

## Mechatronics Journal Changes

Following extensive consultations, I decided to make two important changes to *Mechatronics* that our IFAC community should be aware of.

*Mechatronics* now accepts four types of submission. We continue to accept regular papers, review papers and book reviews, as we did in the past. In addition, we now accept contributions for a new section of the journal dedicated to Robotics and Mechatronics Letters. These are short manuscripts that report time-sensitive results. They go through a rapid review process overseen by a dedicated Co-Editor-in-Chief.

The second change is related to the new structure of our editorial board. We now have three topical Co-Editor-in-Chiefs, with each responsible for handling manuscripts in their specialized area and making the final decision on each manuscript suitability for publication, or otherwise. Dong-Il (Dan) Cho (KR) is serving as the Co-EiC for Robotics, Tsu-Chin Tsao is the Co-EiC for Mechatronics and Christian Ott the Co-EiC for Robotics and Mechatronics Letters.



**Dan Cho, *Mechatronics*  
Co-EiC for Robotics**



**Kristin Y. Pettersen,  
*Mechatronics* Co-EiC for Robotics (starting  
January 2022)**

When submitting a manuscript, the authors select one of the three Co-EiCs depending on the field and the length of their contribution. Review papers and book reviews are submit-

ted to the Editor-in-Chief. Other manuscripts may also be submitted directly to the EIC. I decided to adopt this structure to emphasize the important emerging role of robotics in our field and to speed the review process of submitted manuscripts and in particular those that report results of a time-sensitive nature.



**Christian Ott, *Mechatronics*  
Co-EiC for Robotics &  
Mechatronics Letters**



**Tsu-Chin Tsao, *Mechatronics*  
Co-EiC for Mechatronics**

Dan Cho will be serving as a Co-Editor-in-Chief until the end of 2021. From January 2022, Kristin Y. Pettersen will be joining us to take over the role of Co-EiC for Robotics. This will allow Dan to get on with more pressing matters as the IFAC President-Elect.



**Reza Moheimani,  
*Mechatronics* EiC**

Submitted by: Reza Moheimani,  
*Mechatronics* Journal EiC

## No.2

April 2021

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**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>

## Who's Who in IFAC

### IFAC Council Member: Denis Dochain

Denis Dochain (BE) received his degree in electrical engineering in 1982 from the Université Catholique de Louvain, Belgium. He completed his Ph.D. thesis and a « thèse d'agrégation de l'enseignement supérieur » in 1986 and 1994, respectively, also at the Université Catholique de Louvain (BE).

He has been CNRS associate researcher at the LAAS (Toulouse, FR) in 1989, and Professor at the Ecole Polytechnique de Montréal, Canada in 1987-88 and 1990-92. He has been with the FNRS (Fonds National de la Recherche Scientifique, National Fund for Scientific Research), Belgium since 1990. Since September 1999, he is Professor at the CESAME (Center for Systems Engineering and Applied Mechanics), Université Catholique de Louvain, BE, and Honorary Research Director of the FNRS. He has been invited professor at Queen's University, Kingston, Canada between 2002 and 2004. He is full professor at the UCL (BE) since 2005.



D. Dochain is Senior Editor of the *IEEE Transactions of Automatic Control*, and of the *Journal of Process Control*. Additionally he is Associate Editor of *Automatica*, and former Editor-in-Chief of the *Journal of Process Control*.

He is a member of the IFAC Council for the triennium 2020-2023. His earlier roles in IFAC have been as the IPC co-chair of the IFAC World Congress 2017 in Toulouse (FR), a member of the IFAC Council from 1999 to 2002, the chair of the IFAC TC on Biosystems and Bioprocesses (TC 8.4) from 2002 to 2003, the chair of the IFAC CC on Power and Process Systems (CC 6) from 2003 to 2008, a member of the IFAC Technical Board from 2008 to 2011 and again from 2014-2020, and the chair of Publication Committee from 2011 to 2014. He is a IFAC Fellow since 2010 and received the IFAC Outstanding Service Award in 2008. He received the Doctor Honoris Causa title from Grenoble INP on 13 December 2019

D. Dochain's main research interests are in the field of distributed parameter systems, nonlinear systems, parameter and state estimation, and adaptive extremum seeking control with application to microbial ecology, environmental, biological and chemical systems, pulp and paper processes, polymerisation reactors, and electric systems. He is the (co-)author of five books, more than 160 papers in refereed journals and more than 260 international conference papers.

## IFAC Blog

### Making practice publishable – An IFAC Industry Committee Discussion

#### Introduction

The IFAC Industry Committee, chaired by Tariq Samad (US), arose out of a pilot committee formed in 2014. At that time one of the workstreams was entitled "Enhancing Industry Participation in IFAC". Amongst other work this workstream asked the question "Does your organisation support publishing in journals, via conferences, or both? Is IFAC-PapersOnLine useful?" Various opinions were received:

- Some companies are vendors of technology and value their technological reputation – peer reviewed articles provide credibility, whereas "snake oil salesmen" cannot publish in good peer reviewed journals.
- In other companies, publication is accepted but not especially encouraged.
- Other companies tend to avoid publishing in journals perhaps because "there aren't really any high impact industrially relevant control journals". IFAC is not highly visible to some industries.
- Some organisations have their own tools for technology surveillance.
- PapersOnLine (POL) is mostly considered useful.



**Tariq Samad,**  
Industry Committee Chair

When the permanent IFAC Industry Committee was formed in 2017, a workstream entitled "WS3: Industry engagement in IFAC publications" was defined but left dormant in order to concentrate on other issues. The scope of the workstream was to:

- Organize journal special issues, conference special sessions and roundtables, etc.
- Publish industry problems (not just solutions)
- Involve more industry people in scientific journals (associate editor, etc.)
- Monitor/analyse industry participation in IFAC publications
- Propose new publication (e.g., an IFAC Magazine) and event initiatives
- Address copyright issues for industry authors for IFAC publications
- Suggest (other) ways for Industry Committee to be involved in IFAC publications

#### A New Development

In November 2019 Russ Rhinehart introduced the committee to an article by Wolfenden et al.

## From the IFAC President

Dear IFAC Friends and Colleagues,

At the 2019 IFAC Council meeting in Vienna, Austria, it was decided to change the procedure for selecting IFAC presidents and IFAC World Congress locations. In the past, these two decisions were made as one. A country bidding for organizing the Congress was bound to bring forward an IFAC compatible President candidate. Conversely, people deeply committed to IFAC could serve at this decisive presidential level only if backed by a solid team capable of organizing this World class event. Starting from now, the decision about the location of the congress is separate from the decision about the IFAC president. Overall, the procedure contains three stages.

The first stage aims at gathering Expressions of Interest (Eols) from National Member Organizations (NMOs). Every country is invited to express the interest for organizing the World Congress in the future. The application files are very minimal: limited to three pages, typically one about the strong IFAC oriented activities of the NMO, one about the suggested congress location and one about the planned organizing team. These Eols are not only applications to organize the event, but also expressions of a country's wish to participate more in IFAC activities. Eols are submitted for evaluation by the Council eight years ahead of a World Congress. IFAC Secretariat is currently collecting all Eol for the Congress to be held in 2029. The deadline of Eol submission was extended to May 15. The Council at its July 2021 meeting shall decide which bids are selected for the second stage and may provide recommendations to all countries having submitted Eols.

The second stage lasts for one year, during which the selected candidates prepare a concrete detailed description of their proposal for hosting the World Congress. From these the IFAC Council chooses one bid. The 2022 Council meeting will select the organizing team and location for the 2029 Congress.

The third stage of the procedure, which is now separate from the two others, is the choice of the IFAC President for the triennium that precedes the Congress. Presidential candidates must be eligible according to the criteria in Article 17 (b) of the IFAC Constitution. IFAC Council shall appreciate the fit between the Congress organizing team and the President, when selecting the president-elect. The next choice of a president for the 2026-2029 triennium shall occur during the 2022 Council meeting.

For now, I wish good luck to all NMOs submitting Expressions of Interest for the 2029 World Congress. For any question or feedback about the new procedure please feel free to contact me or the IFAC Secretariat.

Hajime Asama,  
IFAC President 2020-2023

(2019) entitled “Making Practice Publishable: What Practice Academics Need to Do to Get Their Work Published, and What that Tells Us about the Theory-practice Gap”. The paper asserts that “Practice academics have struggled to find a validated place for their expertise in academia – including publication in academic journals. . . . We find that the problem is not really about theory versus practice, or relevance versus rigour, but about profound epistemological differences”. The article concludes as follows:

“The failure to facilitate a creative interface between practitioners and academics results in waste: the waste of academic work that lies untranslated for practice, the waste of practitioner knowledge that lies untheorised. It impoverishes discourse in both places, leading to a situation where bakers bake bread only for other bakers. In their attempts to promote research, universities have also created the conditions for anxiety, insecurity and inferiority for skilled and capable staff from practice backgrounds. In recognition of the integrity and validity of multiple epistemologies, we need a new focus on the skills of epistemic translation, and new structures which enable the kinds of conversations that will change the world.”

Believing that the article has a new and worthwhile viewpoint to include in the IFAC Industry Committee activities, Russ distributed a mail to the ninety odd members of the committee. The mail evoked a number of responses, which are summarised here.

### Feedback

Feedback was received from Carlos Guardiola, Peter Odgaard, Georg Weichhart, Daniel Abramovitch, Yalin Wang and Iven Mareels. Some points raised include:

- “The conferences organized by the IFAC automotive TC get a good share of papers with industry authors, although most of the time they are written in collaboration with universities (and usually the university authors do most of the process). Automotive research is perhaps a quite special case: academic research detached from the industry cannot be ground-breaking, since we need next generation technologies for demonstrating the potential of our research.” (Carlos)
- “I think it is important to understand the differences in the objectives of academia and industry. Journal and conference publications are key in academia whereas in industry, these are something people do if they personally want to do so. At the same time, companies want to protect their work and developments. So we really do not want to share all details of our work, even if it is protected by patents, etc. Secondly, if the design tested and presented is a real world application we can never provide details enough for others to reproduce the results, basically breaking an important research principle. Furthermore, we do not care about stability proofs as long as the algorithm/ technology performs as required.” (Peter)

- “Results flow from academic research to application-oriented research to industrial applications. This can be seen by how references (as an indicator for academic success) are used. Application oriented papers quote the theories, but the theoretical papers hardly reference application-oriented research.” (Georg)

- “If you know someone in industry you can ask them about potential topics. Good areas where it is easier to get stuff past the corporate lawyers and managers are:

- 1) Something that the engineer has patented. Patented material is in the public domain and protected. It has been fully disclosed, although one can argue that how a patent is written doesn’t make for a readable paper. Still, such inventions can be rewritten and, since it’s protected, the lawyers are happy.
- 2) Something that is already in a device in the market. (But not anything that is a trade secret.)
- 3) Something that the company considered but decided not to use. In this case, the publication is an inexpensive way to preserve the company’s “right to use” the invention, since if it’s published, nobody else can patent it. (Daniel)

- “It is important for engineers to share their results, and for academics to know the application and invention of advanced control approaches in industry. I think one option is to ask engineers to post their recent developments on the IFAC blog platform which is easily accessible. The other possibility is to organize a special issue of *Control Engineering Practice* as an experiment.” (Yalin)

- “I could not agree more about the lack of “industry practical” information that can help the everyday control engineer. Productivity in design does not feature highly in our conferences, and the general engineering aspects of managing control loops hardly gets attention in our courses (generalization). It would be good to talk about these issues within the control community. In Australia there is an industry based conference that is run by industry for industry in the field of automation, industry 4.0, sensors & actuators. This conference easily attracts 400 to 500 participants and there are plenty of industry based engineers presenting their “latest problem/solution”. This is not so easy from an academic perspective (clearly stated in the article by Wolfenden), but we should be able to have

a halfway house, and reduce the waste introduced by the existing divide. Building bridges is important, outreach is perhaps key. What about creating some “outreach” sessions in conferences enabling the conversation(s) to take place?” (Iven)

### Conclusion

There is general agreement that publishing practice is a good idea, and on what the impediments are to do so. Is it time to resurrect our dormant workstream WS3: “Industry engagement in IFAC publications”? Are there Industry Committee members who would like to be involved? We would also like to hear from the broader control community! The author (Kevin Brooks), as well as Industry Committee Chair Tariq Samad welcome comments at [kevin.brooks@wits.ac.za](mailto:kevin.brooks@wits.ac.za) and [tsamad@umn.edu](mailto:tsamad@umn.edu).

Author: Kevin Brooks (ZA)



Kevin Brooks

Reference: Wolfenden, H., Sercombe, H., & Tucker, P. (2019). Making practice publishable: what practice academics need to do to get their work published, and what that tells us about the theory-practice gap. *Social Epistemology*, 33(6), 555-573.

Editor’s Note: This blog article was originally published in June 2020. The IFAC Blog is edited by Linda Bushnell, IFAC Social Media Editor. This and other IFAC Blog posts are available at: <http://blog.ifac-control.org/>

## Case Studies of Practice-Academe Collaboration: Provide Your Input Today!!

The IFAC Industry Committee is attempting to determine what leads to success, or not, with practice/academic collaboration related to control and automation. The hope is to identify and share best practices (what to do, and what not to do) to enable others to create and sustain successful collaborations.

We invite the Newsletter readers to use this link to provide your input on practice-academic collaborations:

<https://www.surveymonkey.com/r/LGXVN6R>

The survey might take from 5 to 30 minutes, depending on what you wish to provide. The survey will remain open through April 30, 2021.

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**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-IEEE CSS Joint Community Project C3P

### Contributing to Covid-19 Research

The impact of the ongoing COVID-19 pandemic has been tremendous on the IFAC community and its activities. For example, due to various international travel restrictions all IFAC Board and Committee meetings are now currently held in an online fashion, as are essentially all IFAC technical events since the past spring. Even the main flagship IFAC event in 2020, the IFAC World Congress, which was planned to be held as an in-person event in Berlin, DE, was converted into a complete online experience at an impressive pace, including a dedicated Corona session. Furthermore, most of us have experienced profound changes in our way of working and ideas on teaching and collaboration in the last year.

In addition, the field of pandemic research gained an unforeseen growth of interest (Fig. 1) due to the occurrence of COVID-19. In March 2020, to facilitate the first steps of the control community in this rapidly evolving field, Frank Allgöwer (IFAC President 2017-2020) suggested to start a joint IFAC and IEEE CSS community project on COVID-19 ([covid.ifac-control.org](https://covid.ifac-control.org) or [covid.ieeecss.org](https://covid.ieeecss.org)).

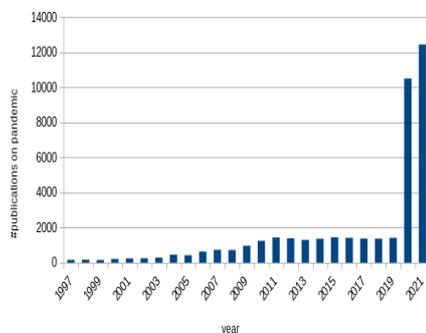


Fig. 1 Number of pandemic review and research papers (Science Direct)

The feedback on the call for volunteers for this initiative has been impressive with more than 45 replies from all over the world. Three weeks later the Corona Control Community Project (C3P) was online and received its first events and posts. The envisaged aim of this initiative is to provide a hub for the exchange of information and ideas, connect collaboration partners and announce events and new research.

After the first year and noticeable fatigue regarding the Coronavirus and its implications on all our lives, an interim conclusion seems to be in place. The C3P has attracted many posts and reflected a considerable part of the COVID-19 research done in the control community. Visibility of the project, however, needs to be still further increased. In addition, as research concerned with COVID-19 is by now of

ten distributed for free, e.g. Elsevier grants full access to research articles via its Coronavirus Information Center, the need to inform on joint events and efforts, as for example the Special Section on Systems and Control Research Efforts Against COVID-19 and Future Pandemics in the *Annual Reviews in Control*, should be a stronger focus. We thus invite you to submit your posts to

[covid.ifac-control.org](https://covid.ifac-control.org)

Besides being a health issue, the COVID-19 pandemic is also a regulatory challenge for all governments, which face it with mixed success. We are convinced that the control community can contribute its part to identify suitable indices/measurements and control strategies to overcome this and be better prepared for any future pandemic. We hope that the C3P can help to make our collaboration a little simpler and more fun. If you have suggestions, please feel free to contact us at [covid@covid.ieeecss.org](mailto:covid@covid.ieeecss.org).

Submitted by: Stefan Palis (DE) & Francesco Rossi (IT)

## “Spring” IFAC Executive Officers’ Meeting April 2021 Online

A tradition in IFAC has been for the Executive Officers to gather once a year in Austria, home of the IFAC Secretariat. It is a time for Executive Officers from across the globe to gather together in one place for discussions concerning IFAC matters, as well as renewing IFAC’s ties to Austria, the host country of the Secretariat, which came to Austria in 1978 by invitation of the Austrian government, and to the Austrian control community. This tradition started during the IFAC presidency of Yoshikazu Sawaragi (JP), who served as IFAC’s president from 1978-1981. In these earlier days international communication was slower and much more expensive than it is today, but the tradition of the in-person spring activities in Austria has continued decades later as often it is more effective to have everyone gathered in one physical location for discussions and in-person interaction.

In non-pandemic times these meetings are held in-person at the IFAC Secretariat in Laxenburg, the town just south of Vienna where the IFAC Secretariat has been located since 1978 at the invitation of the Austrian government. Additionally in pre-pandemic times there was an annual President’s Dinner and in-person technical lecture, giving the Austrian control community access to hear and interact with internationally renowned experts. These lectures have taken places in the past in the Austrian cities of Linz, Graz, and Vienna.

Due to the Covid-19 pandemic the arrangements for the 2020 in-person meeting had to be „ditched“ and the 2020 meetings all had to take place online. As the pandemic continues into 2021 and international travel is not the

possibility that it usually is the decision was made to hold the 2021 Spring Executive Officers’ meeting online, as well as the 2021 IFAC Council- and Related Meetings.

As the executive officers are located within several time zones the meetings were held on both of the afternoons European time to allow participants in the Americas and Asia to participate during typical awake hours. Originally the meetings were scheduled for 8 and 9 April, but a third session for the end of April (after the time of this writing) was added.

Discussion topics included the Expressions of Interest (Eols) from IFAC NMOs for the 2029 IFAC World Congress location and the new procedure in place as of this triennium (separating the selection of Congress site from the selection of an IFAC president), membership issues, publications, conference/technical event issues, an update on IFAC finances, updates from the task forces and more. Additional topics will be covered during the later session.

For now the online meetings are the only possibility for the Executive Officers to gather and discuss the important issues facing the federation. It is hoped that the pandemic situation will improve for many reasons, and that in the future in-person meetings and traditional IFAC activities and gatherings can take place.

In addition it is hoped to be able to arrange an online technical lecture later as a substitute/replacement for the planned lecture in 2020 that had to be cancelled, as well as for 2021 which was not arranged as an in-person event due to Covid-19 regulations and restrictions in Austria.

Written by: Elske Haberl, IFAC Secretariat



Hoping to be able to gather together at Schlossplatz 12 in Laxenburg, Austria in the near future! Home of the IFAC Secretariat since 1978!

### 3<sup>rd</sup> IFAC Workshop on Cyber-Physical & Human Systems CPHS 2020

9-14 December 2020  
Beijing, CN

2020 was an uneasy and challenging year for people all over the world. By now, with the 3<sup>rd</sup> IFAC Workshop on Cyber-Physical & Human Systems (CPHS 2020) behind us, we would like to take this opportunity to thank everyone involved - the registrants, speakers, chairs, hosts, organizers, volunteers, online & offline presenters, media and event partners, for contributing to the succession of IFAC CPHS 2020. The general chairs for CPHS 2020 were Prof. Fei-Yue Wang (Chinese Academy of Sciences, CN) and Dr. Tariq Samad (University of Minnesota, US) and the IPC Chairs were Prof. Sarah Spurgeon (University College London, UK), Prof. Xinpeng Guan and Dr. Xi Zhang (both from Shanghai Jiaotong University, CN).

The response to the IFAC CPHS 2020 call for papers exceeded our expectations! Both the number of submissions and the number of accepted papers were more than double those from CPHS 2018. Ultimately, IFAC CPHS 2020 received 410 submissions from 28 countries, including 88 regular papers, 12 extended abstracts, 264 invited papers and 46 invited extended abstracts. A stringent review process, including a "pre-review" stage, was followed. For contributions that went through full reviews, 156 papers were accepted, with an acceptance rate of 57%.

164 authors and non-authors from 17 countries registered for the 3<sup>rd</sup> IFAC CPHS. Of these, the majority (110) were from China. Other countries with significant representation included USA (14), Japan (10), France (7), and Sweden (5). Advance registration rates for authors were US \$540 (regular) and US \$300 (student). A special nonauthor registration rate of US \$50 was also included to facilitate the virtual attendance of interested researchers and practitioners who did not have accepted papers in the workshop.

Due to the COVID-19 pandemic, the 3<sup>rd</sup> IFAC CPHS was held as a DHC (Distributed Hybrid Conference) form, with both online and offline components. The online component part was started two weeks before the official workshop dates, which distributed most of the sessions (including 23 special sessions and seven regular sessions) over a fourteen-day period; speakers presented their works online from locations around the world. The offline/in-person component part was held on 5 December 2020 at The Huaidehai College of Wangjing, Beijing, China. 97 people from 19 colleges, two institutes, two associations, and four enterprises all over China attended the offline workshop. All sessions, both those

presented virtually and those presented in-person, were recorded and workshop registrants will be able to access the recordings for three months.

Six outstanding plenary speakers shared their perspectives on the CPHS topic:

- Professor Anuradha Annaswamy of MIT (US) presented her thoughts on "*Adaptation and Optimization in Cyber-Physical & Human Systems*";
- Professor Weifeng Lv of Beihang University (CN) shared his perspectives on "*Smart Transportation based on Intelligent Internet-of-Things*";
- Professor Françoise Lamnabhi-Lagarrigue of University Paris-Saclay (FR) gave a report named "*Towards Responsible Research and Innovation*";
- Professor Jun Jason Zhang of Wuhan University (CN) discussed the human-machine hybrid-augmented intelligence (HM-HAI) in the field of power systems;
- Professor Alexandre Bayen of the University of California-, Berkeley (US) talked about "*Developing Deep-RL Policies for Mixed Autonomy Traffic*"; and
- Tianyou Chai of Northeast University (CN) presented his 30 years of work on "*CPS Driven Control Systems*".

The Cyber-Physical & Human Systems workshop series was founded to examine multidisciplinary dimensions from the perspectives of engineering, physical systems, human-factors, and the social sciences. The Proceedings of the third IFAC Workshop on CPHS exemplifies work from multidisciplinary communities across the spectrum of technical areas in control and automation, as well as from the behavioral and social sciences. Plans for the 4<sup>th</sup> IFAC CPHS Workshop, to be held in 2022, are already being discussed.

Submitted by: Xiao Wang (CN), CPHS Editor

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

**The IFAC Conference App is now available!**

The App is paid for by IFAC and can be used free of charge by IFAC event organizers and attendees. Many IFAC events to be included soon!

How to download:  
App Store <http://bit.ly/2ID8v0h>  
Google Play <http://bit.ly/2IRT8RZ>  
You can also search for 'IFAC' in the Apple App Store or in the Google Play Store.

### 15<sup>th</sup> IFAC Workshop on Discrete Event Systems WODES 2020

11-13 November 2020  
Rio de Janeiro, BR

The 15<sup>th</sup> IFAC Workshop on Discrete Event Systems (WODES 2020) was held from 11-13 November 2020 using a virtual platform. The platform allowed for the aspects of a face-to-face conference. Live presentations for plenary sessions and presentations of papers, exchanging ideas during coffee breaks (renamed as home breaks), opening and closing ceremonies, and the Best Student Paper Award were kept as in all of the previous editions of this event.

75 papers, authored by 242 authors, were presented at the event. The papers were presented in twelve sessions. Three plenary sessions were held at the event, presented by Christophoros Hadjicostis (Cyprus University, CY), Yorai Wardi (Georgia Institute of Technology, US), and Feng Lin (Wayne State University, US.) Approximately 170 researchers from all continents attended the event. The Best Student Paper Award was given to Germano Schafafaschek who, together with Soraia Moradi, Laurent Hardouin, and Joerg Raisch co-authored the paper entitled "*Optimal Control of Timed Event Graphs With Resource Sharing and Output-Reference Update*."

WODES 2020 was sponsored by IFAC and received financial support from the Brazilian government funding agencies CNPq (Brazilian National Research Council) and CAPES (Ministry of Education.)

Submitted by: Joao Carlos dos Santos Basilio (BR), WODES 2020 NOC Chair

### Proceedings of the 21<sup>st</sup> IFAC World Congress are published

IFAC is happy to announce that the proceedings of the 21<sup>st</sup> IFAC World Congress have now been published, and is proud making these available as an open access resource to the control community!

These, as well as all earlier IFAC World Congress proceedings, are available through IFAC PapersOnLine at <https://www.sciencedirect.com/journal/ifac-papersonline/vol/53/issue/2>

Due to the unusual circumstances we all find ourselves in due to the pandemic it took much longer than usual and anticipated for these proceedings to be published.

Check out IFAC's YouTube channel for new and historical IFAC video materials!  
<https://www.ifac-control.org/>

## 12<sup>th</sup> International Joint Conference on Computational Intelligence IJCCI 2020 2-4 November 2020

The purpose of IJCCI, which was co-sponsored by IFAC, is to bring together researchers, engineers and practitioners in the areas of Fuzzy Computation, Evolutionary Computation and Neural Computation.

The conference received 65 paper submissions from 29 countries. To evaluate each submission, a double-blind paper review was performed by the Program Committee. After a stringent selection process, 19 papers were published and presented as full papers, i.e. completed work (12 pages/25' oral presentation) and 28 additional short papers were presented orally. We also accommodated some poster presentations. The total oral paper presentation acceptance rate was close to 72%.

During the course of the three days 64 delegates were actively engaged in the online event, in different activities, including oral presentations, poster presentations, and keynote sessions, as well as a special session focused on Computational Intelligence for Energy Management and Storage. Given the online nature of the event it was not possible to organize social events, so we promoted networking by creating different channels and platforms where delegates were able to communicate with each other and exchange ideas.

IJCCI's program included four invited talks delivered by internationally distinguished speak-

ers. they were: Erdal Kayacan (Aarhus University, DK), Sanaz Mostaghim (Otto-von-Guericke University, DE), Kalyanmoy Deb (Michigan State University, US), and M. Verleysen (Machine Learning Group, Université Catholique de Louvain, BE).

IJCCI had an opening session chaired by Kurosh Madani (University of Paris-EST Creteil/UPEC, FR), with the participation of Juan Julian Merelo (University of Grenada, ES), Jonathan Garibaldi (University of Nottingham, UK), and Thomas Bäck (Leiden University, NL).

At the closing session the event acknowledged a few papers that were considered excellent in their class, presenting a Best Paper Award and Best Student Award for each of the co-located conferences ECTA (for evolutionary computation), FCTA (for fuzzy computation) and NCTA (for neural computation and artificial neural networks).

### ECTA: Best Paper Award

"Looking for the Hardest Hamiltonian Cycle Problem Instances", Joeri Slegers and Daan van den Berg.

### ECTA: Best Student Paper Award

"Grammar-based Fuzzy Pattern Trees for Classification Problems", Aidan Murphy, Muhammad S. Ali, Douglas M. Dias, Jorge Amaral, Enrique Naredo and Conor Ryan

### FCTA: Best Paper Award

"Merging Partial Fuzzy Rule-bases", Martina Dankova

### FCTA: Best Student Paper Award

"Fuzzy Confidence Intervals by the Likelihood ratio with Bootstrapped Distribution", Redina berkachy and Laurent Donze

### NCTA: Best Paper Award

"Improving the Training of Convolutional Neural Network using Between-class Distance", Jiani Liu, Xiang Zhang and Yonggang Lu

### NCTA: Best Student Paper Award

"Neural Semantic Pointers in Context", Alessio Plebe and Arianna Pavone

We are already preparing the next edition, to be exceptionally held as an online streaming event from 25-27 October 2021, and we invite all researchers that may have an interest in the areas of Fuzzy Computation, Evolutionary Computation and Neural Computation to check the conference website and submit a paper at <http://ijcci.org>.

Submitted by: Claudia Ferreira (PT), INSTICC

To register as an IFAC affiliate or to update your information please use the IFAC affiliate registration form.  
[ifac-control.org/about/ifac-affiliate-registration](http://ifac-control.org/about/ifac-affiliate-registration)

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 [blog.ifac-control.org/](http://blog.ifac-control.org/)

## Calendar of IFAC Events

Title	2021	Place	Further Information
Conference on American Control Conference (in cooperation with IFAC) ACC 2021	May 26 – 28	New Orleans, LA USA	<a href="http://acc2021.a2c2.org/">http://acc2021.a2c2.org/</a>
17 <sup>th</sup> IFAC Symposium on Information Control Problems in Manufacturing INCOM 2021	June 07 – 09	Budapest Hungary	<a href="https://incom2021.org/">https://incom2021.org/</a> <a href="mailto:info@incom2021.org">info@incom2021.org</a>
16 <sup>th</sup> IFAC Symposium on Control in Transportation Systems CTS 2021	June 08 – 10	Lille France	<a href="https://cts2021.univ-gustave-eiffel.fr/">https://cts2021.univ-gustave-eiffel.fr/</a> <a href="mailto:cts2021@univ-eiffel.fr">cts2021@univ-eiffel.fr</a>
11 <sup>th</sup> IFAC Symposium on Advanced Control of Chemical Processes ADCHEM 2021	June 13 – 16	Venice Italy	<a href="https://www.adchem2021.org/">https://www.adchem2021.org/</a> <a href="mailto:noc@adchem2021.org">noc@adchem2021.org</a>
Conference on European Control Conference (in cooperation with IFAC) ECC 2021	June/July 29 – 02	Rotterdam Netherlands	<a href="https://ecc21.euca-ecc.org/">https://ecc21.euca-ecc.org/</a>
4 <sup>th</sup> IFAC Conference on Embedded Systems, Computational Intelligence and Telematics in Control CESCIT 2021	July 05 – 07	Valenciennes France	<a href="http://www.uphf.fr/cescit2021">http://www.uphf.fr/cescit2021</a>
7 <sup>th</sup> IFAC Conference on Analysis and Design of Hybrid Systems ADHS 2021	July 07 – 09	Brussels Belgium	<a href="https://sites.uclouvain.be/adhs21/">https://sites.uclouvain.be/adhs21/</a>

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Title	2021	Place	Further Information
7 <sup>th</sup> IFAC Conference on Nonlinear Model Predictive Control NMPC 2021	July 11 – 14	Bratislava Slovakia	<a href="https://www.nmpc2021.org/martin.klauco@stuba.sk">https://www.nmpc2021.org/martin.klauco@stuba.sk</a>
19 <sup>th</sup> IFAC Symposium on System Identification SYSID 2021	July 14 – 16	Padova Italy	<a href="https://sysid2021.org/organizingcommittee@sysid2021.org">https://sysid2021.org/organizingcommittee@sysid2021.org</a>
4 <sup>th</sup> IFAC Workshop on Linear Parameter Varying Systems LPVS 2021	July 19 – 20	Milan Italy	<a href="https://www.lpvs2021.deib.polimi.it/lpvs2021@polimi.it">https://www.lpvs2021.deib.polimi.it/lpvs2021@polimi.it</a>
6 <sup>th</sup> IFAC Conference on Engine and Powertrain Control, Simulation and Modeling E-COSM 2021	August 23 – 25	Tokyo Japan	<a href="http://shenlab.jp/ecosm2021/index.html">http://shenlab.jp/ecosm2021/index.html</a>
24 <sup>th</sup> International Symposium on Mathematical Theory of Networks and Systems (in cooperation with IFAC) MTNS 2020	cancelled	Papers to be published on IFAC-PapersOnLine	<a href="https://mtns2020.eng.cam.ac.uk/erd30@eng.cam.ac.uk">https://mtns2020.eng.cam.ac.uk/erd30@eng.cam.ac.uk</a>
6 <sup>th</sup> IFAC Workshop on Mining, Mineral and Metal Processing MMM 2021	September 01 – 03	Nancy France	<a href="http://mmm2021.cran.univ-lorraine.fr/mmm-2021@univ-lorraine.fr">http://mmm2021.cran.univ-lorraine.fr/mmm-2021@univ-lorraine.fr</a>
IFAC Workshop on Aerospace Control Education 2021	September 08 – 10	Milan Italy	<a href="http://ascl.daer.polimi.it/events/ifac-workshop-on-aerospace-control-education">http://ascl.daer.polimi.it/events/ifac-workshop-on-aerospace-control-education</a>
20 <sup>th</sup> IFAC Conference on Technology, Culture and International Stability TECIS 2021	September 14 – 17	Moscow Russian Federation	<a href="http://www.tecis2021.com/">http://www.tecis2021.com/</a>
3 <sup>rd</sup> IFAC Conference on Modelling, Identification and Control of Nonlinear Systems MICNON 2021	September 15 – 17	Tokyo Japan	<a href="http://micnon2021.org/">http://micnon2021.org/</a>
11 <sup>th</sup> IFAC Symposium on Biological and Medical Systems BMS 2021	September 19 – 22	Ghent Belgium	<a href="https://bms2021.ugent.be/bms2021@ugent.be">https://bms2021.ugent.be/bms2021@ugent.be</a>
13 <sup>th</sup> IFAC Conference on Control Applications in Marine Systems, Robotics, and Vehicles CAMS 2021	September 22 – 24	Oldenburg (virtually) Germany	<a href="https://cams-2021.com">https://cams-2021.com</a>
6 <sup>th</sup> IFAC Conference on Analysis and Control of Chaotic Systems CHAOS 2021	September 27 – 29	Catania Italy	<a href="http://chaos2021.unict.it/chaos2021@unict.it">http://chaos2021.unict.it/chaos2021@unict.it</a>
16 <sup>th</sup> IFAC Workshop on Time Delay Systems TDS 2021	Sept./Oct. 29 – 01	Guangzhou China	<a href="https://tds2021.ee.cityu.edu.hk/tds2021@ee.cityu.edu.hk">https://tds2021.ee.cityu.edu.hk/tds2021@ee.cityu.edu.hk</a>
7 <sup>th</sup> IFAC Workshop on Lagrangian and Hamiltonian Methods for Nonlinear Control LHMNC 2021	October 11 – 13	Berlin Germany	<a href="https://lhmnc21.org/contact@lhmnc21.org">https://lhmnc21.org/contact@lhmnc21.org</a>
AACC Conference on Modeling, Estimation and Control MECC 2021	October 24 – 27	Austin, TX USA	<a href="https://mecc2021.a2c2.org/">https://mecc2021.a2c2.org/</a>
NCACI, IFAC et al. Conference on Australian and New Zealand Control Conference ANZCC 2021	November 25 – 26	Gold Coast Australia	<a href="https://anzcc.org.au/ANZCC2021">https://anzcc.org.au/ANZCC2021</a>

The IFAC Calendar of Events is constantly updated as additional technical events (Workshops, Symposia, and Conferences) are approved. Due to the Covid-19 pandemic some events have had date changes, cancellations, etc. since their initial approval. Please check back often for the current status. The complete version of the IFAC Calendar of Events is available online at: <https://www.ifac-control.org/events/>

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Title	2021	Place	Further Information
Conference on Control Conference Africa (in cooperation with IFAC) CCA 2021	December 07 – 08	Magalies South Africa	<a href="https://cca2021.org/">https://cca2021.org/</a>
Title	2022	Place	Further Information
Vienna International Conference on Mathematical Modelling MATHMOD 2022	February 16 – 18	Vienna Austria	<a href="https://www.mathmod.at/mathmod@acin.tuwien.ac.at">https://www.mathmod.at/mathmod@acin.tuwien.ac.at</a>
7 <sup>th</sup> ACDOS/IFAC Conference on Advances in Control and Optimization of Dynamical Systems ACODS 2022	February 22 – 25	Silchar, Assam India	<a href="http://acods2022.nits.ac.in/bkr@ee.nits.ac.in">http://acods2022.nits.ac.in/bkr@ee.nits.ac.in</a>
14 <sup>th</sup> IFAC Workshop on Intelligent Manufacturing Systems IMS 2022	March 28 – 30	Tel-Aviv Israel	<a href="https://ws.eventact.com/IMS2022/yuvalc@afeka.ac.il">https://ws.eventact.com/IMS2022/yuvalc@afeka.ac.il</a>
ACA, ICROS, SICE, IFAC et al. Conference on Asian Control Conference (in cooperation with IFAC) ASCC 2022	May 04 – 07	Jeju Island Republic of Korea	<a href="http://ascc2021.org/">http://ascc2021.org/</a>
17 <sup>th</sup> IFAC Conference on Programmable Devices and Embedded Systems PDES 2022	May 17 – 19	Sarajevo Bosnia and Herzegovina	<a href="http://pdes-conference.eu/dejan.jokic@ibu.edu.ba">http://pdes-conference.eu/dejan.jokic@ibu.edu.ba</a>
11 <sup>th</sup> IFAC Symposium on Fault Detection, Supervision and Safety for Technical Processes SAFEPROCESS 2022	June 07 – 10	Pafos Cyprus	<a href="https://safeprocess2021.eu/">https://safeprocess2021.eu/</a>
Conference on American Control Conference (in cooperation with IFAC) ACC 2022	June 08 – 10	Atlanta, GA USA	<a href="https://acc2022.a2c2.org/">https://acc2022.a2c2.org/</a>
13 <sup>th</sup> IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems DYCOPS 2022	June 14 – 17	Busan Republic of Korea	<a href="http://dycops2022.org/secretariat@dycops2022.org">http://dycops2022.org/secretariat@dycops2022.org</a>
11 <sup>th</sup> IFAC Symposium on Control of Power and Energy Systems CPES 2022	June 21 – 23	Moscow Russian Federation	<a href="https://cpes2021.com/cpes2021@ipu.ru">https://cpes2021.com/cpes2021@ipu.ru</a>
9 <sup>th</sup> IFAC Conference on Networked Systems NECSYS 2022	July 05 – 07	Zürich Switzerland	<a href="https://necsys22.control.ee.ethz.ch/">https://necsys22.control.ee.ethz.ch/</a>
6 <sup>th</sup> IFAC Conference on Intelligent Control and Automation Sciences ICONS 2022	July 13 – 15	Cluj-Napoca Romania	http://not yet available
13 <sup>th</sup> IFAC Symposium on Advances in Control Education ACE 2022	July 24 – 27	Hamburg Germany	http://not yet available
19 <sup>th</sup> IFAC Symposium on Control, Optimization and Automation in Mining, Mineral and Metal Processing MMM 2022	August 15 – 18	Montreal Canada	http://not yet available
10 <sup>th</sup> IFAC Symposium on Robust Control Design ROCOND 2022	August/Sept. 30 – 02	Kyoto Japan	<a href="http://rocond21.ee.t.kyoto-u.ac.jp/index.html">http://rocond21.ee.t.kyoto-u.ac.jp/index.html</a> <a href="mailto:rocond2021-secretariat@googlegroups.com">rocond2021-secretariat@googlegroups.com</a>
13 <sup>th</sup> IFAC Symposium on Robot Control SYROCO 2022	October 17 – 20	Matsumoto Japan	<a href="https://syroco2021.com/">https://syroco2021.com/</a>

Medieninhaber und Herausgeber:  
International Federation of Automatic Control (IFAC), Zurich  
Schlossplatz 12, 2361 Laxenburg, Austria

Verlagsort und Redaktion:  
Dr. Dimitri Peaucelle,  
Schlossplatz 12, 2361 Laxenburg  
[newsletter@ifac-control.org](mailto:newsletter@ifac-control.org)  
Editor: Dimitri Peaucelle  
Layout: Elske Haberl  
published bimonthly

Das Sekretariat der IFAC befindet sich seit 1978 aufgrund eines Übereinkommens mit der Österreichischen Bundesregierung und mit der Österreichischen Akademie der Wissenschaften in Laxenburg und wird derzeit aus Mitteln des Bundesministeriums für Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie „BMK“ gefördert.

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