

Who's Who in IFAC: IFAC Council

The IFAC Council is responsible to the General Assembly (comprised of the IFAC National Member Organizations) for the management of the Federation. It receives its mandate from the General Assembly and reports to it on the state of the Federation not less frequently than at each Triennial Congress.

Subject only to the directions of the General Assembly, the Council will formulate the policies of the Federation, in relation to the world community of control engineers, the National Member Organizations, intergovernmental and other non-governmental international professional organizations. It shall develop the long-term plans of the Federation for approval by the General Assembly and shall instruct the various boards and committees of IFAC accordingly.

The Council shall direct and supervise the functioning of the Federation, including both the technical and the executive activities. It will delegate particular functions to the appropriate boards and committees and will from time to time receive activity reports from those boards and committees.

The IFAC Council meets in person once a year, at the annual Council and Related Meetings. This year they are scheduled to take place in Florianopolis, BR in September 2018.

For the 2017-2020 triennium there are four women (a record high in IFAC) serving as ordinary members of the IFAC Council (out of a total of twelve ordinary members). From time to time this Newsletter introduces readers to members of the IFAC Council, as well as other IFAC officials. The full list of IFAC Council members, as well as their contact details, can be found at:

<https://www.ifac-control.org/structure/council>

Kristin Y. Pettersen

Kristin Y. Pettersen is a professor in the Department of Engineering Cybernetics, NTNU (Trondheim, NO) where she has been a faculty member since 1996. She was Head of Department 2011-2013, Vice-Head of Department 2009-2011, and Director of the NTNU ICT Programme of Robotics 2010-2013. She is Adjunct Professor at the Norwegian Defence Research Establishment (FFI). In the period 2013 – 2022 she is also Key Scientist at the CoE Centre for Autonomous Marine Operations and Systems (AMOS). She is co-founder of the NTNU spin-off company Eelume AS, where she was CEO from 2015-2016.

K. Pettersen received the MSc and PhD degrees in Engineering Cybernetics at NTNU, Trondheim, Norway, in 1992 and 1996, respectively. She has published more than 200 papers for scientific conferences and journals, and her research interests focus on nonlinear control of mechanical systems with applications to robotics, with a special emphasis on marine robotics and snake robotics. In 2006, she and her co-authors were awarded the IEEE Transactions on Control Systems Technology Outstanding Paper Award for: *Global Uniform Asymptotic Stabilization of an Underactuated Surface Vessel: Experimental Results* (K.Y. Pettersen, F. Mazenc and H. Nijmeijer).



K. Pettersen is an ordinary member of the IFAC Council for the 2017-2020 triennium. She was a member of the Board of Governors of IEEE Control Systems Society from 2012-2014. She has also held several board positions in industrial and research companies. She is an IEEE Fellow, and a member of the Norwegian Academy of Technological Sciences.

Luis Bergh

Luis Bergh (CL) received the B.Chem.Eng. from Santa Maria University, Chile, in 1976, the M.Eng. degree from McMaster University, Canada, in 1983, and the Ph.D. degree from McMaster University, Canada, in 1987, all in process control in chemical engineering. From 1975 to 1976 he was a process engineer with the Mining National Company, in Chile. From 1977 to 1981 he was an Assistant Professor, from 1985 to 1999 he was an Associated Professor, and since 1999 he has been Professor of Chemical Engineering at Santa Maria University, Chile. He received several awards, among them the Santa Maria undergraduate scholarship, the José Miguel Carrera award for best 1976 chemical engineer, the Santa Maria graduate scholarship and the McMaster graduate scholarship.

L. Bergh's research interests include instrumentation, modeling and control in mineral processing,

No.2

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IN THIS ISSUE:

Who's Who in IFAC: IFAC Council

CCA 2017 (Johannesburg, ZA)

ASCC 2017 (Gold Coast, AU)

MATHMOD 2017 (Vienna, AT)

2018 IFAC Informal Officers' Meeting & President's Dinner

NAHS: Journal Paper Prize Award

IFAC President's Column

Forthcoming Events

The IFAC Journals

Automatica

<http://www.journals.elsevier.com/automatica>

Control Engineering Practice

<http://www.journals.elsevier.com/control-engineering-practice>

Engineering Applications of Artificial Intelligence

<http://www.journals.elsevier.com/engineering-applications-of-artificial-intelligence>

Journal of Process Control

<http://www.journals.elsevier.com/journal-of-process-control>

Annual Reviews in Control

<http://www.journals.elsevier.com/annual-reviews-in-control>

Journal on Mechatronics

<http://www.journals.elsevier.com/mechatronics>

Nonlinear Analysis: Hybrid Systems

<http://www.journals.elsevier.com/nonlinear-analysis-hybrid-systems>

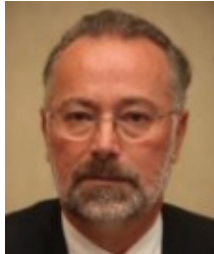
IFAC Journal of Systems & Control

<http://www.journals.elsevier.com/ifac-journal-of-systems-and-control>

IFAC-PapersOnLine

<http://www.journals.elsevier.com/ifac-papersonline>

and in particular associated to flotation processes. He also has worked in artificial intelligence methods for soft sensor developments, monitoring and diagnosis of the process operation based on multivariate statistics and the development of expert and fuzzy systems for wide-plant control.



L. Bergh has spent six sabbatical years working as a process control consultant in industry. Some of them are: the National Petroleum Refinery, Chuquicamata, El Teniente and Andina Divisions from Codelco-Chile, Carmen de Andacollo from Teck-Canada, Los Pelambres from Antofagasta Minerals, Doña Inés de Colahuasi, Los Bronces, Chagres and El Soldado Divisions from Anglo American Chile, and Xstrata.

L. Bergh is the author of more than 100 technical papers. He is associated editor of the Journal of Process Control, IFAC PapersOnLine and Automining. He served as IFAC TC 6.2 vice chair from 2008 to 2011, as IFAC TC 6.2 chair from 2011 to 2014, as IFAC CC6 chair, member of the Technical Board and the Industrial Committee from 2014 to 2017. Luis Bergh (CL) is serving as an Ordinary Member of the IFAC Council for the 2017-2020 triennium.

Control Conference Africa (CCA 2017) 7-8 December 2017 Johannesburg, ZA

The first Control Conference Africa (CCA 2017), co-sponsored by IFAC, was held on the 7th and 8th of December 2017 at Liliesleaf Farm, Johannesburg, South Africa.

Bringing all different directions of control together, CCA 2017's main sponsor was the IFAC Technical Committee on Control Education (9.4) with IFAC Technical Committees on Optimal Control (2.4), Telematics (3.3), Chemical Process Control (6.1) and Automotive Control (7.1) being the co-sponsors.

Former IFAC President Ian Craig (2011-2014, South Africa) served as the IPC chair and IFAC technical board member Bozena Pasik-Duncan (US) the co-chair. Otis Nyandoro (South Africa) was the NOC chair and Samuel John (Namibia) the NOC co-chair. The event was supported by a strong South African team made up of Kevin Brooks as industrial chair, Derik le Roux, Robyn Verrinder and Margret Bauer as General Chair.

The event brought together more than 80 control engineering practitioners from African countries as well as Europe, Asia and the US.

African participants came from South Africa, Nigeria, Botswana, Namibia, Mauritius, Zambia, Algeria, Kenya and Burkina Faso highlighting the presence of control engineering experts on the continent.

Six invited keynote speakers gave a broad reflection of the different areas of control in the packed auditorium at Liliesleaf:

- Tianyou Chai (Northeastern University, China) spoke on 'Smart optimization control systems for energy-intensive equipment' and gave an interesting insight into the Chinese automation community.
- Thokozani Majosi (University of the Witwatersrand, South Africa) presented 'A hunt in the Forest: Optimization and the Quest for the Global Optimum', detailing his extensive research on the optimization of batch processes over the decades.
- Bozena Pasik-Duncan (University of Kansas, US) reflected on *Stochastic Adaptive Control* and the impact the discipline has on many aspects of life from medical to telecommunications and finance.
- Babatunde Ogunnaike (University of Delaware, US) gave an overview of *Systems Biology of Diseases and the Design of Effective Treatment*, motivating the audience reflect carefully before designing experiments in the biomedical and other fields.
- Guanrong Chen (City University of Hong Kong, CN) presented new results on *Pinning Control and Controllability of Complex Dynamical Networks*.
- David Limebeer (Oxford University, UK) in the last talk captured the audience with his talk on *Control Problems in Formula 1 Cars* and ensured that the auditorium was packed at the end of the conference and for the following closing reception.

In total, 48 regular papers and 13 posters were presented in 12 sessions.

SACAC, the South African NMO of IFAC organised two full day workshops prior to CCA2017. These were hugely successful and attended by more than 30 participants each, mostly from industry. The first workshop on 5 December was entitled 'The A-Z of APC' and was organized by CCA industrial chair Kevin Brooks (ZA) and NOC member Derik le Roux (ZA). Talks were presented by seven local and international speakers. On 6 December, Sirish Shah (University of Alberta, Canada), Babatunde Ogunnaike (University of Delaware, US), Lidia Auret (Stellenbosch University, South Africa) and Margret Bauer (University of the Witwatersrand, South Africa) presented on Process Data Analytics and the Design of Experiments.

A women's lunch was organised by Bozena Pasik-Duncan to provide networking opportunities. Sharing experiences in the workplace was incredibly valuable to the participants. A social networking platform was established as a result of this meeting. Prof. Pasik-Duncan as a senior professional provided useful ca-

reer advice and encouraged every participant to join professional bodies such as IFAC and IEEE.



Participants at the women's lunch at the CCA. Third from right General Chair Margret Bauer (ZA), and second from right IPC chair Bozena Pasik-Duncan (US) pictured with participants from South Africa, Zambia and Botswana.

Prizes awarded at CCA 2017 were as follows:

Best Industrial Contribution: *Flotation Velocity and Grade Control Using Cascaded Model Predictive Controllers*, Ms Wakunoli Munalula (Zambia)

Best Presentation: *Numerical model of laser spallation drilling of inhomogeneous rock*, Ms Rehema Ndeda (Botswana)

Best Poster: *Scheduling of a grid-tied photovoltaic system considering HESS and PHEV*, Mr Sedigheh Taghizadeh (South Africa)

After the resounding success of the first CCA, the organisers were asked to and intend to repeat the event in three years time to establish a networking platform on the African continent.

Submitted by Derik le Roux,
General Chair Team Member (ZA)

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Asian Control Conference (ASCC 2017) 17-20 December 2017 City of Gold Coast, AU

The 2017 Asian Control Conference (ASCC 2017) was held from 17-20 December 2017 in the City of Gold Coast, Australia.

The ASCC conference series is organised by the Asian Control Association and it has been recognised as a premier scientific event of the Asia-Pacific region aimed at advancing control systems theory and practice. It is a home to control systems scientists, researchers, students and practitioners in exchanging their ideas and recent results.

The inaugural conference of the ASCC series was hosted by Tokyo Metropolitan Institute of Technology in 1994 and then followed by conferences in Seoul (1997), Shanghai (2000), Singapore (2002), Melbourne (2004), Bali (2006), Hong Kong (2009), Kaohsiung (2011) Istanbul (2013) and Kota Kinabalu (2015).

The ASCC 2017 featured three plenary sessions, four semi-plenary sessions, forty seven contributed and invited paper sessions and was preceded by four workshop sessions.

Plenary speakers were:

Robert Reiner (CH), *Rehabilitation Robots That Cooperate and Motivate*

PDE Control: Miroslav Krstic (US), *Designs and Applications*

Robert Mahony (AU) *A Symmetric Perspective on Simultaneous Localisation and Mapping*

The ASCC 2017 Proceedings has already been published in IEEE Xplore (on 8 February 2018). Broad in its scope, the ASCC 2017 Program addressed a spectrum of theoretical topics and a range of applications from industrial automation, robotics and mechatronics to process industries, manufacturing, transport, biology, medical and financial systems, cyber security, communication, education and social impact studies, etc.

The ASCC 2017 presented several awards:

Shimemura Young Author Prize: *Output Synchronization of Heterogeneous Linear Multi-Agent Systems*, Maobin Lu, Lu Liu and Gang Feng (CN).

Best Paper Award: *Adaptive Dynamic Programming and optimal stabilization for linear systems with time-varying uncertainty*, Meng Zhang, Ming-Gang Gan, Jie Chen, Zhong-Ping Jiang (CN/US).

Best Application Paper Award: *Autonomous landing of an UAV on a moving platform using Model Predictive Control*, Jose A. Maces-Hernandez, Francois Defay and Corentin Chauffaut (FR).

Best Poster Paper Award: *Transition rule of differentially controllable subspace for linear periodic systems*, Ichiro Jikuya (JP).

The ASCC 2017 was held in partnership with IFAC and also enjoyed technical co-sponsorship provided by IEEE-CSS, IEEE-RAS, ICROS and CAC.

According to numerous testimonials received, ASCC 2017 was very successful and rewarding experience. A number of the conference participants claimed that their time at the Gold Coast, a celebrated destination in one of Australia's most spectacular natural surroundings, was both enjoyable and memorable.

A rich social program was offered to ASCC participants and included: The welcome reception/conference dinner at the Australian Outback, a spectacular farewell reception and the networking & award function

The ASCC is a conference series comprised of biannual events. The ASCC 2019 will be held in Kitakyushu, Fukuoka, Japan from 9-12 June 2019

Submitted by Ljubo Vlacic (AU),
2017 ASCC General Chair

MATHMOD 2018 21-23 February 2018 Vienna, AT

The 9th Vienna International Conference on Mathematical Modelling (MATHMOD 2018) took place from February 21 to 23, 2018 in Vienna, Austria. The conference was sponsored by and held at TU Wien/ Vienna Technical University (AT) and co-sponsored by IFAC.

The conference included three types of submission: full contributions, discussion contributions and student contributions. A total number of 295 papers from 32 countries were submitted to the conference. The review process was organized by the members of the international program committee, chaired by Prof. Andreas Kugi (AT) and co-chaired by Prof. Felix Breitenacker (AT). Finally, 218 contributions were accepted after the review process and presented in regular, minisymposium and poster sessions, where the 14 minisymposia organized by the 26 minisymposium organizers accounted for more than a half of the papers.

The conference featured four very successful plenary talks on current topics in mathematical modelling. Professor Stefan Nickel (Karlsruhe Institute of Technology, Germany) discussed the need and the advantages gained from the usage of mathematical modelling in modern logistics in "The Day After Optimal: Mathematical Modelling for Modern Logistics." In "Big Network Data" Professor Sofia Olhede (University College London, UK) gave insight into the fascinating world of big network data and their mathematical analysis. The plenary talk of professor Mahdi Tavakoli (University of Alberta, Canada) "Needle-Tissue Interaction Modeling in Needle-Based Medical Interventions" was devoted to the mathematical modeling and the usage of these models for the active steering of needles utilized in medical applications. Professor Günter Blöschl (Vienna University of Technology, Austria) discussed the problems and challenges in modelling of hydrological environmental systems, in particular for the usage in flood prediction in Framing, Identification and Simulation of 'Messy' Hydrological Systems.

Prior to the conference, 12 tutorials were held on February 20 which could be attended free of charge and were particularly intended for master's and PhD students. The tutorials included workshops by Mathworks, MapleSoft and Modelica/Dymola (LTX), and presented state-of-the-art methods and tools for the mathematical modelling (physics-based modelling) of dynamical systems.

Submitted by: Andreas Körner, NOC Chair, TU Wien (AT); Wolfgang Kemmetmüller, NOC Co-Chair, TU Wien (AT); Andreas Kugi, IPC Chair, TU Wien (AT); Felix Breitenacker, IPC Co-Chair, TU Wien (AT); Inge Troch, Editor, TU Wien;



Best Poster Prize Winners (4. 5. and 6. from left) with the MATHMOD organizing team.

IFAC Email Aliases are available! Sign up with the address with which you are registered with IFAC at:

<https://hera.ifac-control.org/ifacmail/>

If you need any assistance to complete the process please contact the Secretariat.

Reminder: Council- and Related Meetings 1-3 September 2018 Florianopolis, Brazil

The next Council- and Related Meetings will take place in Florianopolis, Brazil, September 1-3 2018, in conjunction with ROCOND (9th IFAC Symposium on Robust Control Design) and LPVS (2nd IFAC Workshop on Linear Parameter Varying Systems).

The Technical Board meeting is scheduled on Saturday, September 1 from 09:00-13:00, the Executive Board meeting will be held on Sunday, Sept. 2 from 14:30-17:30. The Council meeting is scheduled on Monday, Sept. 3 from 09:00-16:00. In the afternoon there will be the first round of the IFAC 2026 bid presentations.

Please check the travel and visa requirements for your country accordingly.

<http://rocond18.ufsc.br/>

Venue, Travel, and Visa information:

<http://lpvs18.ufsc.br/Travel.html>

Reminder:

The Reply form for the 2018 IFAC Council and Related Meetings is available at:

<https://www.ifac-control.org/AdminMeetingForm>

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

<https://www.ifac-control.org/about/ifac-affiliate-registration>

Check out IFAC's YouTube channel for new and historical IFAC video materials!

<https://www.ifac-control.org/>

IFAC Informal Officer's Meeting & President's Dinner 19-21 April 2018 Vienna, Austria

The 2018 IFAC Informal Officers' Meeting took place in Austria (Vienna and Laxenburg) from 19-21 April 2018. As in the past this annual event allows IFAC to reaffirm its ties to Austria, where the IFAC Secretariat has been located since 1978 and receives an association support subsidy through the Austrian Federal Ministry for Transport, Innovation, and Technology (BM-VIT), which is noted (in German) in the 'Impressum' of every issue of this Newsletter.

19 April began with a meeting of the IFAC Foundation Board of Trustees. The IFAC Foundation (which is a separate entity from the IFAC Federation) solicits and funds innovative control engineering activities which promise to improve the state of knowledge of individuals and groups. Further information about the IFAC Foundation can be found at:

<https://foundation.ifac-control.org/>

In the afternoon of 19 April the technical lecture was presented by Technical Board Vice-Chair Carlos Eduardo Pereira (BR) at Haus der Ingenieure in Vienna. Entitled 'Research on Cyber-Physical Systems for Automation Applications', it was followed by a short Q&A session moderated by Kurt Schlacher (AT), who serves as IFAC Secretary and Editor-in-Chief of this Newsletter.



Carlos Eduardo Pereira (BR),
Technical Board Vice-chair

Technical lecture abstract:

Advances in Information and Communication Technologies (ICT), embedded hardware and software, Artificial Intelligence/ Machine Learning, and sensors/actuators have enabled the development of Cyber-Physical Systems (CPS), which are co-engineered interacting networks of physical and computational components. These systems are the foundation for Industrial Internet-of-Things (IIoT) and Industry 4.0, where a new and integrated holistic view for the industrial automation area is proposed, not only regarding the production phase, but also applied to the development of smart products and to a closed loop lifecycle management of products and services.

This talk will give an overview on recent research results at the GCAR/UFRGS in Brazil. Research topics include the development of industrial wireless communication networks, the integration of intelligent maintenance systems with spare-part supply chain logistics by using semantic-based concepts such as ontologies, and model-driven engineering methodologies to the development of CPS systems using concepts such as multi-agent systems and aspect-oriented concepts. The proposed approaches have been validated in case studies from the areas of oil & gas automation and computer-assisted living.

nance systems with spare-part supply chain logistics by using semantic-based concepts such as ontologies, and model-driven engineering methodologies to the development of CPS systems using concepts such as multi-agent systems and aspect-oriented concepts. The proposed approaches have been validated in case studies from the areas of oil & gas automation and computer-assisted living.

The President's Dinner took place in the evening of 19 April at the restaurant 'Das Schick' on the top floor of "Hotel am Parkring", located on the famed Ringstrasse in Vienna's central 1st district. This was a gathering of attendees including participants (some accompanied by spouses/partners) from IFIP (International Federation of Information Processing, IFAC's neighbor in Laxenburg), IFAC officers and IFAC Foundation trustees, as well as the IFAC Secretariat staff, members of the Austrian control community and friends of IFAC.



TC 5.3 Enterprise Integration and Networking
Chair Georg Weichhart (AT)

On Friday, 20 April the IFAC officers came to the IFAC Secretariat office for the first day of the working meetings. Final/formal decisions are as a rule generally not undertaken at the annual officers' meeting, as these meetings are used for discussion and planning purposes. This tradition dates back to the IFAC presidency of Prof. Y. Sawaragi (JP, 1978-1981), when international communications were generally slower and more expensive. The annual gathering continues today as it is often effective to be able to discuss IFAC issues in person, rather than over email or trying to arrange a video conference at a time of day mutually possible for all participants scattered over many time zones on several continents. Additionally it is an opportunity for IFAC to acknowledge the Austrian support and the permanent home country of the IFAC Secretariat. The Secretariat is the only permanent professional presence in an organization which is largely run by unpaid volunteers performing roles that change every three years.

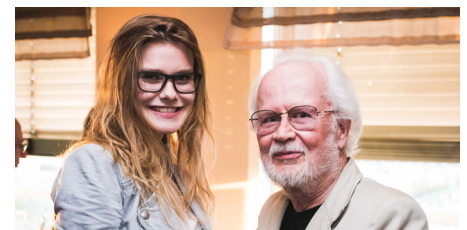
The working meetings continued at the Secretariat on Saturday morning. Topics discussed beyond officers' reports included preparation for the upcoming IFAC Council meeting (Floianopolis, BR, September 2018), the expres-

sions of interest for the 2026 IFAC World Congress, and various quality control issues.



IFAC Advisor Tibor Vamos (HU) with wife Noemi Stenczer. Tibor Vamos served as IFAC President from 1981-1984.

The meetings ended with a lunch at the "3er Haus" restaurant in the nearby town of Gumpoldskirchen. This lunch provided attendees with the opportunity to experience a taste of the landscape and cuisine of the Lower Austrian Wienerwald Thermenregion (Vienna Woods Thermal Region, located south of Vienna in eastern Austria), as well as be able to interact in a relaxed social setting before the departures to various home countries.



Maria Nowacka (PL), granddaughter of the late IFAC President (1966-1969) Pawal Nowacki (PL), attended the lecture and President's Dinner with her uncle, IFAC Advisor and Foundation Expert Steve Kahne (US), who served as IFAC President from 1993-1996.



Technical Board Chair/IFAC Vice-President Dong-II "Dan" Cho (KR) and IFAC Foundation Expert Shinji Hara (JP)



IFAC Treasurer John Lygeros (CH) and Executive Board Chair/IFAC Vice-President Paul Van den Hof (NL)

NAHS Journal: Introducing the NAHS Paper Prize Winners

Being established in 2015, the Nonlinear Analysis: Hybrid Systems Paper Prize is awarded for outstanding contributions to the field of hybrid systems documented in a paper published in the IFAC Journal Nonlinear Analysis: Hybrid Systems. At each IFAC World Congress the prize is awarded to the authors of two selected papers published in the journal in the three years preceding the Congress. The prize funds are provided by the publisher of Nonlinear Analysis: Hybrid Systems Elsevier Ltd. NAHS Journal Paper Prize Award was awarded for the first time at the IFAC World Congress in Toulouse, FR in July 2017. Until 2015 NAHS was an IFAC affiliated journal, and was added to the portfolio of journals and IFAC Awards upon the cessation of the affiliated journals program. There were two winning papers for the 2014-2017 triennium:

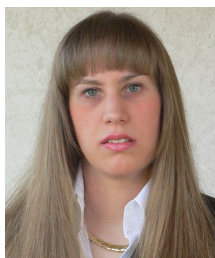
F. BLANCHINI, D. CASEGRANDE, G. GIORDANO, U. VIARO: *A switched system approach to dynamic race modelling*. (IT)

J. LIU and N. OZAY: *Finite abstractions with robustness margins for temporal logic-based control synthesis*. (CA/US)

Here IFAC Newsletter readers have the opportunity to learn more about the first authors from the winning NAHS Paper Prize Award papers. The full list of Journal Paper Prize Winners from all of the IFAC Journal Prize Awards is available at:

<https://www.ifac-control.org/awards/journal-awards>

Giulia Giordano received her B.Sc. and M.Sc. degrees summa cum laude in Electrical Engineering and her Ph.D. degree with a focus on Systems and Control Theory from the University of Udine (IT) in 2010, 2012 and 2016, respectively. She visited the Control and Dynamical Systems group, California Institute of Technology, Pasadena, CA (US) in 2012 and the Institute of Systems Theory and Automatic Control at the University of Stuttgart (DE) in 2015.



Between 2016 and 2017 she was in the Department of Automatic Control and LCCC Linnaeus Center, Lund University (SE). She is currently an Assistant Professor at the Delft Center for

Systems and Control, Delft University of Technology, Delft (NL).

Her main research interests include the study of dynamical networks, the analysis of biological systems and the control of networked systems. She received the Outstanding TAC Reviewer award letter from the IEEE Transactions on Automatic Control in 2016, the EECI PhD Award 2016 from the European Embedded Control Institute for her PhD thesis "Structural Analysis and Control of Dynamical Networks" and the IFAC NAHS Paper Prize 2017 as a co-author of the paper "A Switched System Approach To Dynamic Race Modelling", *Nonlinear Analysis: Hybrid Systems*, 2016.

Jun Liu received the B.S. degree in Applied Mathematics from Shanghai Jiao-Tong University in 2002, the M.S. degree in Mathematics from Peking University in 2005, and the Ph.D. degree in Applied Mathematics from the University of Waterloo in 2011. Following an NSERC postdoctoral fellowship in Control and Dynamical Systems at Caltech, he became a Lecturer in Control and Systems Engineering at the University of Sheffield in 2012.



J. Liu joined the faculty of the University of Waterloo in 2015, where he currently is an Assistant Professor of Applied Mathematics and directs the Hybrid Systems Laboratory. Liu's main research interests are in the theory and applications of hybrid systems and control, including rigorous computational methods for control design with applications in cyber-physical systems. He was awarded a Canada Research Chair from the Government of Canada in 2017 and an Early Researcher Award from the Ontario Ministry of Research, Innovation and Science in 2018.



IFAC President Frank Allgöwer, photo taken at the 2018 IFAC President's Dinner.

From the IFAC President

Dear Friends and Colleagues,

What is the difference between IFAC members and affiliates? What do I have to do to be promoted from IFAC affiliate to become a 'full' IFAC member? These are questions posed regularly to me and the answer is rather simple: IFAC is structured a bit like the United Nations. Countries, or to be precise national control organizations representing full countries, are the sole members of IFAC. Individuals cannot be an official IFAC member, but they can be IFAC affiliates. It is due to this special structure that IFAC currently 'only' has 48 official members, which, without this knowledge, must seem like a surprisingly tiny number for IFAC.

These official members of IFAC, called National Member Organizations (NMOs), are scientific or professional engineering organizations with strong interest in automatic control. The NMOs, spread all over the world, are then responsible for furthering the aims and objectives of IFAC within their respective countries, which results in different tasks and privileges. The NMOs are invited to propose and organize IFAC technical meetings in the NMO country, host the annual IFAC council meeting and suggest candidates for each Technical Committee. Moreover, the General Assembly of IFAC, the supreme body of the Federation, is composed of delegations from the NMOs. Every three years, together with the IFAC World Congress, a regular meeting of the General Assembly takes place, where important decisions are taken and the General Assembly of IFAC empowers the IFAC Council to decide on most business. I want to take this opportunity to thank the NMOs for their contributions and continued support of IFAC, which are a key element of the success of IFAC and a great benefit for the automatic control community in general.

Even though individuals cannot become IFAC members, there are several ways how individuals can participate in IFAC. Individuals can become IFAC affiliates, simply by signing up on our webpage. As an IFAC affiliate you will receive the IFAC Newsletters and you can obtain your own IFAC e-mail alias at <https://hera.ifac-control.org/ifacmail/>. You can also become a member of a Technical Committee (TC) in your area of interest via the nomination either by your NMO or by the Technical Committee chair. Note that for some TCs, there is the option of becoming a Junior Member for young researchers and PhD students. For more information on the TCs, you can visit the website <https://www.ifac-control.org/areas>

There are of course many more options to participate in IFAC as an individual, for example, as an author, reviewer and editor of an IFAC journal, by attending and presenting your work at IFAC events and ultimately by volunteering as an IFAC official.

Altogether, IFAC is blessed to have both, the National Member Organizations and the individual affiliates and volunteers that participate in IFAC, which, together, form the pillars of IFAC making it the globally active and widely accepted organization that it is today.

Best wishes from Stuttgart
Frank Allgöwer

The IFAC Story E-book is available!

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

IFAC is on social media!
Direct links to IFAC's presence on Facebook, LinkedIn, and Twitter can be found on the IFAC website.

In addition check out the IFAC Blog at
<https://blog.ifac-control.org/>

Calendar of IFAC Events

Title	2018	Place	Further information
3rd IFAC Conference on Advances in Proportional-Integral-Derivative Control PID 2018	May 09 – 11	Ghent Belgium	http://www.pid18.ugent.be/pid18@ugent.be
1st IFAC Workshop on Integrated Assessment Modelling for Environmental Systems IAMES 2018	May 10 – 11	Brescia Italy	https://iames2018.unibs.it/iames2018@unibs.it
15th IFAC Conference on Programmable Devices and Embedded Systems PDES 2018	May 23 – 25	Ostrava Czech Republic	http://pdes-conference.eu/zdenek.slanina@vsb.cz
14th IFAC/IEEE Workshop on Discrete Event Systems WODES 2018	May - June 30 – 01	Sorrento Coast Italy	http://wodes2018.unisa.it/wodes2018@unisa.it
3rd IFAC Workshop on Automatic Control in Offshore Oil and Gas Production OOGP 2018	May - June 30 – 01	Esbjerg Denmark	http://ifac-oogp2018.org/secretariat@ifac-oogp2018.org
15th IFAC Symposium on Control in Transportation Systems CTS 2018	June 06 – 08	Savona Italy	http://www.cts2018.unige.it/cts2018@unige.it
3rd IFAC Conference on Embedded Systems, June Computational Intelligence and Telematics in Control CESCIT 2018	June 06 – 08	Faro Portugal	http://www.cescit2018.org/geral@untappedevents.pt
16th IFAC et al. Symposium on Information Control Problems in Manufacturing INCOM 2018	June 11 – 13	Bergamo Italy	http://www.incom2018.org/secr@incom2018.org
Conference on European Control Conference (in cooperation with IFAC) ECC 2018	June 12 – 15	Limassol Cyprus	http://ecc18.eu/ecc18@ucy.ac.cy
IFAC Workshop on Networked & Autonomous Air & Space Systems NAASS 2018	June 13 – 15	Santa Fe, NM USA	https://sites.google.com/site/naass2018/richardscotterwin@gmail.com
2nd IFAC Conference on Modelling Identification and Control of Nonlinear Systems MICNON 2018	June 20 – 22	Guadalajara, Jalisco Mexico	https://www.micnon2018.org/contact@micnon2018.org
IEEE, IFAC et al. Conference on Blockchain and Knowledge Automation ICBKA 2018	June 25 – 26	Changshu, Jiangsu China	http://www.2018iv.org/WS08.html feiyue.wang@ia.ac.cn
Conference on American Control Conference (in cooperation with IFAC) ACC 2018	June 27 – 29	Milwaukee, WI USA	http://acc2018.a2c2.org/ e-mail: not yet available
14th IFAC Workshop on Time Delay Systems TDS 2018	June 28 – 30	Budapest Hungary	https://www.congressline.hu/tds2018/office@congressline.hu
18th IFAC/IEEE CSS Symposium on System Identification SYSID 2018	July 09 – 11	Stockholm Sweden	https://www.kth.se/en/eecs/om-oss/konferenser-och-event/sysid2018 hanna.holmqvist@ee.kth.se
6th IFAC Conference on Analysis and Design of Hybrid Systems ADHS 2018	July 11 – 13	Oxford United Kingdom	http://www.cs.ox.ac.uk/conferences/ADHS18/ aabate@cs.ox.ac.uk
6th IFAC Conference on Bio-Robotics BIOROBOTICS 2018	July 13 – 15	Beijing China	http://123.57.55.167:8080/caumeeting/caumeetingweb2018/index.html e-mail: not yet available
10th IFAC Symposium on Advanced Control of Chemical Processes ADCHEM 2018	July 25 – 27	Shenyang, China	http://www.adchem2018.org/adchem2018@mail.neu.edu.cn

Calendar of IFAC Events

Title	2018	Place	Further information
15th International Conference on Informatics in Control, Automation and Robotics (in cooperation with IFAC) ICINCO 2018	July 29 – 31	Porto, Portugal	http://www.icinco.org/ icinco.secretariat@insticc.org
7th CACHE, IFAC Conference on Foundation of Systems Biology in Engineering FOSBE 2018	August 05 – 08	Chicago, IL USA	http://www.fosbe.org/ rcraven@fosbe.org
6th IFAC Conference on Nonlinear Model Predictive Control NMPC 2018	August 19 – 22	Madison, WI USA	http://www.nmpc2018.org/ nmpc@nmpc2018.org
5th IFAC Workshop on Mining, Mineral and Metal Processing MMM 2018	August 23 – 25	Shanghai China	http://ifac-mm-mmm.csu.edu.cn/ ifacmmm2018@csu.edu.cn
12th IFAC, IEEE RAS Symposium on Robot Control SYROCO 2018	August 27 – 30	Budapest Hungary	http://syroco2018.org/ secretariat@syroco2018.org
7th IFAC Workshop on Distributed Estimation and Control in Networked Systems NECSYS 2018	August 27 – 28	Groningen Netherlands	https://fwn06.housing.rug.nl/necsys2018/ necsys18@rug.nl
10th IFAC/Polish Academy of Sciences Symposium on Fault Detection, Supervision and Safety for Technical Processes SAFEPROCESS 2018	August 29 – 31	Warsaw Poland	http://safeprocess18.uz.zgora.pl/ safeprocess18@uz.zgora.pl
9th IFAC/IEEE CSS Symposium on Robust Control Design ROCOND 2018	September 03 – 05	Florianópolis Brazil	http://rocond18.ufsc.br/ rocond18@gmail.com
2nd IFAC/IEEE CSS Workshop on Linear Parameter Varying Systems LPVS 2018	September 03 – 05	Florianópolis Brazil	http://lpvs18.ufsc.br/ ifac.lpvs18@gmail.com
10th IFAC Symposium on Biological and Medical Systems BMS 2018	September 03 – 05	São Paulo Brazil	http://www.ifacbms2018.org/ secretariat@ifacbms2018.org
10th IFAC/ CEGRE Symposium on Control of Power and Energy Systems CPES 2018	September 04 – 06	Tokyo Japan	https://www.cpes2018.com/ cpes2018@hotmail.com
11th IFAC Conference on Control Applications in Marine Systems, Robotics, and Vehicles CAMS 2018	September 09 – 13	Opatija Croatia	http://ifac-cams2018.com/ cams2018@fer.hr
18th IFAC Conference on Technology, Culture and International Stability TECIS 2018	September 13 – 15	Baku Azerbaijan	https://tecis18.org kopacek@ihrt.tuwien.ac.at
10th INSTICC, IFAC et al. International Joint Conference on Computational Intelligence IJCCI 2018	September 18 – 20	Seville Spain	http://www.ijcci.org/ ijcci.secretariat@insticc.org
5th IFAC Conference on Engine and Powertrain Control, Simulation and Modeling E-COSM 2018	September 20 – 22	Changchun China	http://www.ascl.jlu.edu.cn/ecosm2018/ gaobz@jlu.edu.cn

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Bundesministerium
für Verkehr,
Innovation und Technologie

Calendar of IFAC Events

Title	2018	Place	Further information
17th IFAC Workshop on Control Applications of Optimization CAO 2018	October 15 – 19	Yekaterinburg Russia	http://cao2018.uran.ru/cao@uran.ru
13th OTM / IFAC / IFIP International Workshop on Enterprise Integration, Interoperability and Networking EI2N 2018	October 24 – 25	Valletta Malta	http://www.otmconferences.org/index.php/workshops/ei2n-2018 e-mail: not yet available
Conference on Latin American Automatic Control (in cooperation with IFAC) XVIII CLCA 2018	October 24 – 26	Quito Ecuador	http://clca2018.epn.edu.ec/index.php/en/clca2018@epn.edu.ec
5th IFAC Conference on Analysis and Control of Chaotic Systems CHAOS 2018	Oct./Nov. 30 – 01	Eindhoven Netherlands	http://chaos2018.wtb.tue.nl/chaos2018@tue.nl
2nd IFAC Conference on Cyber-Physical and Human Systems CPHS 2018	December 13 – 15	Miami, FL USA	http://www.cphs2018.org/cphs2018org@gmail.com
Title	2019	Place	Further information
12th IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems DYCOPS 2019	April 23 – 26	Florianópolis Brazil	http://dycopscab2019.sites.ufsc.br/dycops.cab2019@gmail.com
3rd IFAC Workshop on Control of Systems Governed by Partial Differential Equations CPDE 2019	May 22 – 24	Oaxaca Mexico	http://not yet available e-mail: not yet available
SICE, ISCIE, JSME, IEEE, IFAC Conference on Asian Control Conference (in cooperation with IFAC) ASCC 2019	June 09 – 11	Kitakyushu, Fukuoka Japan	www.ascc2019.org/ascc2019@ascc2019.org
IFAC Workshop on Control of Smart Grid and Renewable Energy Systems CSGRES 2019	June 10 – 12	Jeju Republic of Korea	http://csgres2019.com/yilee@seoultech.ac.kr
9th IFAC Symposium on Advances in Automotive Control AAC 2019	June 24 – 27	Orléans France	https://aac19.sciencesconf.org/aac2019@univ-orleans.fr
Conference on European Control Conference (in cooperation with IFAC) ECC 2019	June 25 – 28	Naples Italy	http://not yet available e-mail: not yet available
10th IFAC Symposium on Intelligent Autonomous Vehicles IAV 2019	July 03 – 05	Gdansk Poland	http://www.konsulting.gda.pl/iaav2019/iaav2019@konsulting.gda.pl
3rd IFAC Workshop on Thermodynamic Foundations for a Mathematical Systems Theory TFMST 2019	July 08 – 10	Louvain-la-Neuve Belgium	https://sites.uclouvain.be/tfmst2019/denis.dochain@uclouvain.be
Conference on American Control Conference (in cooperation with IFAC) ACC 2019	July 10 – 12	Philadelphia, PA USA	https://aac19.sciencesconf.org/ email: not yet available
9th IFAC IEEE IFIP IFORS et al. Conference on Manufacturing Modelling, Management and Control MIM 2019	August 28 – 30	Berlin Germany	https://blog.hwr-berlin.de/mim2019/ e-mail: not yet available
18th IFAC Symposium on Control, Optimization and Automation in Mining, Mineral and Metal Processing MMM 2019	August 28 – 30	Stellenbosch South Africa	http://not yet available e-mail: not yet available

The IFAC Calendar of Events is constantly updated as additional technical events (Workshops, Symposia, and Conferences) are approved. For events in late 2019 and beyond (including the 2020 IFAC World Congress) please see:
<https://www.ifac-control.org/events/>