he has been a Faculty Member in the Program in Therapeutic Science at Harvard Medical School.

His major current research interests lie in several areas of control and dynamical systems theory, systems molecular biology, cancer and immunology, machine learning, and computational biology. Sontag has authored over five hundred research papers and monographs and book chapters in the above areas with about 60,000 citations and an h-index of 106 (54 since 2019). He is a Fellow of various professional societies: IEEE, AMS, SIAM, and IFAC, and is also a member of SMB and BMES.

He was awarded the Reid Prize in Mathematics in 2001, the 2002 Hendrik W. Bode Lecture Prize and the 2011 Control Systems Field Award from the IEEE, the 2022 Richard E. Bellman Control Heritage Award, the 2023 IFAC Triennial Award on Nonlinear Control, the 2002 Board of Trustees Award for Excellence in Research from Rutgers, and the 2005 Teacher/Scholar Award from Rutgers. In 2024, he was elected to the American Academy of Arts and Sciences.

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

IFAC Activity Fund:
Awarded Projects from the April 2024 Call

The IFAC Activity Fund provides funding for control engineers and scientists for initiatives that maximize control community engagement, promote inclusion and diversity in alignment with the IFAC guidelines, and increase control engineering influence in public discourse and decision-making. Calls for proposals are distributed each April and October. We have now completed the review, selection, and contractual process from the April 2024 call, and we are pleased to announce that the following exciting projects are under way!

•Control Conference Africa: Events promoting control to students and scholars, highlighting diversity and inclusion
Endorsed by: South Africa IFAC NMO
Project lead: Lidia Auret

•Diversity, Equity, and Inclusion Activities at the 2024 IFAC CPHS Conference
Endorsed by: TC 9.2
Project lead: K. Merve Dogan

•Controlled Fun – a Control-themed Advent calendar
Endorsed by: TC 9.4
Project lead: Steffi Knorn

•Workshop on Creating Awareness of Control in Higher Secondary School Students
Endorsed by: TC 9.4
Project lead: Madhavan Shanmugavel

•Cybathlon 2024 South African Hub
Endorsed by: South Africa NMO
Project lead: Riaan Stopforth

•Wonders of Control Engineering via Drone Flying and Electric Vehicles
Endorsed by: India NMO
Project lead: Radhakant Padhi

•Graduate School on Advanced Sliding Mode Control
Endorsed by: India NMO
Project lead: Bijnan Bandyopadhyay

•2D Animated Cartoons for Control Education Rise
Endorsed by: TC 9.4 and Education Committee
Project lead: Cristina Stoica

The October 2024 call for proposals drew another large pool of strong applications. We look forward to announcing the results in early 2025. For further information on the Activity Fund, including reports on completed projects, visit sites.ifac-control.org/activityfund.

Submitted by: Tariq Samad (US),
IFAC Activity Fund Committee Chair

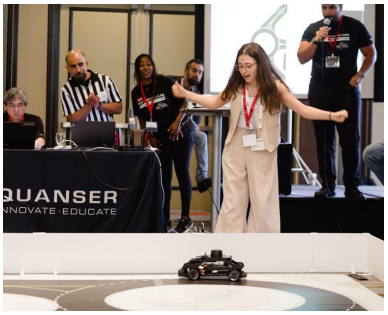
The IFAC Story E-book is available!
ISBN 978-3-902823-73-1

ifac-control.org/about/the-ifac-story

American Control Conference (ACC) 2024
8-12 July 2024
Toronto, Ontario, CA

The American Control Conference was held in Toronto, Ontario, Canada from 8-12 July 2024 at the Westin Harbour Castle. The purpose of this annual conference is to bring together researchers and practitioners in the control community to share their ideas and findings.

Engagement of students and young professionals was a priority for the conference, including a student networking session, several special sessions, and the self-driving car student competition by Quanser. The operating committee was also assisted by the Student Advisory Committee in organizing the conference. In total there were 1363 registrants at the conference, including 415 students. There were 46 countries represented at the conference.



Self-driving car student competition at the ACC 2024 in Toronto

Technical Program: 1391 papers were submitted to the conference, with 863 accepted for the conference proceedings and associated oral presentations. Papers were presented in two formats: rapid interactive sessions in the morning and traditional presentations in the afternoon. In addition, the program also included 34 invited sessions, two tutorial sessions, 20 special sessions, and 43 Late-Breaking News posters. Four plenary sessions started each day: by Kingsley Fregene (Lockhead Martin), Domitilla Del Vecchio (Massachusetts Institute of Technology), Jorge Poveda (University of California- San Diego), and Francesco Borelli (University of California- Berkeley), and video recordings are available: ieeecss.org/presentations

Workshops: Twelve workshops were held on July 8-9 prior to the main conference on July 10-12. All workshops were fully in person and included both half-day and full-day workshops.

Awards: Four individual awards were presented at the Awards Ceremony, plus two Hugo Schuck Best Paper Awards and the Student Best Paper Award. Naomi Leonard of Princeton University delivered remarks as the Bellman Heritage Award Winner.

Social Events: The conference featured many opportunities to network and to reconnect with old friends, with plenty of good food and drink.

The Thursday evening banquet at the Royal Ontario Museum was a highlight of the week.

Acknowledgements: The organizers and operating committee appreciate the contributions of our sponsors and exhibitors, the student advisory committee, the student volunteers, and all of the conference participants for an engaging and enjoyable conference experience.

Next Conference in the Series: The 2025 American Control Conference will be held in Denver Colorado from 7-10 July: https://acc2025.a2c2.org/

Submitted by: Martha Grover (US), ACC 2024 NOC Chair

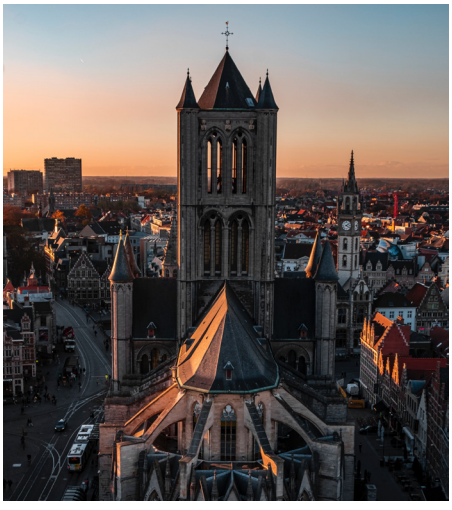
4th IFAC Workshop on Internet-based Control Education (IBCE 2024)

18- 20 September 2024

Ghent, BE

The 4th IFAC Workshop on Internet based Control Education (IBCE 2024) took place in Ghent, Belgium from 18- 20 September 2024. The single-track event hosted 29 papers from 14 countries, two plenary talks and keynote talks given by experts from both the academia and the industry. The workshop featured keynote speakers from the clinical field who shared the needs and challenges they encounter in practice from the perspective of control engineering and education. Additionally, speakers from the pharmaceutical industry and textile manufacturing were present, discussing the current problems and challenges in their sectors and how control engineering and education can contribute to addressing these issues.

The event provided new insight and research directions for TC 9.4 to address control education in a teaching and professional setting where interconnection (the Internet being a paradigmatic but certainly not the only example) plays a role of steadily increasing importance.



Ghent, BE: Location of the IBCE 2024 Conference

The IBCE 2024 Organizing Committee included:

NOC Chair: Dana Copot, Ghent University, Belgium
NOC Vice Chair Industry: Wouter De Soete, Johnson&Johnson, Belgium
IPC Chair: Alberto Leva, Politecnico Di Milano, Italy
IPC Vice Chair: Elena Zattoni, Bologna University, Italy
IPC Vice Chair Industry: Christoph Portier, CESPE, Belgium
Proceedings Editor: Simona Caramihai, Bucharest University, Romania
Proceedings Co-Editor: Jerome Cieslak, Bordeaux University, France

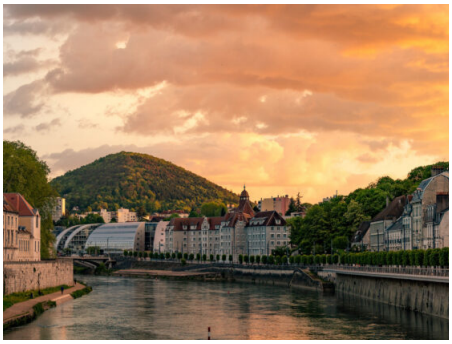
Submitted by: Dana Copot (BE), IBCE NOC Chair

8th IFAC Workshop on Lagrangian and Hamiltonian Methods for Nonlinear Control (LHMNC 2024)

10- 12 June 2024

Besançon, FR

The 8th IFAC Workshop on Lagrangian and Hamiltonian Methods for Nonlinear Control (LHMNC 2024) took place in Besançon, France, from June 10 to June 12, 2024. After Princeton/USA (2000), Seville/Spain (2003), Nagoya/Japan (2006), Bertinoro/Italy (2012), Lyon/France (2015), Valparaíso/Chile (2018), and Berlin/Germany (2021) we were happy to hold this eighth workshop of the series in the historical capital of Bourgogne Franche comté.



LHMNC 2024 took place in Besançon, FR

LHMNC 2024 brought together control experts from different areas to exchange ideas on physical structures as the foundation of versatile design methods, discuss new approaches for modeling, analysis, and control design, and present state-of-the-art results on applications to complex dynamical engineering systems.

The roots and motivation of the LHMNC lie in the fact that advances in technology and progress in digitalization and automation require accounting for diverse nonlinear phenomena in the design of increasingly complex control systems that are connected via digital communication networks and process increasing amounts of acquired data (such as for digital twins or Industry 4.0). Vital challenges to be tackled by the control community include modeling, operation, and control of smart and sustainable systems of energy generation, storage, and distribution. Very efficient and robust approaches for modeling, numerical approximation, order reduction, simulation, and control design are based on Lagrangian and Hamiltonian system formulations. For example, the port-Hamiltonian framework has made significant progresses in methodology and applications to cope with heterogeneous networks of different types, coupled multi-physical and thermodynamic systems. Such energy-based formulations allow combining the powerful design methods of passivity-based control with the specific properties of the differential-geometric structures of Lagrangian and Hamiltonian systems. Recent developments have shown the power of the Hamiltonian and Lagrangian framework for distributed parameter systems, in combination with adapted numerical schemes, with many examples in fluid dynamics, acoustics, fluid-structure interaction, quantum mechanics, and irreversible thermodynamics, but also in the field of system identification and machine learning. Application areas of Lagrangian and Hamiltonian methods in nonlinear control include, among others, robotics, tele-manipulation, multi-carrier power and transportation systems, chemical engineering, biological processes, and smart materials.

The LHMNC 2024 received contributions from 18 countries across 4 continents, and its final program consisted of two parallel sessions with a total of 63 presentations: 57 corresponded to regular or invited papers, 2 to discussion papers, and 4 to plenary presentations. Six invited sessions were organized, gathering 32 papers on the topics of *"Geometric Observers and Geometric Mechanics," "Geometric Mechanics and Control," "Learning-Based Physics-Enhanced Mechanical Systems and Control," "Energy-Based Modeling and Simulation for Audio and Musical Acoustics," "Energy-Based Methods for Modeling and Control of Physical Systems,"* and *"Structure-Preserving Numerical Methods for Port-Hamiltonian Systems."*

The LHMNC 2024 largely succeeded in providing a rich environment for the exchange of novel and disruptive ideas, the friendly and stimulating socialization of students, practitioners, and academics, and the creation and consolidation of research collaborations.

Submitted by: Yann Le Gorrec (FR), LHMNC NOC Chair

IFAC is on social media!

Facebook
facebook.com/IFAC.Automatic.Control/

Instagram
instagram.com/ifac_control/

LinkedIn
linkedin.com/company/international-federation-of-automatic-control/

X
x.com/IFAC_Control

YouTube
www.youtube.com/@ifacyoutube3132

Control Conference Africa (CCA) 2024
16-17 September 2024
Balaclava, MU

The 3rd Control Conference Africa (CCA 2024) took place from 16 - 17 September 2024 in Balaclava, Mauritus, at the spectacular Ravenala Attitude Hotel. Over and above the magnificent location, the event brought together control researchers and practitioners with the aim of promoting the exchange of ideas and developments in control engineering in Africa.

The event included five high-quality plenary sessions from various focus areas within process control, with the control of complex dynamic systems (including water and energy distribution) being one emergent theme, as presented by Marija Ilic (MIT- US), Edo Abraham (TU Delft- NL), and Lars Grüne (University of Bayreuth-DE), across their three respective plenary sessions. One plenary session by Martin Guay (Queen's University, CA) focused on extremum seeking control, and another, presented by Gideon Botes (Sasol), focused on the effective implementation of data science technologies in the chemical industry. There was also a special session about "*Female Historical Influencers in Automatic Control*", presented by Charlotta Johnsson and Eva Westin from Lund University (SE), which was well-received and used a springboard to launch future initiatives within the wider D&I theme.

CCA 2024 group photo

Two workshops were hosted after completion of the main conference. The first was themed around Robotics for InterAction Technology and presented by Giovanni Berselli (University of Genoa), Antonio Bicchi (University of Pisa) Cristina Piazza (Technical University of Munich), and Bruno Siciliano (University of Naples Federico II). The second workshop was presented by Callen Fisher and the theme was Applied Machine Vision for Robotic Applications.

The organizing committee included Laurentz Olivier from Analyte as NOC chair, Sayed Hassen from the University of Mauritius as vice-chair, and Kevin Brooks from APC Smart as vice-chair from industry. The IPC included Denis Dochain as chair, Derik le Roux from the University of Pretoria as vice-chair, and Lidia Auret from Stone Three as vice-chair from industry.

In summary, the conference was well received by attendees, and provided a great mix of control themes presented by researchers, practitioners, and plenary speakers. The social functions also provided the stimulating atmosphere to exchange ideas and make new acquaintances. We hope that this conference has contributed to its goal of furthering control research in Africa.

Submitted by: Laurentz Olivier (ZA), CCA 2024 NOC Chair

17th IFAC Symposium on Control of Transportation System (CTS 2024)
1-3 July 2024
Ayia Napa, CY

The 17th IFAC Symposium on Control of Transportation Systems (CTS 2024) took place from 1-3 July 2024, in Ayia Napa Cyprus. It consisted of 2 plenary speakers and 2 parallel sessions which took place July 1 and 2. The third day (July 3) was devoted to networking and a bus day tour. The word symposium is a Greek word and has its origin in Ancient Greece. It means social gathering where people can socialize and talk about specific topics while drinking and eating as in Plato's Symposium. Due to its size of about 55-60 participants had the true flavour of a symposium as it gave the opportunity to the participants to get to know each other, networking and eating together while presenting and discussing a variety of topics that included: Electric Vehicles and energy control; Connected and automated vehicles; Modelling, control and optimization of transportation systems; Highway systems and freight transportation; Air, marine and rail transportation.

The plenary talk by Andreas Malikopoulos was about a mobility equity metric for socially optimal emerging mobility systems dealing with mobility and accessibility and equity and how to quantify these attributes. The plenary talk by Jack Haddad was about the control of advanced air mobility systems which involved the control of low altitude passenger and delivery aircraft into the urban airspace. The participants were together for lunch in a nice setting outside the conference rooms which gave the chance to people to continue discussions and network. On the evening of July 2 the symposium has its banquet in a nice outdoors setting with plenty of local food, music and entertainment.

During the banquet the Young Author Awards were presented as follows:

The first-place award went to Niloufar Dabestani for her paper *Joint Vehicle Path Planning for Interruptible 1-D Snake-like Platoons and 2-D Flocks in Lane-free Traffic by* Niloufar Dabestani, Panagiotis Typaldos, Ioannis Papamichail and Markos Papageorgiou.

The award committee decided to give two awards for the second place: one to Mattia Piazza for his paper *'MPTREE: A Sampling-based Vehicle Motion Planner for Real-time Obstacle Avoidance'* by Mattia Piazza, Mattia Piccinini, Sebastiano Taddei and Francesco Biral and one to Mattia Piccinini for his paper *'Impacts of g-g-v Constraints Formulations on Online Minimum-Time Vehicle Trajectory Planning'* by Mattia Piccinini, Sebastiano Taddei, Mattia Piazza and Francesco Biral.

The third-place paper award was given to Heeseung Bang for the paper *'A Mobility Equity Metric for Multi-Modal Intelligent Transportation Systems'*, by Heeseung Bang, Aditya Dave, Filippos N. Tzortzoglou, and Andreas A. Malikopoulos.

On July 3 the participants were offered a bus tour to the archaeological site of Kourion with its magnificent Greco-Roman ancient theatre overlooking the Mediterranean Sea, the birthplace of Aphrodite, the Goddess of Love in ancient Greece, which also included a visit to the ancient mosaics of Pafos which are considered among the finest in the world and serve as a stunning record of Greco-Roman daily life. Given the size of the participants they all fit in one bus which enhanced networking and further discussions.

While CTS 2024 did not attract a large crowd of participants due to several conferences in the region which offered sessions on transportation topics its smaller size offered unique opportunities to participants that cannot be found in large conferences and a taste of a true symposium where everyone got to know each other with longer presentation times and adequate time for discussions.

The Organizing Committee would like to thank all the authors and participants for their excellent presentations, lively discussions and active involvement.

Many thanks also go the IFAC PoL Editor in ChiefJ osé-Luis Díez who allowed a one-time exception for publishing papers that exceed 6 pages due to a 2022 change in policy that limits the number to 6 or less pages. Pradeep Misra was very helpful concerning Papercept issues.

More details can be found in ifaccts2024.wixsite.com/ifac-cts2024

Submitted by Petros Ioannou (US), CTS 2024 General Chair

The IFAC Council and Related Meetings 2025 are scheduled to take place from 16-19 July 2025 in Paris, FR!

The meetings are being held in conjunction with Mechatronics and Robotics Symposia.
ifac2025-msrob.com/

Reminder: IFAC Fellows and Major Awards 2023-2026

The calls for both the IFAC Fellows and Major were published in the October 2024 issue of this Newsletter and are also available on the IFAC website.

ifac-control.org/newsletter_archive/IFAC_Newsletter_2024_5_October.pdf
(please see pages 1- 3)

The calls as well as the links to forms in the IFAC Cloud and Papercept are available here: ifac-control.org/awards/award-nominations-2024

IFAC Major Awards Nominations

IFAC NMOs and IFAC Technical Committee Chairs as well as other individuals are invited to nominate a candidate (candidates) for one or more of the IFAC Major Awards: Giorgio Quazza Medal, Nathaniel B. Nichols Medal, Manfred Thoma Medal, Industrial Achievement Award and High Impact Paper Award.

Nominations should be submitted through PaperCept until February 15, 2025.

IFAC Fellows Nominations

IFAC is seeking nominations for 2023-2026 IFAC Fellows. The IFAC Fellow award provides a distinction of excellence in the Federation and is conferred on a small number of outstanding scientists or engineers by the IFAC Council, based on the proposal of the Fellow Selection Committee. With the appointment as an IFAC Fellow, IFAC honors outstanding contributions with a high impact in the fields of interest of IFAC in the role as a Scientist, Engineer, Technical Leader or Educator. These contributions may be technical publications, patents, control solutions, products, software, and leadership in research, development and education.
Any IFAC affiliate being a control scientist or engineer can be nominated for the title of an IFAC Fellow, with the exception of current members of the IFAC Council, Fellow Search Committee and Fellow Selection Committee. Past involvement in IFAC activities, publications and events is desirable and an asset but not absolutely mandatory.

For a list of IFAC Fellows elected so far, please go to the IFAC website at:
ifac-control.org/awards/ifac-fellows

IFAC Fellow candidates must be proposed by a separate Nominator and receive from 3 to 5 reference forms from Referees.

Important deadlines:

IFAC Major Awards
Nominations: 15 February 2025
References: 15 March 2025

IFAC Fellows
Nominations: 1 February 2025
References: 1 March 2025

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

IFAC Affiliates Statistics

As of 26 November 2024, the IFAC database contains 8087 affiliates. 43% of these (3510) have registered in the new IFAC Portal and thereby provide useful data about IFAC volunteers around the globe:

-59% of registered affiliates (2083 out of the 3510) have fields of interest within CC2 on Design Methods,
-54% are interested in CC1 on Systems and Signals,
-38% are with CC7 on Transportation and Vehicle Systems,
-35% are with CC4 on Mechatronics, Robotics and Components,
-29% are with CC6 on Process and Power Systems,
-27% are with CC5 on Cyber-Physical Manufacturing Enterprises,
-25% are with CC9 on Social Systems,
-23% are with CC3 on Computers, Cognition and Communication,
-21% are with CC8 on Bio- and Ecological Systems.

The TCs attracting the largest number of people are: TC2.3 (1236), TC2.1 (1212), TC2.4 (1175), TC1.1 (1055), TC2.2 (1051). The next TCs in the range from 700 to 1000 affiliates are TC2.5 (964), TC1.2 (892), TC4.3 (861), TC7.5 (746). Follows a group of TCs with approximately 600 affiliates: TC4.1 (648), TC9.4 (633), TC1.5 (612), TC7.1 (588), TC6.3 (549). The next TCS scale quite uniformly around 350 to 500 affiliates: TC7.3 (505), TC3.2 (492), TC5.2 (473), TC5.4 (468), TC1.3 (463), TC3.1 (449), TC1.4 (426), TC7.4 (421), TC5.1 (396), TC4.2 (392), TC2.6 (385), TC6.1 (380), TC6.4 (356), TC8.2 (349). The remaining ones are TC8.3 (301), TC8.1 (283), TC9.2 (278), TC7.2 (264), TC9.3 (252), TC8.4 (217), TC9.1 (215), TC3.3 (203), TC6.2 (161)

Readers of this Newsletter are kindly requested to keep their contact details updated with IFAC. Please do so by updating your data in the new affiliates portal (even if you are a long-time IFAC affiliate!:
www.ifac-control.org/about/affiliate-registration

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

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

Der 'IFAC Newsletter' erscheint sechsmal jährlich in englischer Sprache unter der Redaktion des Generalsekretärs der IFAC, Dr. Dimitri Peaucelle (Frankreich). Die Zeitschrift dient der Information über die Aktivitäten der IFAC. Sie wird kostenlos an Abonnenten in 50+ Länder versandt. Die Kosten werden von der IFAC aus Beiträgen der derzeit 45 Mitgliedsländer getragen.

Präsident der IFAC für 2023-2026 ist Prof. Dongil "Dan" Cho (KR), Vizepräsidenten sind Prof. Dr. Silvia Mastellone (CH), Prof. Dr.-Ing. Carlos Eduardo Pereira (BR), Dr. Dimitri Peaucelle (FR), Prof. Richard Braatz (US), und Prof. Sarah K. Spurgeon (UK). Alle Funktionen werden ehrenamtlich ausgeübt.

The IFAC Calendar of Conferences is constantly updated as addditional technical events (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:
www.ifac-control.org/conferences/@@conference_view

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

Calendar of IFAC Conferences

Title	2025	Place	Further Information
8th Conference on Australian and New Zealand Control Conference (in cooperation with IFAC) ANZCC 2025	January 30 – 31	Gold Coast City Australia	anzcc.org.au/ANZCC2025/ l.vlacic@griffith.edu.au
IEEE, IFAC International Conference on Control, Automation, and Instrumentation IC2AI 2025	February 11 – 13	Beirut Lebanon	Ireee.org/ic2ai/
11th Vienna International Conference on Mathematical Modelling MATHMOD 2025	February 19 – 21	Vienna Austria	mathmod.at/ mathmod@acin.tuwien.ac.at
12th IFAC Symposium on Intelligent Autonomous Vehicles IAV 2025	May 08 – 10	Phoenix, AZ USA	events.engineering.asu.edu/iav-2025/
1st IFAC Workshop on Engineering Diabetes Technology EDT 2025	May 08 – 09	Valencia Spain	conferences.ifac-control.org/edt2025/ edt25@upv.es
10th IFAC Conference on Networked Systems NECSYS 2025	June 02 – 06	Hong Kong Hong Kong (CN)	
14th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems DYCOPS 2025	June 16 – 19	Bratislava Slovakia	www.dycops2025.org/ miroslav.fikar@stuba.sk
11th IFAC Symposium on Advances in Automotive Control AAC 2025	June 16 – 18	Eindhoven Netherlands	aac2025.tue.nl/
14th IFAC Symposium Advances in Control Education ACE 2025	June 17 – 21	Budapest Hungary	conf.uni-obuda.hu/ifac_ace_2025/ ifacace2025@uni-obuda.hu
5th IFAC Workshop on Control of Systems Governed by Partial Differential Equations CPDE 2025	June 18 – 20	Beijing China	cpde2025.bjut.edu.cn/index.html#/home jyzhan@bjut.edu.cn
IFAC Workshop on Smart Energy Systems for efficient and sustainable smart grids and smart cities SENSYS 2025	June 18 – 20	Bari Italy	conferences.ifac-control.org/sensys2025/
EUCA/IFAC Conference on European Control Conference (in cooperation with IFAC) ECC 2025	June 24 – 27	Thessaloniki Greece	ecc25.euca-ecc.org/ ecc2025@symvoli.gr
2nd IFAC Workshop on Control of Complex Systems COSY 2025	June/July 30 – 02	Gif-sur-Yvette France	sssc-tds-cosy-2025.sciencesconf.org/ sssc-tds-cosy-2025@sciencesconf.org
9th IFAC Symposium on System Structure and Control SSSC 2025	June/July 30 – 02	Gif-sur-Yvette France	sssc-tds-cosy-2025.sciencesconf.org/ sssc-tds-cosy-2025@sciencesconf.org
19th IFAC Workshop on Time Delay Systems TDS 2025	June/July 30 – 02	Gif-sur-Yvette France	sssc-tds-cosy-2025.sciencesconf.org/ sssc-tds-cosy-2025@sciencesconf.org
11th IFAC Conference on Manufacturing Modelling, Management and Control MIM 2025	June/July 30 – 03	Trondheim Norway	conferences.ifac-control.org/mim2025/ mim2025@mtp.ntnu.no
9th International Conference on Control, Automation and Diagnosis ICCAD 2025	July 01 – 03	Barcelona Spain	iccad-conf.com/ contact@iccad-conf.com
11th IFAC Symposium on Robust Control Design ROCOND 2025	July 02 – 04	Porto Portugal	conferences.ifac-control.org/rocond2025/ rocond2025@ifac-mail.org

Calendar of IFAC Conferences

6th IFAC Workshop on Linear Parameter Varying Systems LPVS 2025	July 02 – 04	Porto Portugal	conferences.ifac-control.org/lpvs2025/
15th IFAC Workshop on Adaptive and Learning Control Systems ALCOS 2025	July 02 – 04	Mexico City Mexico	alcos2025.itam.mx alcos2025@itam.mx
5th IFAC Workshop on Thermodynamics Foundations of Mathematical Systems Theory TFMST 2025	July 13 – 16	Hangzhou China	
14th IFAC Symposium on Robotics ROBOTICS 2025	July 15 – 18	Paris France	ifac2025-msrob.com
10th IFAC Symposium on Mechatronic Systems MECHATRONICS 2025	July 15 – 18	Paris France	ifac2025-msrob.com
13th IFAC Symposium on Nonlinear Control Systems NOLCOS 2025	July 23 – 25	Reykjavik Iceland	conferences.ifac-control.org/nolcos2025/
23rd IFAC Symposium on Automatic Control in Aerospace ACA 2025	August 02 – 06	Harbin China	
8th IFAC Conference on Sensing, Control and Automation Technologies for Agriculture AGRICONTROL 2025	August 27 – 29	Davis, CA USA	
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
66th International Conference of Scandinavian Simulation Society SIMS 2025	September 23 – 24	Stavanger Norway	nfea.no/arrangementer/sims-2025/ damiano.rotondo@uis.no

More conference info is available at: ifac-control.org/conferences/@@conference_view

THE IFAC SECRETARIAT TEAM EXTENDS SEASON'S GREETINGS AND BEST WISHES FOR 2025!

PLEASE NOTE THAT THE IFAC SECRETARIAT IN LAXENBURG, AUSTRIA WILL BE CLOSED OVER THE WINTER HOLIDAYS FROM 23 DECEMBER 2024- 6 JANUARY 2025.

DIMITRI PEAUCELLE (IFAC SECRETARY), HARALD ALBRECHT, ELSKE HABERL, & KATHARINA WILLIXHOFER (IFAC SECRETARIAT STAFF)