

20th IFAC World Congress



IFAC 2017, Toulouse, FRANCE

Post Congress Report
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Janan Zaytoon, IFAC President 2014-2017
and Ascension De Sousa, Congress Coordinator

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Executive Summary

What

20th World Congress of the International Federation of Automatic Control

Associated Events:

Pre-Congress Tutorials
 President's Dinner
 Technical Committee Meetings
 Executive & Council Meetings
 Opening Ceremony and Welcome Reception
 Friendship Evening
 Congress Gala Dinner
 Technical Visits
 Panel Sessions
 IFAC 60th Anniversary Celebrations: IFAC Story e-book, History Panels and Sessions
 Closing Ceremony and joint Farewell Reception & Next Host's IFAC2020 Berlin Evening
 Exhibition
 Interactive sessions
 Demonstrator sessions
 Tourism Program
 President's Wife Tour

When and Where

7-15 July 2017	IFAC Council, Executive and Technical Committee Meetings at Novotel Toulouse Centre Compans Caffarelli
8-9 July 2017	Pre-Congress Tutorials & Workshops and welcome desk at Centre des Congrès Pierre Baudis
10-14 July 2017	Congress sessions at Centre des Congrès Pierre Baudis, Palais des Sports, Hotel Mercure Toulouse Centre Compans and le Manoir du Prince
8 July 2017	President's Dinner at Couvent les Jacobins
9 & 14 July 2017	Opening and Closing Ceremony at Palais des Sports
9 & 14 July 2017	Welcome&Farewell Receptions at Centre des Congrès Pierre Baudis
13 July 2017	Gala Dinner at le Manoir du Prince

Who

3462 registered delegates – **3260** participants on site
155 accompanying person packages
3005 people registered for the Welcome Reception
3294 people registered for the Gala Dinner
2819 people registered for the Farewell Reception
197 people registered to Pre-Congress IFAC Tutorials
104 people registered to the Elsevier sponsored workshop
114 people registered to the GdR MACS Tutorials
20 people registered to the I-Code sponsored workshop
180 people registered to Technical Visits
19 Sponsors
13 Exhibitors

Getting feedback from delegates – Post congress survey

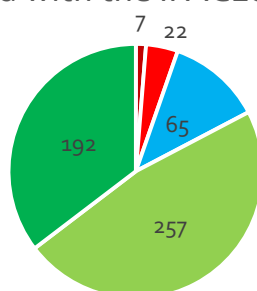
The 20th IFAC World Congress ended on 14 July 2017. It has been a long, intense and exciting event to prepare and organize. Getting feedback from delegates was important and useful for the next Congress organizers (www.ifac2020.org), for IFAC as a whole and for our partners in Toulouse. From 15 September till 1 November congress attendees were invited to answer a short survey on line. **551 responses were received** and we thank them. The results are indicated in the different sections of this report.

Program Assessment

Scientific Program

The program is available at: https://www.ifac2017.org/sites/www.ifac2017.org/files/u88/IFAC17_ProgramAtAGlanceWeb.html
We are pleased to see that participants appreciated the scientific program that has been proposed. The results of the post-congress survey concerning the **global satisfaction with the program** are positive.

I am globally satisfied with the IFAC2017 scientific program



Total responses for this item	543	98.5%
Positive responses	449	82%
Negative responses	29	5%

■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

A. Technical Program

International Program Committee	
Chairs (2)	D Dochain (BE), D Henrion (FR)
Vice-Chairs (5)	FJ Doyle III (US), S Boverie (FR), L Dugard (FR), T Samad (US), J-F Zhang (CN)
Advisors (16)	P Albertos (ES), F Allgöwer (DE), B Anderson (AU), L Basanez (ES), S Bittanti (IT), I Craig (ZA), J-M Dion (FR), A Dolgui (FR), S Engell (DE), A Isidori (IT), S Kahne (US), V Kucera (CZ), WH Kwon (KR), J Lygeros (CH), M Silva (ES), L Trave-Massuyes (FR)
Editors (9) (IFAC Coordinating Committees Chairs)	H Asama (JP), A Astolfi (IT), L Bergh (CL), H Hjalmarsson (SE), K Janschek (DE), F Lamnabhi-Lagarigue (FR), JA Moreno Perez (MX), H Panetto (FR), K Schilling (DE)
Associate editors (40) (IFAC Technical Committee Chairs)	M Campi (IT), JG Chase (NZ), G Conte (IT), F Dabbene (IT), S Dey (SE), A Dolgui (FR), S Dormido (ES), I Dumitrache (RO), L Eriksson (SE), F Giri (FR), R Gudi (IN), T-M Guerra (FR), H Ishii (JP), Q-S Jia (CN), U Jumar (DE), P Korondi (HU), A Kugi (AT), JH Lee (KR), KY Lee (US), L Marconi (IT), M Marcos (ES), L Menini (IT), T Meurer (DE), R Moheimani (AU), S Nakasuka (JP), R Van Nooijen (NL), T Parisini (UK), W Perruquetti (FR), CLP Chen (CN), S Pickl (DE), P Ridao Rodriguez (ES), B De Schutter (NL), L Stapleton (IE), M Tsuzuki (BR), F Vanderhaegen (FR), LB Vlacic (AU), A Visala (FI), Y Wardi (US), X Wang (CN), L Whitman (US)
Technical Associate Editors (281)	See Appendix T
Members (42)	Y Arkun (TR), L Autrique (FR), T Basar (US), E Boje (ZA), J Bokor (HU), P Borne (FR), E Camacho (ES), D-I Cho (KR), V Cocquempot (FR), P Colaneri (IT), I Fantoni (FR), P Goupil (FR), S Hara (JP), S Hirche (DE), JI Imura (JP), M Kinnaert (BE), AB Kurzhanski (RU), P Lanusse (FR), GA Leonov (RU), D Liu (CN), W Michiels (BE), P Misra (US), H Nijmeijer (NL), S Olaru (FR), R Padhi (IN), LY Pao (US), B Pasik-Duncan (US), C Pereira (BR), IR Petersen (AU), H Pierrehal (FR), J De La Puente (ES), A Sarlette (BE, FR), M Sebek (CZ), H Siguerdidjane (FR), SK Spurgeon (GB), K Schlacher (AT), J Stoustrup (US), S Tarbouriech (FR), D Theilliol (FR), D Tilbury (US), M Tomizuka (US), P Van Den Hof (NL)
Reviewers (5726)	A total of 11302 review reports received

The review process was supervised by the IPC Chairs with the help of the Editors and Advisors. IPC members ensured the link between the Program and Organization Committees on specific topics needing the coordination of the two committees. This coordination was supervised by the General Chair. Associate Editors were responsible for the handling of papers submitted to their respective Technical Committee. A paper was considered as falling in a specific Technical Committee based on the first Keyword chosen by the authors. The Technical Associate Editors managed the interactions with Reviewers.

Deadlines	
29 October 2015	PaperCept submission site opens
15 September 2016	Open invited tracks submission deadline
15 October 2016	Invited sessions submission deadline
11 November 2016	IFAC-standard papers submission deadline (Initial deadline was 31 October, and was first extended to 8 November)
7 December 2016	Workshops, tutorials and extended abstracts submission deadline (Initial deadline was 30 November)
27 February 2017	Notification of acceptance (Initial expected date was 20 February, and was first postponed to 24 February)
10 April 2017	Final paper submission (Initial deadline was 31 March, and was first extended to 7 April)
21 April 2017	Preliminary Program Unveiled
24 May 2017	Preprints send for inclusion on USB flash disks
20 June 2017	Program Booklets send to be printed
8-9 July 2017	Pre-Congress Workshops & Tutorials
9-14 July 2017	20th IFAC World Congress

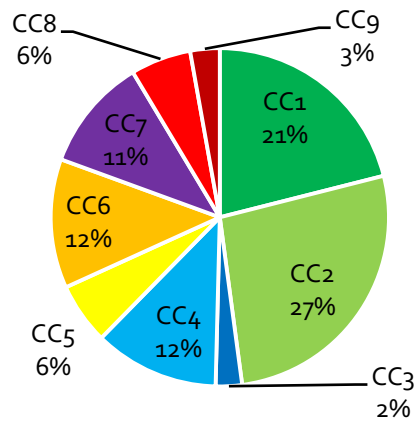
Open Invited Track and Invited Session submission deadlines were set earlier than the paper submission deadlines to encourage the organizers to communicate about their proposals and in this way to attract contributions. Open Invited Tracks needing more open communication, the deadline was set to be earlier than that for the Invited Sessions.

Deadline for Extended Abstracts was set later than for IFAC-standard papers because it was expected that the ad hoc review process of these short contributions would be lighter and also to give some kind of opportunity for authors having missed the earlier deadline.

Submission deadlines have been extended due to multiple requests from authors (and for technical reasons in case of the 7 April to 10 April extension of the final submissions, due to a problem in the registration system). Notification of acceptance was postponed to consolidate the number of accepted papers accordingly to the congress venue capacities and also in order to reexamine some decisions. The Preliminary program took some time to be built because of the high complexity of arranging papers in sessions, assigning rooms to the sessions, and arranging time slots of the sessions to avoid too many sessions on similar topics in parallel. Decisions about acceptance and the Program were made by the IPC chairs in coordination with the Congress General Chair.

Contributions Statistics	
4267	Total number of contributions
4084	Total number of papers submitted
3869	IFAC-Standard submitted papers
177	Extended Abstract papers
36	IFAC-Standard Survey papers
3816	Regular papers
167	Application papers
66	Demonstrator papers
33	History papers
11	Plenaries
30	Pre-Congress Tutorial proposals
98	Open Invited Track proposals (for a total of 1265 papers)
46	Invited Session proposals (for a total of 288 papers)

The pie chart below gives the repartition of submitted papers per topics of the IFAC Coordinating Committees. More detailed data per IFAC technical committee are given in Appendix V.



The review process involved 5726 reviewers and generated 11302 reviews. The Technical Associate Editors (TAE) reported for each paper and graded these. The grades and reports were verified by the Associate Editors and, when necessary, reexamined by the IPC chairs. The result of this process is given in the following table. All papers graded A, B+, B and B- were accepted. Some papers graded C, C-, D or U by the Associate Editors were accepted, thereafter, further to reexamination by the IPC Chairs, to fill some empty sessions slots, and on the basis of reexamination by the IPC Chairs. In practice, the grades of these papers were changed in PaperPlaza to B-.

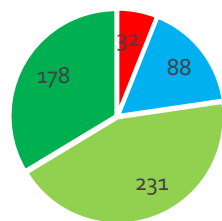
Globally, **2800 papers were accepted (acceptance rate of 66%)**. 133 Extended Abstracts were among the accepted papers. The acceptance rate of Contributed papers (neither in Invited Sessions nor in Open Invited Tracks) is 63%.

TAE grade	NB submitted	NB accepted
A	6	6
B+	137	137
B	1320	1307 (some IS & OIT did not open + plagiarism issues)
B-	1153	1132 (some IS & OIT did not open + plagiarism issues + rejection after reexamination)
C	691	251 accepted to fill sessions (including 20 Extended Abstracts and 1 OIT)
C-	494	23 accepted to fill sessions after reexamination (including 6 Extended Abstracts)
D	300	3 accepted in OITs after reexamination
U	71	3 accepted after reexamination

The program of the Congress was built once the final paper submissions were received. Some authors have not met the deadline for final submission and the final number of papers in the program is **2724**. The way the slots of the Program were attributed to technical committees is described in Appendix W. The Technical Committee Chairs were then asked to assign the papers to these slots in order to create scientifically coherent groups of presentations.

The results of the post-Congress survey concerning **the quality of the technical program** are given in the next pie chart:

The technical program was of high quality

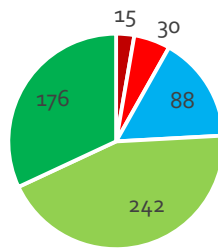


■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

Total responses for this item	529	96%
Positive responses	409	78%
Negative responses	32	6%

The results of the post-Congress survey concerning **the organization of the program in coherent sessions** are given in the next pie chart:

The program was well organized in coherent sessions



■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

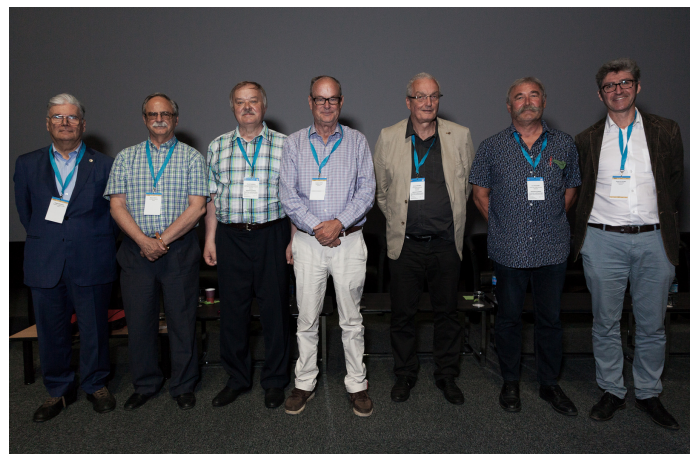
Total responses for this item	551	100%
Positive responses	418	76%
Negative responses	45	8%

B. IFAC2017 Specials

History sessions

The 20th IFAC World Congress took place the year of the 60th anniversary of IFAC. A part of the Congress Program was therefore dedicated to the History of IFAC and to History of Control in general. This resulted in:

- The opportunity to submit papers with a special "history paper" label thus allowing the IPC to gather such papers in coherent sessions and to proceed with appropriate reviewing of these contributions. A total of 33 history papers were submitted, mainly within the following Invited Sessions (IS) and Open Invited Tracks (OIT):
 - A Tribute to Rudolf E. Kalman
Organized by Vladimir Kucera
Session MoA13 of the program
 - History of Discrete Event Systems
Organized by Manuel Silva
Sessions MoM13 and MoP13 of the program
 - History of the Control of Distributed Parameter Systems
Organized by Thomas Meurer, Denis Dochain
Session TuA13 of the program
 - The Legacy of A.M. Lyapunov to Systems and Control Theory. 110 Years of the Toulouse Edition "The General Problem of the Stability of Motion"
Organized by Pavel Pakshin, Elena V. Panteley and Natalia Pakshina
Sessions TuA11, TuM13 and WeA11 of the program
 - History of Automatic Control in Aerospace engineering
Organized by Daniel Alazard, Alexander Nebylov
Session TuP13 of the program
 - 300 Years Developments for an Essential Tool in Control System Theory: The Riccati Equations
Organized by Marc Jungers, Patricio Colaneri and Sergio Bittanti
Session WeP09 of the program
- Two history oriented plenary sessions
 - Some Key Steps in the History of Feedback Control
By Jean-Michel Coron
 - Historical Survey and Emerging Challenges of Manufacturing Automation Modeling and Control – a Global Perspective
By Carlos Eduardo Pereira, Shimon Y. Nof and Gérard Morel
- Two panel sessions
 - The IFAC Story
Organized and Chaired by Stephen Kahne
 - History of Automatic Control
Organized and Chaired by Luc Dugard
- The plenaries and the panel sessions have been video recorded and are available on the IFAC YouTube channel.

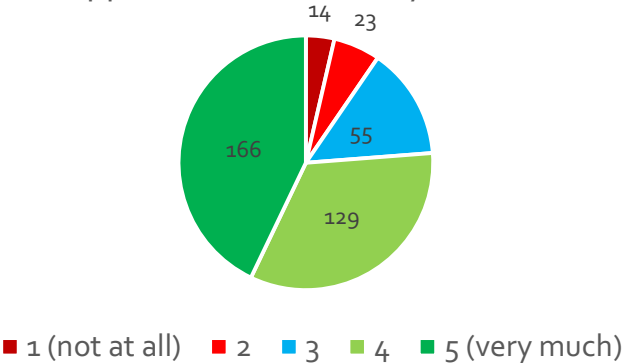


- “The IFAC Story e-book” which was published and included in the USB flash discs distributed to all congress attendees. A special release of the e-book in a hard cover box was also offered to President’s dinner guests and to those having attended the History panel sessions.

The results of the post-congress survey concerning the **history sessions** are given in the next pie chart. The fact that almost 2 out of 3 survey participants have answered the question indicates that the historical sessions have been attractive and interested many colleagues. The globally positive reponses is a good indicator of the success of the history part of the Congress program.



I appreciated the history sessions



Total responses for this item	387	70.2%
Positive responses	295	76%
Negative responses	37	10%

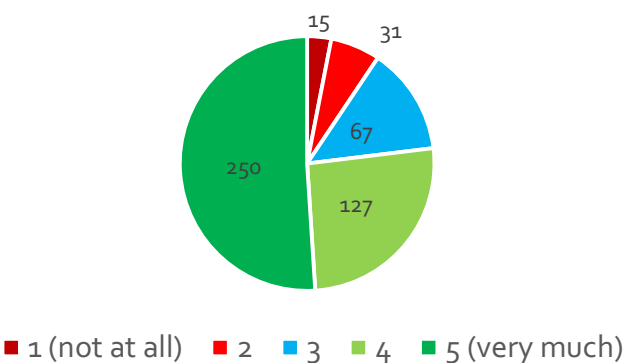
Interactive sessions

Four slots in the program were allotted to interactive sessions held in parallel to the usual on-stage sessions. This corresponds to a total number of 54 interactive sessions. Each interactive session included up to 14 presentations for a total of 756 possible presentations and 684 programmed presentations. Interactive presentations hence represented 25% of the total of 2724 Congress presentations. Unlike the traditional poster sessions, which used to be the standard at Control conferences, the interactive sessions were this time organized with wide TV screens, a table that could host the presenter’s laptop and an electric plug. Being located close to the welcome desk and next to one of the coffee break spaces, the interactive sessions have had quite a large audience.



The results of the post-Congress survey concerning the **interactive session** are given in the next pie chart. Oral feedback to the organizers indicated that the format allows direct and longer discussions with the audience. The interactivity can be further enhanced when the presentations are dynamic rather than a poster or a slide show.

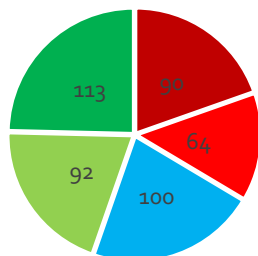
I appreciated the interactive sessions with TV screens



Total responses for this item	490	88.9%
Positive responses	377	76%
Negative responses	46	10%

These globally positive answers can be viewed as an appreciation of those having attended the sessions. A second question from the survey allows one to estimate whether colleagues are willing to present their work in this format. The results are given in the next pie chart:

If I had the choice, I would choose to be scheduled in such interactive sessions



Total responses for this item	459	83.3%
Positive responses	205	45%
Negative responses	154	34%

■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

It is quite surprising to have so many positive answers, knowing that there might be some global negative feeling about interactive sessions in the community (many still consider these as less prestigious and some institutions rank such presentations in a lower category). It should be noted that the program committee has not applied any ranking between oral on-stage presentations and interactive presentations. The accepted papers were positioned in sessions without considering the grades given by the reviewers and the associate editors. Only the topic of the contribution was used to build as coherent as possible sessions.

Demonstrator sessions

Yet another special feature of the 2017 IFAC World Congress was the organization of demonstrator sessions. These were related to a specific call for demonstrator papers in the Congress call for papers (as recalled below).

*Among the innovative features of the 20th IFAC World Congress, contributions are most welcome to the special **demonstrator paper category** associated to an **exhibition of demonstrators**. The goal is to promote research or educational-oriented devices, innovative prototypes and attractive transfer of technologies towards high-tech enterprises. Regular demonstrator papers will be selected on the same high peer-review standards as other regular papers and are intended to promote the excellence of colleagues involved in practical implementation of state-of-the-art control concepts. The exhibition will highlight the future applicative trends of automation and control.*

The IFAC 2017 demonstrators' event is also part of a series of successful workshops organized every four years by the Angers Research Laboratory on System Engineering (LARIS) of the University of Angers, France. Four of these workshops, known as "Journées Démonstrateurs", have already been held, gathering both academic researchers and industrial participants from large groups and SMEs. The 2017 World Congress will rely on the expertise of the organizers of these workshops.

66 demonstrator contributions were submitted, 29 of which were submitted as extended abstracts (this is a much higher proportion than for the regular papers). The final program included 62 demonstrator papers organized in 2 sessions of contributed presentations (MoM33 and FrM33) and four invited sessions related to Open Invited Tracks:

- Tools and Demonstrators for Discrete Event and Hybrid Systems
Organized by Sébastien Lahaye, Cristian Mahulea and Laurent Pietrac
Session TuM33 of the program
- Control Education Demonstrators
Organized by Laurent Autrique and Sebastián Dormido
Session WeM33 of the program

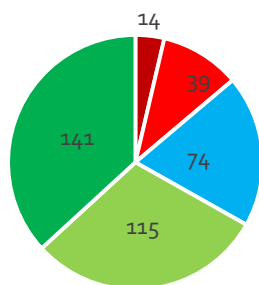


- Automotive Advanced Control Demonstrators
Organized by Pierre Melchior, Serge Boverie, Xavier Moreau and Michel Basset
Session [TuM32](#) of the program
- Mini-Unmanned Aerial Vehicles Demonstrators
Organized by Isabelle Fantoni, Simon Lacroix and Angela P. Schoellig
Session [FrM29](#) of the program

Each session required a dedicated organization. Each demonstrator occupied several square meters with a wide TV screen and tables. The wheeled vehicles session was organized at the Franczal airbase and the aerial vehicle demonstrators took place in a 6-by-6-by-6 meters wide cage. Although located in rooms outside the main Congress building, the audience of the demonstrator sessions was quite large and with four hours sessions, the presentations attracted many attendees.

The results of the post-congress survey concerning the **demonstrator sessions** are given in the next pie chart:

I appreciated the demonstrator sessions



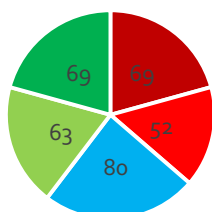
Total responses for this item	383	69.5%
Positive responses	256	67%
Negative responses	53	14%

■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

A second question aimed at knowing how many colleagues would be interested in participating to such sessions, which is challenging because involves quite some logistics for the presenters.

The results are given in the next pie chart:

If demonstrator sessions were organized again, I would submit a contribution



Total responses for this item	333	60.5%
Positive responses	132	40%
Negative responses	121	36%

■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

Extrapolating the 132 positive answers among 551 of those having filled the survey, to the 3260 congress attendees implies there is a good potential to organize successful demonstrator sessions at the IFAC World Congress, in terms of audience and number of demonstrator presentations.

C. Plenary Lectures and Panel Sessions

The Congress program included five plenary lectures organized each morning from 8h30 till 9h30 and 6 semi-plenary lectures organized in pairs of two in parallel during the three first days of the Congress from 18h15 till 19h00. The plenaries and half of the semi-plenaries were held at *Le Palais des Sports*, the Multi-Purpose Arena that was configured to host 3000 people. The other half of the semi-plenary talks were at Saint Exupéry Auditorium which hosts 500 people, with the possibility to simultaneously project the presentations in the Cassiopée room hosting 300, but this connection was not needed.

The plenary presentations were:

- *Systems Engineering for Water Networks*, by [Iven Mareels](#)
- *Snake Robots: from Biology, through University, towards Industry*, by [Kristin Y. Pettersen](#)
- *Autonomous Mobility in Smart Cities*, by [Christos Cassandras](#)
- *Pioneering the Future Aerospace*, by [Charles Champion](#) and [Grazia Vittadini](#)

- *Hybrid processes for controlling cyber-physical manufacturing systems*, by Dawn Tilbury

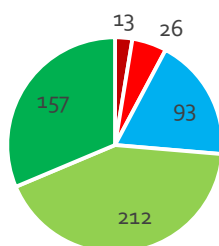
The semi-plenary presentations were:

- A Tribute in Memory of Roberto Tempo
- *Synchronized and Democratized Smart Grids*, by Qing-Chang Zhong
- *Historical Survey and Emerging Challenges of Manufacturing Automation Modeling and Control – A Global Perspective*, by Carlos Eduardo Pereira, Co-authors: Shimon Nof and Gérard Morel
- *Some key steps in the history of feedback control*, by Jean-Michel Coron
- *Electronic Horizon: Cloud based solution for automated driving*, by Frank Försterling
- Task Intelligence of Robots, by Jong-Hwan Kim

These speakers were selected and invited by the IFAC President Janan Zaytoon further to a call for plenary proposals that was forwarded to IFAC officers, officials and NMO's.

The results of the post-congress survey concerning the **plenary presentations** are given in the next pie chart:

I appreciated the Plenary and Semi-Plenary talks



Total responses for this item	501	90.9%
Positive responses	369	73%
Negative responses	39	8%

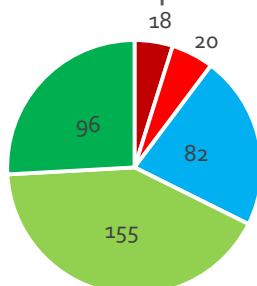
■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

The Congress program included 8 panel sessions which were held in the St Exupéry Auditorium either during lunch break or in parallel with the technical sessions. The list is provided below:

- *The IFAC Story*, chaired and organized by Stephen Kahne
- *Preparing Tomorrow's Scientists and Engineers for the Challenges of the 21st Century*, chaired and organized by Bozena Pasik-Duncan & Frank Doyle
- *History of Automatic Control*, chaired and organized by Luc Dugard
- *Your Research Sharing through Outreach*, chaired and organized by Bozena Pasik-Duncan
- *How to Enhance Industry/University Collaboration on Advanced Control*, chaired and organized by Silvia Mastellone & Alex van Delft
- *Automated Vehicles and Safety*, organized by MOVEO, chaired by Gérard Yahiaoui
- *Control Challenges for Social Systems*, chaired and organized by Francoise Lamnabhi-Lagarigue
- *Advanced Control in Industry: The Path Forward*, chaired and organized by Tariq Samad and Kazuya Asano

The results of the post-congress survey concerning the **panel sessions** are given in the next pie chart:

I appreciated the panel sessions



Total responses for this item	371	67.3%
Positive responses	251	68%
Negative responses	38	10%

■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

D. Pre-Congress Workshops and Tutorials

30 pre-Congress Workshops and Tutorials propositions were submitted in answer to the call for contributions (recalled below).

The workshops and tutorials sessions at IFAC 2017 World Congress will take place on Saturday, July 8 and Sunday, July 9. The IFAC World Congress will offer half-day, full-day or two-days workshops and tutorials. Organizers are invited to prepare proposals, which should provide clear and focused education material covering new and emerging topics within the scope of

automatic control. Workshops should be interactive, not mini conferences. Workshops with creative organization that ensures strong interactions among the participants are desirable. These sessions are devoted to address current topics showing relevant automatic control applications in any domain and/or future topics based on new developments in theory related to the progress made in technology. The presentations will be delivered by experts in academia, laboratories, and industry.

Please note that

- A statement addressing why the tutorial is important, why the tutorial is timely, how it is relevant to the IFAC World Congress, and why the speakers are qualified for a high-quality introduction of the topic is required as well.*
- If the tutorial was given before, describe when and where it was given and how it will be updated for the IFAC 2017 World Congress. If possible, provide a link to slides of the previous tutorial presentation.*
- It is advisable for the organizers to create some web page of their own that may advertise the workshop or tutorial.*
- If there are fewer than 10 preregistered participants, the tutorial/workshop will be canceled.*
- In case the tutorial-workshop makes some profit (over 10 participants) it will be shared between the IFAC 2017 organization and the tutorial-workshop chairperson. The payment will follow only after submission of an invoice.*

Based on the reviews gathered for each proposal, 18 Tutorials were open to registrations and 15 of them took place. All Workshops and Tutorials with more than 5 registered people at 15 May 2017 were maintained.

Title	Organized by	Length	# Participants
Flight Dynamics, Simulation and Control with MATLAB and Simulink	Tayfun Çimen, Metin U. Salamci	2 days	17
Analysis and Design of Model Based Fault Diagnosis Systems for Large Scale Models	Erik Frisk, Mattias Krysander	1 day	9
Biological Control Systems	Babatunde A. Ogunnaike	1 day	9
Cooperative and noncooperative decision making in multi-agent systems: An operator theoretic perspective	Sergio Grammatico, Kostas Margellos, Guiseppe Notarstefano, Maria Prandini	1 day	17
Modelling and Control of Flexible Link Multi-Body Systems	Vicente Feiu Battle, Wayne Book, Hubert Gattringer, Paul Kotyczka, Jörn Malzahn, Denis Matignon	1 day	10
Simple Adaptive Control and New Results in Stability Analysis	Itzhak Barkana, Ilan Rusnak, Haim M. Weiss	1 day	12
Iterative Learning Control and Repetitive Control: Theoretical Advances and Emerging Applications	Kevin L Moore, David H Owens, Tom Oomen, Ying Tan, Kira Barton, Bing Chu, Chris Freeman, Deqing Huang, Mikael Norrlöf	1 day	28
Learning and Discovery through Process Data Analytics	Sirish L. Shah, Nina Thornhill, Biao Huang, Tongwen Chen, Jiandong Wang	1 day	23
Rigidity Theory for Multi-Agent Systems Meets Parallel Robots: Towards the Discovery of Common Models and Methods	Hyo-Sung Ahn, Shiyu Zhao, Daniel Zelazo, Jean-Pierre Merlet, Marco Carricato, Sébastien Briot, Antonio Franchi	1 day	6
Regional Analysis of Distributed Parameter Systems: A Tutorial	A. El Jai, E. Hassa, Zerrik, YangQuan Chen, Ge Fudong	½ day	9
Predictive repetitive control system design and implementation using MATLAB/Simulink	Liuping Wang, Eric Rogers	½ day	9
Tutorial on time-delay and sampled-data systems	Emilia Fridman, Alexandre Seuret, Laurentiu Hetel, Pierdomenico Pepe, Frédéric Mazenc, Kun Liu, Anton Selivanov	½ day	17
Cyber Threats in Distributed Model Predictive Control	Ali Haseltalab, José María Maestre, Carlos Ocampo-Martinez, Hideaki Ishii	½ day	10
Fault Diagnosis of Interconnected Cyber-Physical Systems	Marios M. Polycarpou, Vasso Reppa	½ day	7
Model-Based and Model-Guided Approaches for Automotive Powertrain Calibration and Control	Guoming Zhu, Xiang Chen	½ day	11

On top of these IFAC Tutorials some sponsored workshops and tutorials were proposed, as indicated on the table below. The sponsors were in charge of organizing these workshops and tutorials, but the registration went through the registration system of IFAC2017 Congress.

Sponsor	Title	Organized by	Length	# Participants
ELSEVIER	A Guide to Being Active in the Community as Author and Reviewer	B. Bitmead, A Waldron	1/2 day	104
iCODE	Control and decision at Paris-Saclay	Y. Chitour, G. Mazanti, T. Mastrolia, S. Al Fayad, A. Chaillet	1/2 day	20
GdR MACS	Interval Methods and Applications	L. Jaulin, T. Raïssi, N. Ramdani, N. Meslem, M. Kieffer	2 days	20
	Discrete Event Systems	B. Cottenceau, M. Lhommeau, S. Lahaye, M. Fabian, L. Pietrac, C. Mahulea, F. Basile, C. Cassandras, S. Lafortune	2 days	21
	Modeling, Estimation, and Control of Aerial Vehicles	N. Marchand, H. Fourati, A. Franchi, P. Robuffo Giordano	1 day	21
	Automatic Control and Wireless Sensor Networks	V. Lecuire, D. Georges, A. Mellouk	1 day	21
	Performance, modeling and simulation	G. Zacharewicz, Y. Ducq, R. Abbou, B. Archimède, F. Rotella	1 day	17
	Human-machine systems	Y. Morere, O. Carsten	1 day	13
	Industrial Engineering for Health Care Systems	M. Di Mascolo, T. Monteiro	1 day	8

The registration rules and fees for the Workshops and Tutorials were as cited below.

Workshops & Tutorials Registrations	Fees for early registration (before April 15, 2017)	Fees for late registration (after April 15, 2017)
Full half-a-day Registration	150€	180€
Student half-a-day Registration	100€	130€
Full one-day Registration	250€	280€
Student one-day Registration	180€	210€
Full two-days Registration	400€	430€
Student two-days Registration	300€	330€
GdR MACS Workshops Registration - 1 day	80€	110€
GdR MACS Workshops Registration - 2 days	120€	150€
iCODE sponsored Workshop	30€	30€

The program will include [Workshops and Tutorials](#) that may last half-a-day, one-day or two-days. Prices include registration to the workshops and coffee/tea breaks.

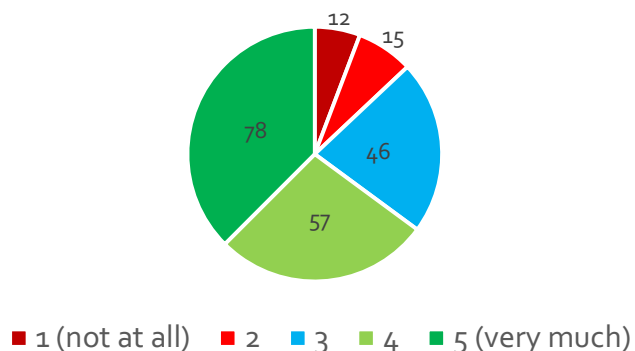
[GdR MACS](#) Workshops are for French speaking participants and registered to GdR MACS at [the following address](#) (free). These workshops are partly supported by [CNRS](#).

Registration to several Workshops or Tutorials is possible. The registrants should take care not to register to workshops occurring simultaneously.

Workshops will take place only if at least 10 participants register before May 15, 2017. For those Workshops that may be canceled the registered participants will be invited either to select another workshop or to be refunded.

The results of the post-congress survey concerning the **pre-Congress Workshops and Tutorials** are given in the next pie chart. This rate of answers is surprisingly high since only 197 persons registered to Workshops and Tutorials (5,7% of the total registrations). The answers therefore might include people who appreciated the offer without having participated themselves.

I appreciated the pre-Congress Workshops and Tutorials



Total responses for this item	208	37.7%
Positive responses	135	65%
Negative responses	27	13%

E. Prizes, Awards & Supports

The IFAC 2017 World Congress features the following Prizes, Support and Awards, which are presented at the opening and closing sessions and at others social events of the World Congress.

IFAC Application Paper Prize	IFAC Journal Awards
IFAC Young Author Prize	Major IFAC Awards
IFAC Interactive Paper Prize	IFAC Textbook Prize
EEA Demonstrator Paper Prize	IFAC Fellow Awards
IFAC Foundation Award	Outstanding Service Awards
IFAC Foundation Young Author Support	

IFAC Application Paper Prize

The prize was given for outstanding technical contributions at an IFAC Congress in the area of control applications. This includes, but is not limited to, case studies, design and implementation of control systems and optimization of operations in a process. The prize and a certificate are awarded at the closing ceremony of the IFAC World Congress.

Nominations were either from authors (all papers submitted in the Application category were considered), or from reviewers (nominations via a checkbox in the review form in the IFAC PaperCept conference manuscript management system). A preliminary selection process was performed by the relevant Technical Committees. By the time of the approval of the final Program of the Congress, each Technical Committee Chair submitted to the Chair of the IFAC Application Paper Prize Selection Committee the set of papers which was considered suitable for this Prize. The Selection Committee determined a short list of finalists and notified the respective corresponding authors. The winner has been determined at the time of the Congress, based on the written paper and the oral presentation.

Application Paper Prize Selection Committee: **Alexander Kurzhanski** (Chair), Abu Sebastian, Trygve Thomessen, Georg Weichhart, Wei Ren, Carlos Eduardo Pereira.

Finalists:

- « Optimal Control of Perturbed Static Systems for Synchrotron Electron Beam Stabilisation » by Gayadeen Sandira; Duncan Stephen; Rehm Guenther.
- « Data-driven Model Predictive Control for Lean NOx Trap Regeneration » by Karimshoushtari Milad; Novara Carlo.
- « Bezier Curve Based Trajectory Generation and Nonlinear Friction Compensation for Feed Drive Contouring Control » by Simba Kenneth Renny; Heppeler Gunter; Bui Ba; Hendrawan Yogi Muldani; Uchiyama Naoki.
- « **Stochastic Modeling of Lane Changes for Predictive Adaptive Cruise Control** » by **Moser Dominik; Reiter Matthias; del Re Luigi. Prize Winner**
- « Predictive Guidance Control for Autonomous Kites with Input Delay » by Wood Tony A.; Ahbe Eva; Hesse Henrik; Smith Roy S.

IFAC Young Author Prize

The prize was for the best paper at an IFAC World Congress of an author younger than 30 years by 1 July 2017. The author should have been the first and corresponding author of the paper. The author was also to present the results during the World Congress. The prize and a certificate were awarded at the closing ceremony of the IFAC World Congress.

Nominations could arise from colleagues of the young author (no self-nominations) and had to include a nomination letter. The nomination letter had to contain a clear statement indicating that the nominee is younger than 30 years by 1 July 2017. Nominations were done using the IFAC PaperCept conference manuscript management system. The nomination phase started on 8 December 2016 and closed on 8 March 2017. The IFAC Young Author Prize Selection Committee determined, based on the gathered reviews and on their own reading of the paper, a short list of finalists, and notified the authors. The winner was

determined at the time of the Congress, based on both the written paper and the oral presentation that has been given by the nominee.

Young Author Prize Selection Committee: **Michel Kinnaert** (Chair), Raymond de Callafon, Lorenzo Marconi, Katalin Hangos, Jaime Alberto Moreno Pérez, Hideaki Ishii, Håkan Hjalmarsson, Maria Seron.

Finalists:

- Shen Zeng for the paper « *Periodic Signal Compressors* » by Shen Zeng, Jan Maximilian Montenbruck, Frank Allgöwer.
- Rallo for the paper « *Real-time Pedaling Rate Estimation via Wheel Speed Filtering* » by Gianmarco Rallo, Simone Formentin, Matteo Corno, Sergio M. Savaresi.
- **Luca Deori (Prize Winner)** for the paper « *On the Connection between Nash Equilibria and Social Optima in Electric Vehicle Charging Control Games* » by Luca Deori, Kostas Margellos, Maria Prandini
- **Raik Suttner (Prize Winner)** for the paper « *Exponential Stability for Extremum Seeking Control Systems* » by Raik Suttner, Sergey Dashkovskiy.
- Anastasios Tsiamis for the paper « *State Estimation with Secrecy against Eavesdroppers* » by Anastasios Tsiamis, Konstantinos Gatsis, George J. Pappas.
- Joel Paulson for the paper « *Arbitrary Polynomial Chaos for Uncertainty Propagation of Correlated Random Variables in Dynamic Systems* » by Joel A. Paulson, Edward A. Buehler, Ali Mesbah.

IFAC Interactive Paper Prize:

The prize was given for the best paper accepted and presented at the IFAC World Congress in an interactive session. The presentations at the World Congress had two formats: lecture/oral sessions and interactive sessions. No value ranking is implied by the presentation format and all the papers undergo the same review process. It was at the discretion of the International Program Committee to choose which papers are presented in either oral or interactive sessions. The interactive presentation took place during 2 hours session slots. A space was allocated to each speaker with a TV screen to be connected to a laptop (laptops were not provided by the organization). The presenters were encouraged to emphasize their contributions by means of videos, simulations, demonstrations of software tools, or in classical slideshow format.

The Chair of the IFAC Interactive Paper Prize was responsible for nominating papers for the prize based on the reviews collected for the papers presented in interactive sessions. The Selection Committee determined a short list of finalists and notified the respective corresponding authors. The winner was determined at the time of the Congress, based on the written paper and the interactive presentation.

Interactive Paper Prize Selection Committee: **Michael Sebek** (Chair), Bassam Bamieh, Miro Fikar, Vladimír Havlena, Martin Kozek, Jan Lunze, Kenji Sugimoto, Draguna Vrabie

Finalists:

- "Switch Observability for Homogeneous Switched DAEs" by Ferdinand Kuste, Stephan Tren, Andreas Wirsn
- "Real-Time Pedaling Rate Estimation Via Wheel Speed Filtering" by Gianmarco Rallo, Simone Formentin, Matteo Corno, Sergio M. Savaresi
- **"Robust adaptive feedforward output-feedback tracking control for microalgae cultures" by A. Schaum, H. Weisbarth, T. Meurer. Prize Winner**
- "VSC-HVDC System Robust Stability Analysis Based on a Modified Mixed Small Gain and Passivity Theorem" by Y. Song, C. Breitholtz
- "Parameter Varying Flutter Suppression Control for the BAH Jet Transport Wing" by B. Patartics, T. Luspai, T. Peni, B. Takarics, B. Vanek, T. Kier
- "Virtual Bidding: Equilibrium, Learning, and the Wisdom of Crowds" by Jonathan Mather, Eilyan Bitar, Kameshwar Poolla

EEA Demonstrator Paper Prize:

This special IFAC2017 World Congress prize was attributed to the best paper in the Demonstrator sessions.

The Demonstrator Paper Prize Selection Committee has determined the winner at the time of the Congress, based on both the written paper and the presentation at the demonstrator exhibition.

This special demonstrator prize was funded by Club EEA (French association of professors and researchers in electrical and information sciences) which had sponsored the Workshop on Automatic Control Demonstrators, known as "Journées Démonstrateurs", held every four years in Angers, France.

Demonstrator Paper Prize Selection Committee: **Francis Lepage** (Chair), Laurent Autrique, Isabelle Fantoni, Marion Gilson-Bagrel, Laurent Houssin, Maciej Patan, Laetitia Perez

Winner: "Time-Optimal Control for Bilinear Nonnegative-In-Control Systems: Application to Magnetic Manipulation", by Jiri Zemanek, Sergej Celikovsky, Zdenek Hurak

IFAC Foundation Award

Beginning with the Congress year 2017, the IFAC Foundation established this award to recognize contributions from individuals or group of individuals who, with their work, have shown how Automatic Control science and technology can contribute to decisive advances in the broad area of "sustainable development". This includes work in the areas of renewable and clean energy; management of energy, water and resources in general; control in agriculture, pollution control, climate control and similar.

The award given to high-quality papers submitted and accepted for presentation at the triennial IFAC World Congress. The award is fully funded by the IFAC Foundation.

IFAC Foundation Award Committee: P. Albertos (chair), I. Craig, H. Cho, P. Khargonekar, F. Lamnabhi, J. Perkar.

Winner: "Impact of Climate Model Parametric Uncertainty in an MPC Implementation of the DICE Integrated Assessment Model", by S. Hafeez, Steven R. Weller, Christopher M. Kellett.

Young Author Support

The IFAC Foundation offered a support for 23 young authors from developing countries who attended the 2017 IFAC World Congress in the framework of its Young Author's Support Program.

Eligible for support are authors of accepted technical papers – citizens of a developing country not supported by any institution in a high-income country – whose age will be less than 30 years during the conference. Only one author per paper can be supported. A limited number of applications was supported. A developing country is understood to be one which is not on the list of high income countries. The support consists of a lump sum to help defray the cost of registration, accommodation and travel expenses related to the Congress. Presentation of a paper at the conference by each supported author is a requisite.

58 applications were received. Among these 16 were from China, 16 from central and south America (Bolivia, Brazil, Chile, Mexico, Peru), 13 from India, 11 from countries close to the mediterranean sea (Algeria, Egypt, Iran, Lebanon, Morocco, Romania, Tunisia, Turkey). 18 applications were rejected because they did not satisfy the criteria imposed by the IFAC foundation rules (accepted paper, under the age of 30 at the time of the Congress, citizens of a developing country not supported by any institution in a high-income country). 25 young author support awards were attributed taking into account the grades obtained during the review process and taking into account a balanced geographical distribution.

Journal Awards

- Automatica Paper Prize
- Control Engineering Practice Paper Prize
- Journal of Process Control Paper Prize
- Engineering Applications of Artificial Intelligence Paper Prize
- Mechatronics Paper Prize
- Nonlinear Analysis: Hybrid Systems Paper Prize

The IFAC Journal Awards are given for outstanding papers published in the above IFAC journals. At the closing ceremony of each Triennial IFAC World Congress monetary prizes are presented to the authors of papers selected by the Journal Prize Awards Selection Committees. The prize funds are provided by the publisher of the IFAC Journals, Elsevier Ltd.

Major Awards

- The Giorgio Quazza medal recognizes outstanding lifetime contributions of a researcher and/or engineer to conceptual foundations in the field of systems and control.
- The Nathaniel B. Nichols medal recognizes outstanding contributions of an individual to design methods, software tools and instrumentation, or to significant projects resulting in major applications and advancement of control education.
- The Manfred Thoma medal recognizes outstanding contributions of a young researcher and/or engineer under the age of 40 to the field of systems and control in its widest sense.
- The Industrial Achievement award is given to an individual, or a team of individuals, who has made a significant contribution to industrial applications of control. The award is given in technical fields covered by IFAC. The selection is based on industrial achievements measured in terms of: Inventions in the control area, Engineering significance of products and projects, Industrial leadership, Promotion of control technology in industry, Impact of patents, International recognition.
- The High Impact paper award acknowledges the impact of a paper published in any of the official IFAC journals on the broad areas of Automatic Control theory and application.

The above five IFAC Major Awards were presented at the opening ceremony of the World Congress.

Harold Chestnut Control Engineering Textbook Prize

This Textbook award is presented at each triennial Congress for the best Control Engineering textbook for which the first edition(s) occurred not later than the Congress just prior to the one at which the award is presented. It recognizes the author(s) of the textbook(s) judged to have most contributed to the education of control engineers.

Harold Chestnut Control Engineering Textbook Prize were awarded at the IFAC President's dinner held prior to the IFAC World Congress.

IFAC Fellows

The IFAC Fellow Award is given to persons who have made outstanding and extraordinary contributions in the field of interest of IFAC, in the role as an Engineer/Scientist, Technical Leader, or Educator. IFAC Fellows for the 2014-2017 triennium were awarded at the IFAC President's dinner held prior to the IFAC World Congress.

Outstanding Service Award

This award is presented to IFAC officials who have served and contributed substantially to IFAC in various capacities, according to a criterion set by the Council. The awards were presented during the IFAC President's dinner held prior to the IFAC World Congress.

F. Side Meetings

Technical Committee Meetings - Executive & Council Meetings took place in parallel with the World Congress, from 7 to 15 July, in the hotel Novotel. This hotel also hosted the IFAC secretariat and the IFAC Officers Office for informal meetings. All these meetings were organized and hendeled by the IFAC secretariat. Many thanks to Elske Haberl and Katharina Willixhofer for their precious help and kindness.



		Time	~ Participants	Room
THURSDAY				
06.07.2017	Arrival			
FRIDAY				
07.07.2017	Joint PubCom (Basar and Craig)	09:00-11:00	20	Cumparsita
	Joint A&F (Allgöwer and Asama)	11:00-12:30	15	Cumparsita
	PUMB (Fleming)	14:00-18:00	12	Tangovivo
	Foundation Board of Trustees (Isidori)	16:00-19:00	10	Cumparsita
SATURDAY				
08.07.2017	Informal Incoming Officers meeting (Allgöwer)	07:30-10:00	11	Cumparsita
	Outgoing TB (Doyle)	10:30-16:00	60	Tangovivo+Milonga
	Outgoing EB (Bittanti)	14:00-17:00	20	Cumparsita
President's dinner (attendance by invitation only)				
SUNDAY				
09.07.2017	Outgoing Council (Zaytoon)	09:00 - 16:00	45	Tangovivo+Milonga+Cumparsita
Welcome Reception at Centre de Congrès Pierre Baudis				
MONDAY				
10.07.2017	WG industrial fault diagnosis working (TC 6.4, Odgaard)	10:00-11:00	10	Tangovivo
	CC/TC and other side meetings as requested	10:00-11:00	max 40	Milonga
	TC 9.4. Control Education (Dormido)	10:00-11:00	40	Cumparsita
	TC 5.4. Large Scale Complex Systems (Xiaofan Wang)	11:00-12:00	40	Tangovivo
	TC 1.3. Discrete Event and Hybrid Systems (Wardi)	11:00-12:00	40	Milonga
	TC 4.5. Human Machine Systems (Vanderhaegen)	11:00-12:00	max 40	Cumparsita
	GENERAL ASSEMBLY	13:30-16:00	100	Tangovivo+Milonga+Cumparsita
	TC 8.2. Biological and Medical Systems (J. Geoffrey Chase)	17:00-18:00	30	Tangovivo
	TC 4.2. Mechatronic Systems (Moheimani)	17:00-18:00	max 40	Milonga
	JPC Editor Meeting (Dochain)	17:00-18:00	7	Cumparsita
1st IFAC Advisor meeting (Allgöwer) 19:15 - 21:15 (rooms Tangovivo+Milonga)				

TUESDAY						
11.07.2017	TC 9.1. Economic, Business, and Financial Systems (D. Cho)	10:00-11:00	15	Tangovivo		
	TC 9.2. Social Impact of Automation (Perruquetti)	10:00-11:00	30	Milonga		
	CC/TC and other side meetings as requested	10:00-11:00	max 40	Cumparsita		
	TC 1.5. Networked Systems (Ishii)	11:00-12:00	30	Tangovivo		
	TC 5.1. Manufacturing Plant Control (Tsuzuki)	11:00-12:00	30	Milonga		
	YAP Presentation (Kiennart)	11:00-12:00	20	Cumparsita		
	TC 1.1. Modelling, Identification and Signal Processing (Campi)	12:00-13:00	40	Milonga		
	Automatica Editors only (Teel)	12:00-13:30	12	Cumparsita		
	Annual Reviews in Control Editorial Board (Lamnabhi-L.)	13:00-14:30	20	Tangovivo		
	TC 3.3. Telematics: Control via Communication Networks (Jumar)	13:30-14:30	25	Milonga		
	TC 2.2. Linear Control Systems (Conte)	13:30-14:30	40 ?	Cumparsita		
	Mechatronics Editorial Board (Moheimani)	14:30-15:30	max 20?	Tangovivo		
	TC 3.1. Computers for Control (Marcos)	14:30-15:30	25	Milonga		
	TC 4.1. Components and Technologies for Control (Dumitrache)	14:30-15:30	15	Cumparsita		
	TC 5.2. Manufacturing Modelling for Manag. A. C. (Dolgui)	16:00-17:00	30	Tangovivo		
	TC 2.3. Non-Linear Control Systems (Marconi)	16:00-17:00	40	Milonga		
	TC 2.5. Robust Control (Dabbene)	16:00-17:00	30	Cumparsita		
	TC 6.2. Mining, Mineral and Metal Processing (Kugi)	17:00-18:00	20	Tangovivo		
	TC 7.4. Transportation Systems (De Schutter)	17:00-18:00	30	Milonga		
	TC 6.1. Chemical Process Control (Jay Lee)	17:00-18:00	40	Cumparsita		
Friendship reception (attendance by invitation only)						
WEDNESDAY						
12.07.2017	Journal of Systems & Control Ed. Board (Bitmead)	08:30-10:00	10	Milonga		
	Preparation of the CC9 Panel discussion (Lamnabhi-Lag.)	10:00-11:00	10	Tangovivo		
	JPC Editorial Board at large (Dochain)	11:00-12:00	30	Tangovivo		
	CEP Editorial Board (Kugi)	10:00-12:00	40	Milonga		
	TC 5.3. Enterprise Integration and Networking (Whitman)	10:00-11:00	20	Cumparsita		
	Industry Committee meeting (Samad)	11:00-13:00	20	Cumparsita		
	NAHS Editorial Board (Giua)	12:00-13:30	15	El Bandonéon		
	Automatica Joint Ed. Board (Teel)	12:00-13:30	45	Milonga+Tangovivo		
	Joint Policy (Tilbury and Pao)	13:30-15:30	5	Tangovivo		
	Joint Awards (Van den Hof and Johansson)	13:30-15:30	20	Milonga		
	TC 3.2. Computational Intelligence in Control (Guerra)	13:30-14:30	40	Cumparsita		
	TC 6.4. SAFEPROCESS (Parisini)	14:30-15:30	40	Cumparsita		
	TC 6.3. Power and Energy Systems (Kwang Y. Lee)	16:00-18:00	40	Tangovivo		
	TC 7.5. Intelligent Autonomous Vehicles (Vlacic)	16:00-17:00	35-40	Milonga		
	TC 1.2. Adaptive and Learning Systems (Giri)	16:00-18:00	20	Cumparsita		
	TC 2.6. Distributed Parameter Systems (Meurer)	17:00-18:00	20-25	Milonga		
	TC 8.4 Biosystems and Bioprocesses (M-N Pons)	18:00-19:00	15	Tangovivo		
	THURSDAY					
	13.07.2017	IPP Sel. Comm. (Sebek)	10:00-12:00	max 40	Tangovivo	
TC 4.3. Robotics (Korondi)		10:00-11:00	35	Milonga		
PID 2018 IPC member meeting (Ionescu)		10:00-11:00	30	Cumparsita		
TC 8.1. Control in Agriculture (Visala) not yet confirmed		11:00-12:00	20	Milonga		
EAAI Editorial Board meeting (Abraham)		11:00-12:00	20	Cumparsita		
TC 8.3. Modelling and Control of Environmental Systems (van Nooijen)		15:00-16:00	20	Tangovivo		
TC 2.1. Control Design (Menini)		15:00-16:00	25	Milonga		
Annual Steering Com. Meeting EUCA (Goulart)		12:00-16:00	40	Cumparsita		
TC 9.5. Technology, Culture and International Stability (Stapleton)		16:00-17:00	35	Tangovivo		
TC 9.3. Control for Smart Cities (Qing-Shan Jia)		16:00-17:00	20	Milonga		
TC 7.3. Aerospace (Nakasuka)		16:00-18:00	30	Cumparsita		
CC 4 Mechatronics, Robotics and Components (Janschek)		17:00-18:00	8	Tangovivo		
TC 2.4. Optimal Control (Pickl)		17:00-18:00	40	Milonga		
APP Selections (Kurzanski)		18:00-19:00	10	Tangovivo		
TC/CC Chair Training session (D. Cho)		13:00-15:00	70	Tangovivo+Milonga		
Congress banquet at Francal air base						
FRIDAY						
14.07.2017	Incoming TB (D. Cho)	09:00 - 12:00	70	Tangovivo+Milonga		
	TC 7.2. Marine Systems (P. Ridao Rodriguez)	10:00-11:00	20	Cumparsita		
	YAP Selections (Kinnaert)	11:00-12:00	8	Cumparsita		
	TC 7.1. Automotive Control (Eriksson)	13:30-14:30	40	Tangovivo		
	CC/TC and other side meetings as requested	13:30-14:30	max 40	Milonga		
	CC/TC and other side meetings as requested	14:30-15:30	max 40	Tangovivo		
	CC/TC and other side meetings as requested	14:30-15:30	max 40	Milonga		
	Incoming EB (Van den Hof)	13:00 - 16:00	20	Cumparsita		
July 14 fireworks at city center						
SATURDAY						
15.07.2017	Incoming Council (Allgöwer)	09:00-12:00	50	Tangovivo+Milonga+Cumparsita		
	Informal Incoming Officers meeting (Allgöwer)	14:00-17:00	8	Milonga		
SUNDAY						
16.07.2017	Departure					
Officers and Workrooms						
July 6-15, 2017	IFAC Secretariat	09:00	17:00	3	Tanguedia	
July 7-15, 2017	IFAC Officers Office (reserved on Wed. during lunch time)	09:00	17:00		El Bandonéon	

G. Lunch celebrating Women in IFAC

A "Celebrating Women in IFAC Lunch" took place on 14 July from 12:15 - 13:15, with the support of AACC, University of Kansas, and the IFAC World Congress.

We sincerely thanks Bozenna Pasik-Duncan who initiated the organization of this lunch which brought together 180 women.

The Organizing Committee includes:

Bozenna Pasik-Duncan (USA - Chair), Linda Bushnell (USA - Co-Chair), Antonella Ferrara (Italy), Sandra Hirche (Germany), Maria Elena Valcher (Italy), Dawn Tilbury (USA), Kristin Pettersen (Norway), Lucy Pao (USA), Maria Prandini (Italy), Francoise Lamnabhi – Lagarrique (France), Ruth Bars (Hungary), Sarah Spurgeon (United-Kingdom), Jacquelin Scherpen (The Netherlands), Emilia Fridman (Israel), Kirsten Morris (Canada).



And the purpose was: Networking makes a great impact in women's lives. IFAC brings important visibility to women in various ways. There are many exciting opportunities for women in IFAC. In particular, this event will connect women who have been involved actively in IFAC with those who are interested in becoming involved in IFAC.

H. Technical Visits

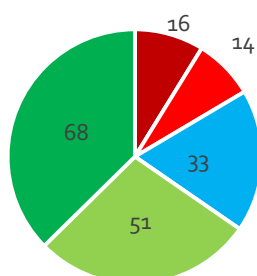
8 technical visits were organized during the World Congress. The fees covered logistics costs such as transportation. Some visits had security restrictions.

Title	Contents	Day(s)	Price
LAAS-CNRS	Academic research center. Includes two tracks: "Robotics platform" and "How chips are made?"	10/7 and 11/7	15€
Airbus	Airbus (commercial aircraft) ground test facilities	10/7	15€
Quai des Savoirs	Science dedicated Museum. Visit of the current exhibition about Cities and welcome by the exhibition creators	11/7	10€
Cité de l'Espace	Space dedicated Museum. Short visit of part of the Exhibition with a presentation of how it has been conceived	11/7	28€
Airbus Defense & Space	Space Industry. View on Satellites Integration Room & Exchanges on Control Engineering for Space Systems	12/7	15€
Automotive Demonstrators	Special visit to the Automotive Demonstrators at Manoir du Prince	12/7	10€
Veolia	Ginestou-Garonne water de-polution plant	13/7	15€

The results of the post-congress survey concerning the **Technical Visits** are given in the next pie chart.

For this question, 182 persons answered, and this rate of answers is surprisingly high since only 180 persons registered to technical visits (5,2% of the total registrations). The answers therefore might include people who appreciated the offer without having participated themselves.

I appreciated the Technical Visits



■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

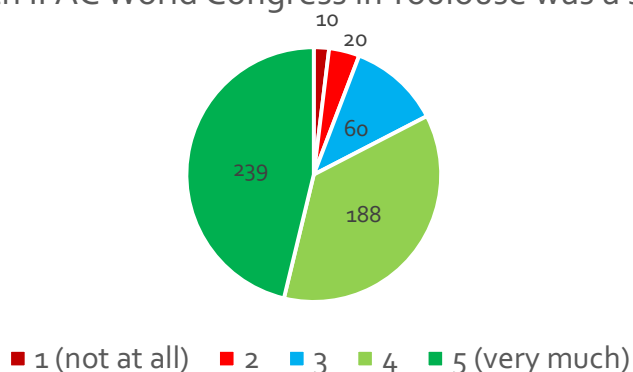
Total responses for this item	182	33%
Positive responses	119	65%
Negative responses	30	17%

Organization Assessment

The 20th IFAC World Congress has been a long, intense and exciting event to prepare and organize. While we are globally satisfied with the outcome, we acknowledge that some aspects could have been improved. By their kind and comprehensive attitude, the congress delegates helped us making things go smoothly. Many thanks to them.

The results of the post-congress survey concerning the **global Congress assessment** are given in the next pie chart.

The 20th IFAC World Congress in Toulouse was a success



Total responses for this item	517	93.8%
Positive responses	427	82%
Negative responses	30	6%

I. National Organizing Committee

Global congress supervision	
General chair	Dimitri PEAUCELLE
Finance chair	Louise TRAVE-MASSUYES
Industrial chair	Serge BOVERIE
Professional Congress Organizer Assistants	Ascension DE SOUSA, Jean-François RENAC
NOC co-chairs	Franck PLESTAN, Isabelle QUEINNEC
Advisory panel	Hisham ABOU-KANDIL, Pierre-Olivier AMBLARD, Jean-Pierre BARBOT, Michèle BASSEVILLE, Albert BENVENISTE, Alain BERNARD, Jean-Louis BOIMOND, Pierre BORNE, Jean-Paul BOURRIÈRES, Carlos CANUDAS-DE-WIT, Nicolas CHAILLET, Ali CHARARA, Jean-Michel CORON, Brigitte D'ANDRÉA-NOVEL, Thierry DIVOUX, Laurent FOULLOY, Yannick FREIN, Bernard GRABOT, Francis LEPAGE, Mohammed M'SAAD, Gérard MOREL, Ioan-Doré LANDAU, Jean-Jacques LESAGE, Michel MALABRE, Michel DE MATHELIN, Silviu NICULESCU, Marie-Noëlle PONS, Roméo ORTEGA, Mustapha OULADSINE, Alain OUSTALOU, François PIERROT, Wilfrid PERRUQUETTI, Alain RICHARD, Jean-Pierre RICHARD, Jean-Claude TRIGEASSOU, François VERNADAT, Ali ZOLGHADRI



Local arrangements	Chairs	Vice-Chairs
Registration	Edouard LAROCHE, Sorin OLARU	Feng CHU
Volunteers team	Olga BATTIA, Pauline RIBOT	Elodie CHANTHERY, Euriell LE CORRONC, Harmony LEDUC
Young author support	Vladimir KUCERA, Patrick LANUSSE	
Publicity and social media	Lyes BENYOUCEF, Mioara JOLDES, Marie-Laure PIERUCCI	Dominique DAURAT, Isabelle LEFEBVRE, Sylvie LAGARRIGUE
Information technology	Marie-Dominique CABANNE, Etienne COCQUEBERT	Christophe BENAZETH, Hassan HASSAN, Matthieu HERRB, Julien LIBOUREL, Isabelle SILVAIN, Christophe ZANON
Contracts with suppliers	Marc MOURRE, Marjolaine RIVIERE	
Photo and Video	Paolo BOLZERN	
Congress venue and catering	Ascension DE SOUSA	
Accommodation	Carolina ALBEA SANCHEZ, Christophe LOUEMBET	

IFAC 2017 events	Chairs	Vice-Chairs
IFAC 60th anniversary celebrations	Luc DUGARD, Steve KAHNE, Vladimir KUCERA	Bernard GRABOT, Patrice REMAUD
Demonstrators	Laurent AUTRIQUE, Laurent HOUSSIN	Patrick DANES, Isabelle FANTONI, Marie-Françoise GERARD, Rémy GUYONNEAU, Jean-Louis BOIMOND, Nizar CHATTI, Laetitia PEREZ
Social and cultural events	Lucie BAUDOUIN, Aude RONDEPIERRE	
Roadmap, impact of Automatic Control	Françoise LAMNABHI-LAGARRIGUE	
Application paper prize	Alexander KURZHANSKI	
Young author paper prize	Michel KINNAERT	
Interactive paper prize	Michael SEBEK	

Program support	Chairs	Vice-Chairs
Invited sessions and tracks	Charles POUSSOT-VASSAL, Didier THEILLIOL	Alexandre SEURET
Publication	Vincent COCQUEMPOT, Sophie TARBOURIECH, Luca ZACCARIAN	Pradeep MISRA, Martin MONNIGMANN
Tutorials and Workshops	Guillaume MERCERE, Houria SIGUERDIDJANE	Olga BATTIA, Kamal MEDJAHAR
Interactive sessions	Marc JUNGERS, Jocelyn SABATIER	Frédéric GOUAISBAUT, Henri PIERREVAL

Industrial task force	Chairs	Vice-Chairs
Application papers and sessions	Philippe GOUPIL	Benoit FRAPARD, Frédérique MAYER, Bruno VALLESPIR, François VERNIERES
Technical visits	Carine JAUBERTHIE, Xavier PUCEL	
Sponsorship and exhibitions	Rachid MALTI, Valérie POMMIER-BUDINGER, Céline VERDALOU	Kévin BOVERIE, Philippe PONS, Maurice FADEL, Hervé PANETTO, Thilo SCHOENFELD

J. Registration

Our aim was to acquire a software tool that is adapted to the management of the progress of registration and satisfies the following requirements:

- This software tool should be compatible with the management of accepted papers (papers to upload to the ifac.papercept.net system).
- Participants should be able to add registration items separately from the Congress registration itself. Additional items can be: accompanying person registrations, workshops and tutorials, technical visits, accommodation at university campus, or lunches during the Congress days.
- Multiple connections should be possible for the users to input their registration information independently from the payment process. Payment of different items using different bank cards should also be possible.
- Upon reception of payment, an e-mail should be sent to the user with: the contents of registration information (except password and passport data), a PDF file invoice in which the authors shall find the codes for paper upload in ifac.papercept.net, a PDF file invitation letter to be used for visa formalities and any other purpose.
- Generate different emails destined to the congress participants.

Therefore, we opted for a professional software but it was necessary to make technical changes to make it compatible with PaperCept.

The management of the registration process was a big challenge and time consuming for the registration team. Some technical problems were encountered and solved rather quickly.

The registration informations that were available on the web site are recalled in the following pages.

Registration items, fees, rules and details are provided below.

See also the [Registration Procedure page](#) that describes in details the registration steps.

In case of difficulties encountered during registration please contact registration@ifac2017.org.

At this stage registration does not include all items such as registration to technical visits. Login/password connection allows to re-enter the system to add items.

Congress Registrations	Fees for early registration (before April 15, 2017)	Fees for late registration (after April 15, 2017)
Full Registration	660€	860€
Student Registration	390€	500€
Application Days Registration (13 and 14 July only)	500€	500€
Accompanying Person Registration	200€	250€
Exhibitor Registration	see here for Exhibition offers	

Full and Student registrations (and their registered accompanying persons) include: access to all Congress sessions (10-14 July), coffee/tea breaks, access to the exhibition, USB disk with Congress preprints, Congress program handbooks, and tickets for welcome reception, congress banquet and farewell reception.

Application Days registrations (and their registered accompanying persons) include: access to all Congress sessions (13-14 July), coffee/tea breaks, access to the exhibition, USB disk with Congress preprints, Congress program handbooks, and tickets for congress banquet and farewell reception.

Accompanying Person Registrations (not for Application days) include a [commented visit of Toulouse city center](#).

Accompanying Person Registrations do not provide access to the congress plenary sessions, technical sessions, exhibition, coffee/tea breaks.

Registrations **do not include**: pre-congress workshops and tutorials, lunch, accommodation, travel, travel insurance nor visa costs.

Student Registrations are bound to provide a copy of a student's card or equivalent document (to be uploaded in the registration system).

Application Days Registration gives access to the two last days of the Congress only (13 & 14 July).

	Welcome	Banquet	Farewell	Visit	Sessions
Full Congress Attendee	Included	Included	Included		9-14 July
Accompanying Person of Full Congress Attendee	Included	Included	Included	Included	
Student Congress Attendee	Included	Included	Included		9-14 July
Accompanying Person of Student Congress Attendee	Included	Included	Included	Included	
Application Days Congress Attendee		Included	Included		13-14 July
Accompanying Person of Application Days Congress Attendee		Included	Included		

Upon registration and after payment the participants will receive an invitation to proceed with Visa formalities (if needed). The participants are invited to contact their local French embassy for information about Visa procedures.

Registrations are transferable to delegates not yet registered only if the IFAC 2017 Congress Secretariat is duly informed in writing at least 3 weeks in advance of the start of the Congress to the [registration staff](#). In case the registration covers final paper uploads, the transfer should be done among authors of these papers in order to ensure that the papers are indeed presented by one of the contributors. Registrations may not be shared, i.e. company name tags will not be issued and name tags may not be shared.

The Exhibitors are asked to contact the [Sponsorship team](#) before processing with registration. The exhibition space is limited and is provided based on a first-come, first-served rule.

Paper upload

*Full Registration includes possibility to upload up to **2 final papers**. The registrant should be among the authors of the papers.*

*Student Registration includes possibility to upload up to **1 final paper**. The registrant should be among the authors of the paper.*

*Application Day Registration includes possibility to upload up to **1 final paper**. The registrant should be among the authors of the paper.*

[Page limits for Papers, Surveys and Extended Abstracts](#) is respectively 6, 12 and 5. It can be increased up to 8 for Papers and 16 for Surveys based on additional fees.

Additional Items	Fees
Additional paper upload	250€
Additional page in Proceedings	80€
Additional fees for Demonstrators	To be determined. Depends of proposed demonstrator.
Additional fees for Exhibitors	To be determined. Depends on the exhibitor needs.

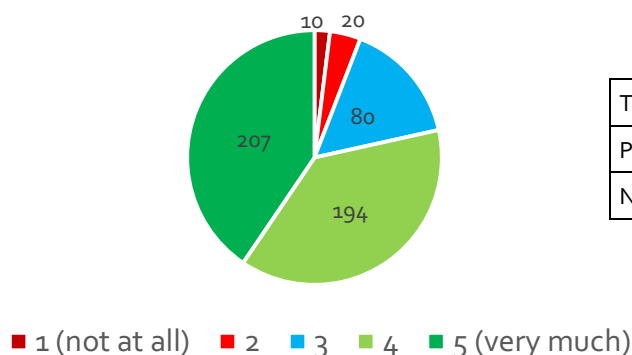
The registrant should be among the authors for additional paper upload.

The [demonstrator exhibition](#) organizers are doing their best to provide free access for on-site demonstrators. It may happen nevertheless that some demonstrator imposes severe expenses. In such a case costs will be shared between the organizers and the demonstrator contributor. A cost estimate will be sent to the demonstrator contributor. If he/she agrees in paying this additional cost then the contribution will be presented at the demonstrator exhibition sessions. If not, the paper will be presented in interactive format using videos. Acceptance of the contributions to the Congress Program is independent of the costs payment.

Exhibitors are invited to arrange with the [Sponsorship team](#) the possibility to satisfy their needs. The related fees will be reported in the registration web service in order to proceed with the online payment.

The post-Congress survey included a question concerning the **registration tool** In general. The results are given in the next pie chart. In the post-Congress survey 511 persons (92,7% of those having filled the survey) answered concerning the way the registration tool was configured. The results are given in the next pie chart. 79% of the answers are positive and 6% are negative.

The registration tool was well adapted to the Congress organization



Total responses for this item	511	92.7%
Positive responses	401	79%
Negative responses	30	6%

Registration Procedure

Registration to IFAC 2017 World Congress is done with a dedicated web service at the following address:

<http://ifac2017.gipco-adns.com/>

The Registration Procedure is composed of the following steps.

[Registration profile type](#)

[Registration profile login](#)

[Personal data](#)

[Accompanying person\(s\)](#)

[Registration fee validation](#)

[Declare papers for upload](#)

[Other registration items](#)

[Terms and Conditions](#)

[Payment information](#)

[Payment](#)

[Confirmation](#)

These Registration Procedure steps are detailed below. In case of difficulties encountered during registration please contact registration@ifac2017.org.

Registration profile type

At first you should choose a registration profile type among the three following profiles:

Full registration profile (660€ fee before 15 April 2017 - 2 papers upload included)

Student registration profile (390€ fee before 15 April 2017 - 1 paper upload included - copy of student's card to be provided)

Application days registration profile (500€ fee - 1 paper upload included)

Registration profile login

Then, you are invited to "Connect using your profile" or to "Create a new profile". These profiles (login and password) are for IFAC 2017 registration only. They are NOT related to your ifac.PaperCept.net or other profiles. When connecting for the first time you hence should "Create a new profile".

The profile data will be stored to the system allowing to re-enter the system. This can allow to add registration items separately from the Congress registration itself, and eventually to pay these items with different bank cards. Additional items can be such as accompanying person registrations (200€ fee before 15 April 2017), papers to upload to the ifac.papercept.net system, workshops and tutorials (to be announced early 2017), technical visits (to be announced early 2017), accommodation at university campus (to open early 2017), or lunches during the Congress days. Multiple connection allows also proceed separately the data input from the effective payment.

Warning: The profile data is stored to the system only at the last "Payment" step when clicking the "Validate and Save Profile, and Go to Payment" button.

Personal Data

The following data may be filled in and will be reported on the registration invoice. Data with an asterisc (*) is mandatory.

PIN in PaperCept

(*) TITLE (Mr, Ms, Dr, Pr)

(*) SURNAME (Family name, Last name)

(*) GIVEN NAME(S)

(*) AFFILIATION

MAILING ADDRESS

CITY

STATE (required for USA)

(*) COUNTRY

POSTAL CODE

PHONE

FAX

(*) E-MAIL ADDRESS 1 (this email address is used to confirm registration)

E-MAIL ADDRESS 2

E-MAIL ADDRESS 3

MEAL REQUIREMENTS

SPECIFIC REQUIREMENTS AND INFORMATION

To help the organizing committee with logistic issues, you are invited to inform us about your

(*) ARRIVAL DATE - and time (arrival to Toulouse)

(*) DEPARTURE DATE - and time (leave from Toulouse)

and whether you intend to attend the following social events (included in the registration fees)

Opening Ceremony and Welcome Reception (18:00-22:00, 9 July 2017)

Congress Banquet (19:30-23:00, 13 July 2017)
Closing Ceremony and Farewell Reception (16:00-20:00, 14 July 2017)

A copy of a document attesting student's status is requested for student registration.

Student registration, and related reduced fees, are bound to specific agreements with World Congress partners. It is requested that each student's registration is associated to a document attesting the attendee has student status at some higher education institution (preparation of Master's degree or Ph.D. for example). Accepted documents are copies of student's card or equivalent documents.

For your **Congress badge** you are also asked to fill the following two fields. Take care when filling this data. Long complex affiliation may be difficult to read.

(*) NAME

(*) AFFILIATION

For those who need such information to be displayed on the documents for French visa formalities, additional fields are provided:

Passport number

Date of passport validity

Birth date

Other information to be included in the invitation letter for the visa formalities

Accompanying Person(s)

Accompanying Persons may be added to the registration profile. An additional fee (200€ before 15 April 2017) is charged for each accompanying person registration. Accompanying Person Registration includes a half a day commented visit of Toulouse city center and the three main social events of the Congress. It does not provide access to the congress plenary sessions, technical sessions, exhibition, coffee/tea breaks. For safety reasons no accompanying person will have access to the Congress or social event venues without a registration attested by a Congress badge.

When adding an accompanying person registration, the following data is required:

(*) SURNAME

(*) GIVEN NAME

(*) COUNTRY

MEAL REQUIREMENTS

As well as attendance to the following social events (included in the accompanying persons registration fees)

Opening Ceremony and Welcome Reception (18:00-22:00, 9 July 2017)

Congress Banquet (19:30-23:00, 13 July 2017)

Closing Ceremony and Farewell Reception (16:00-20:00, 14 July 2017)

and a choice of Toulouse city center commented visit from the list below ([see details here](#)):

Great monuments of Toulouse

Secret Toulouse or "the unknown city"

Validate registration fee

You are at this step invited to validate your registration fee which depends of your [registration profile type](#) and the current date. Reduced fees apply only before 15 April 2017.

Declare papers for upload

Starting from 11 April, this step of the procedure is removed. 10 April was the final and ultimate deadline for paper upload. Papers will be included in the final program only if accepted in the program by the IPC (preliminary program to be announced end of February 2017) and if associated to a registration. Full registrations allow for 2 papers upload. Student and Application Days registrations allow for 1 paper upload. Additional paper upload can be purchased at the cost of 250€. [Papers are limited in their number of pages](#) (5 for Extended Abstracts, 6 for Regular Papers, 12 for Survey Papers). Additional pages may be added for Regular Papers (up to a total of 8 pages) and for Survey Papers (up to a total of 16 pages) at an additional cost of 80€ per page.

Paper upload is to be done in the [ifac.papercept.net](#) web service. After payment, Congress authors shall receive the codes allowing them to upload papers in their invoice. Codes are valid only for a specific paper ID (submission number) and for a specified number of pages. **Authors should be very careful when entering their paper data.** Erroneous data will generate erroneous upload codes. After payment errors may be fixed only by declaring new papers (at the expense of additional paper fees).

Login/Password identification allows to re-enter the system. This feature enables to proceed with registration without declaring papers for upload and to re-connect later-on to declare papers.

Other registration items

This page is dedicated to additional registration items among

Five lunches during Congress days (40€) - 3 April 2017 update: **this offer is sold-out.**
A special lunch offer at the close-by university cafeteria is proposed. For logistics reasons only, a limited number of tickets is available. Tickets are sold only through the registration web service and it is not possible to buy tickets for individual days (five days tickets pack only).
[Accommodation at University campus.](#) A limited number of rooms at the Université Paul Sabatier campus is available for the World Congress participants.
[Workshops and Tutorials.](#)
Technical visits. To be announced in April 2017.

Terms and Conditions

[Terms and conditions](#) should be accepted to proceed with payment.

Payment information

A summary of all the filled data is provided. Elements that appear in gray color are already validated and stored. New data and non payed items appear in black fonts. The user is invited to validate and save the data, and to proceed to payment.

Payment

The user is redirected to a secure PayBox web page to proceed with the payment. Registration can only be payed using CB, VISA or MASTERCARD cards.

Confirmation

Once payment is received an email is send to the user (to the first email address given in the [Personal Data](#)). This email contains

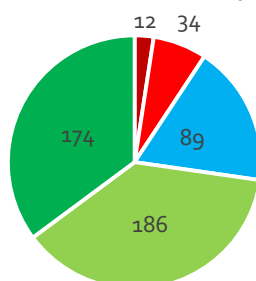
Full information of the filled data (except password and passport data)

A PDF file invoice in which the authors shall find the **codes for paper upload** in ifac.papercept.net

A PDF file invitation letter to be used for visa formalities and any other purpose.

The post-Congress survey included a question concerning the **registration tool complexity**. The results are given in the next pie chart. The negative remarks concern the difficulties encountered to submit the final paper and the delay in receiving the official invoice. The management system was configured to deliver the registration confirmation with the amounts, but the official invoice had to be managed by the CNRS accounting department and delivering more than 3000 invoices obviously took some time.

The registration tool was easy to manipulate



■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

Total responses for this item	495	89.8%
Positive responses	360	72%
Negative responses	46	9%

K. Communication and Media

Several communication tools were implemented for the IFAC2017 congress.

The **IFAC2017 Congress website** provided practical, precise and general information of the congress. The website was frequently and constantly updated with new information and items. We used the open source platform Dupral and the technical assistance from the Laas IT department.

The new information items from the website were announced simultaneously on the **IFAC2017 twitter account**. The twitter account was also used to forward information published by others users.

The communication concerning the congress was also relayed by the CNRS, by the LAAS, by the French press (see press articles below), but also by IFAC Events Service in particular with the IFAC newsletter.

Press release by CNRS (in French)

- La France aux commandes du prochain congrès mondial de l'automatique (<http://www.cnrs.fr/ins2i/spip.php?article835>)
- Les 1001 défis de l'automatique (<https://lejournel.cnrs.fr/dossiers/les-1001-defis-de-lautomatique>)
- L'ère de l'automatique (<http://www2.cnrs.fr/presse/communiqu/5107.htm>)
- Toulouse accueillera en 2017 le congrès mondial de l'automatique (<http://www.cnrs.fr/midi-pyrenees/Medias/Documents/2010/20100713-IFAC2017.pdf>)
- La France accueillera en 2017 le congrès mondial de l'automatique (<http://www.cnrs.fr/insis/recherche/actualites/congres-de-l%27automatique.htm>)
- L'ère de l'automatique (<https://lejournel.cnrs.fr/articles/lere-de-lautomatique>)
- Contrôler le trafic routier pour éviter les bouchons grâce à l'automatique (<http://www.cnrs.fr/ins2i/spip.php?article861>)
- Des voitures qui permettent une conduite plus sûre grâce à l'automatique (<http://www.cnrs.fr/ins2i/spip.php?article857>)
- Mieux comprendre pour mieux soigner la maladie de Parkinson grâce à l'automatique (<http://www.cnrs.fr/ins2i/spip.php?article853>)
- Contrôler l'infini avec une seule commande (<http://www.cnrs.fr/ins2i/spip.php?article2087>)

Press release by LAAS-CNRS (in English)

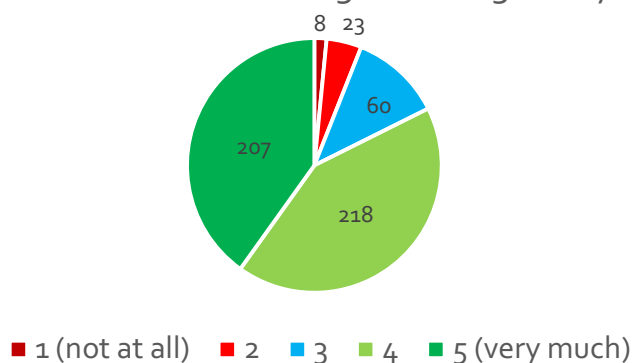
- France (and LAAS) in charge of the 20th World Congress of the International Federation of Automatic Control (<https://www.laas.fr/public/en/france-and-laas-charge-20th-world-congress-international-federation-automatic-control>)

And press articles (in French)

- 3000 personnes attendues à Toulouse pour le congrès mondial de l'Automatique (Toulouse7.com)
- Voiture du futur: à Toulouse, on planche à fond sur les véhicules autonomes (actutoulouse)
- En route vers une voiture 100 % autonome (La Dépêche)

The results of the post-congress survey concerning **the communication** are given in the next pie chart.

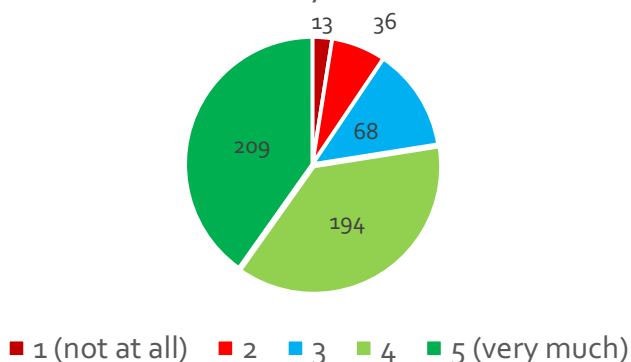
Communication about the Congress was globally adequate



Total responses for this item	516	93.6%
Positive responses	425	82%
Negative responses	31	6%

The results of the post-congress survey concerning **the Congress website** are given in the next pie chart.

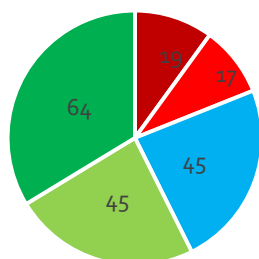
The information was easily accessible on the www.ifac2017.org web site



Total responses for this item	520	94.4%
Positive responses	403	77%
Negative responses	49	10%

Concerning the **Congress Twitter**, the results of the post-Congress survey are given in the next pie chart. For this question, 190 responses were received which is rather high if compared to the 350 followers of this Twitter thread (approximately 10% of the number of registrations). Some responses may be related to the fact that the Twitter posts were displayed live on screens in the coffee break areas during the Congress.

I appreciated the @IFAC2017 Twitter

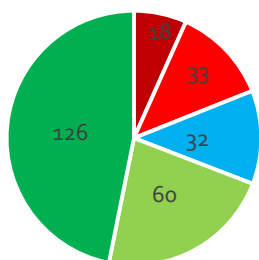


■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

Total responses for this item	190	34.5%
Positive responses	109	58%
Negative responses	36	19%

In the post-Congress survey 269 responses were received concerning the **Conference4Me App**. If this figure is relevant to measure the utilization of the application, one can say that it is worthwhile for organizers to subscribe to this service provided by PaperPlaza. The cost is 250\$, plus 1\$ per paper in the Program. The results of the survey are given in the next pie chart.

The Conference4Me App for mobile devices was useful

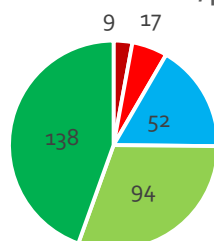


■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

Total responses for this item	269	48.8%
Positive responses	186	69%
Negative responses	51	19%

Concerning **the photos** taken by the hired professionals and posted every day on the public Flickr site, the results of post-Congress survey are given in the next pie chart.

I liked the photos taken by the professional photographers available at www.flickr.com/photos/ifac2017



■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)



Total responses for this item	310	56.3%
Positive responses	232	75%
Negative responses	26	8%

Photo credit goes to :

Angelos Detsis www.angelosdetsis.com; Lilie Pinot www.liliepinot.com; Myrtille Visscher www.myrtillevisscher.com.

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L. Sponsorship and Exhibition

IFAC 2017 organizers, on behalf of all attendees, thank all sponsors, exhibitors and institutional partners for their contribution to the success of the World Congress.

Sponsorship opportunities: The IFAC World Congress welcomes corporate sponsorship: a range of conference partnership opportunities have been developed to ensure a successful outcome for all partners.

Sponsors	Sponsorship	Institutional Partners	Contribution
International Federation of Automatic Control	Scientific main sponsor	IFAC Foundation	Young Author Support & IFAC Foundation Award
Continental Automotive	Main sponsor - Sponsor of the Congress Banquet	European Control Association	Scientific co-sponsor
Occitanie	Lead Sponsor	Société de l'électricité, de l'électronique et des technologies de l'information et de la communication	IFAC National Member Organization for France
Toulouse Métropole	Lead Sponsor		
CNES - Centre National d'Etudes Spatiales	Major sponsor	CNRS	Financial and administrative support
Université Toulouse III Paul Sabatier	Major Sponsor	LAAS-CNRS	Operative structure
Inria	Major Sponsor	GdR MACS	Scientific coordination of IFAC activities in France
CNRS	Major Sponsor - Supports GdR MACS Pre-Congress Workshops	Université de Reims Champagne-Ardenne	Support of IFAC President's activities
OPTITRACK	Sponsor - Provides motion capture system for Mini-UAVs demonstrations	Club des Enseignants et Chercheurs en Electrotechnique, Electronique et Automatique	Support for the Demonstrators Exhibition & Demonstrator Paper Prize
MDPI	Sponsor	Aerospace Valley cluster	Contacts with the local Aerospace Industry
ISAE-Supaero	Sponsor	SoToulouse Convention Bureau	Contacts with local institutions and tourism industry
iCODE	Sponsor - Organizes a sponsored Pre-Congress Workshop	EuroScience Open Forum 2018	Partnership with ESOF 2018 to be held in Toulouse
EECI	Sponsor	Robotics Place Midi Pyrénées	Contacts with the local Robotics Industry
Ifac Journal of Systems on Control / ELSEVIER	Promotion gift (wine stopper) to congress participants		
International Journal of Automation and Computing	Sponsor - Provides Congress notebooks		
IEEE/CAA Journal of Automatica Sinica	Sponsor - Provides Congress luggage tag		
Movéo	Round Table organizer		
INSA Toulouse	Contributor		
INP Toulouse	Contributor		
ITMO University	Contributor - Sponsor of the Open Invited Sessions on "Simple Adaptive Control" (TuA16, TuM16)		

Exhibitions: The IFAC World Congress is an opportunity for promoting and selling teaching materials for a large audience of teachers and researchers involved in a wide range of technical areas. The following exhibitors participated to the on site exhibition located at the main coffee/tea refreshments area.

Exhibitors
Continental Automotive: booth at congress center and demonstration at Manoir du Prince
Elsevier
WAGO
Springer Nature
MathWorks
The Journal of The Franklin Institute
Robotikum
OPAL-RT
SOBEN
THALES
Taylor & Francis
Robotex
InTeCo



Sponsorship details (as given on the ifac2017.org site)

Main sponsors

Main sponsors are offered an excellent opportunity to support/host either the Congress Banquet, or the President's Dinner. These two prestigious social events are open respectively to all delegates, and to IFAC official and VIP guests. Prestigious French food and wine, together with cultural features will make a strong impression on attendees, an impression with which you as main sponsor will be strongly associated.

Main sponsor package includes:

Branding rights at hosted social event (Banquet or President's Dinner), including invitations to the event;

Recognition across all Congress publicity;

6 square meter exhibition stand, and full exhibitor stand package (see below);

Full page, full color advertisement in Congress handbook;

Large-scale logo presence on the website, banners and other sponsorship acknowledgement material.

Package starts at 30,000€ (or equivalent if the sponsor chooses to host the event). The quality of the event and thus the impression made on guests will depend on the level of funding.

Lead sponsors

Lead sponsors support one of the following three social features organized on the Congress site: opening ceremony and welcome reception, closing ceremony and farewell reception, or coffee/tea breaks between sessions. Warm hospitality and the relaxed environment of these events where participants meet and socialize will leave an upbeat impression of your lead sponsor company.

Lead sponsor package includes:

Branding rights at supported social event;

6 square meter exhibition stand, and full exhibitor stand package (see below);

Half-page, full color advertisement in Congress handbook;

Medium-scale logo presence on the website, banners and other sponsorship acknowledgement material.

Package starts at 20,000€ (or equivalent if you choose to finance the catering). The higher the level of funding, the better the impact on attendees.

Major sponsors

As a major sponsor you will target your message specifically to attendees by presenting your logo on high visibility material such as delegate bags, lanyards, volunteers waistcoats, or the Wi-Fi connectivity documentation.

Major sponsor package includes:

Logo placement on chosen major delegate material;

Two registrations for the last two industrial days of the Congress (includes Congress banquet);

Quarter page, full color advertisement in Congress handbook;

Logo presence on the website, banners and other sponsorship acknowledgement material.

Package starts at 4,000€ for lanyards or WiFi branding.

Sponsors

As a sponsor you can place logo reminders on goodies to be handed out to attendees. Goodies can include writing pads, pens, water flasks, sweets, etc...

Sponsor package includes:

Logo placement on chosen delegate goodies;

One registration for the last two industrial days of the Congress (includes Congress banquet);

Full color advertisement in Congress handbook;

Logo presence on the website, banners and other sponsorship acknowledgment material.

Package starts at 2,000€ for placement of your logo on the pens. Sponsorship can be done by offering the goodies.

Round table organizers

To promote activities for example in an application field, companies or clusters can organize a round table session during lunchtime at the conference venue. The topic should be in accordance with the scope of the congress. The contents are under the responsibility of the round table organizer.

Round table package includes:

Announcement of the round table in the Congress program and full color advertisement in Congress handbook

Equipped room sized for the expected audience

Logo on website, banners and other sponsorship acknowledgement material

Package starts at 1,000€ for a round table organized in a room for 250 persons, 2,000€ for a round table in the 500 seats amphitheatre. The organizer can additionally include a lunch option at 25€/person for the round table attendees.

Contributors

Contributors will be acknowledged with logo placement on the Congress website, on banners and all other sponsorship materials. Contributions are welcome starting at 500€.

Exhibition details (as given on the ifac2017.org site)

Exhibitors participated in the on-site exhibition located at the main coffee/tea refreshments area. It offered to the company with an easy, affordable opportunity to present their products, teaching material, services, and to promote their activities directly to their target market.

Exhibitor package includes:

Fully secured stand starting from 6 square meters, with white separating boards, table and chairs, electricity plug points and spot lighting;

Two exhibitor badges with access to all Congress events (including Congress banquet);

Full color advertisement in Congress handbook;

Logo presence on the website, banners and other sponsorship acknowledgment material.



Package starts at 3000€ for 6 square meters for the five days of the Congress. Up to 12 square meters additional space is at 450€ per square meter. Over this limit the cost is 400€ per square meter. 200 to 300 square meters are scheduled for the exhibition. First-come, first-served rule will apply.

Demonstrator Exhibitors

Demonstrator Exhibitors will participate in the onsite demonstrator exhibition organized in conjunction with the scientific demonstrator sessions. It will provide your company with an easy, affordable opportunity to present your products via demonstrators, contests or any other participative feature.

Demonstrator Exhibitor package is identical to the standard exhibitor's package.

Package starts at 2,000€ for 6 square meters for four half days opening of the demonstrators' exhibition area. Additional space is at 200€ per square meter. 100 square meters are scheduled for the exhibition. First-come, first-served rule will apply.

Automotive Advanced Control Demonstrator Exhibitors

A special venue was organized for Automotive advanced control demonstrators. It includes a special exhibition offer for automotive industrials. The automotive demonstrations take place on Wednesday July 12 and Thursday July 13, 2017 on a dedicated site. The exhibition and static demonstrations will be held at Le Manoir Du Prince.

Static indoor demonstrations or exhibition booths (200€ per m² - minimum 6m²). The offer includes two invitations to the congress banquet.

Static outdoor demonstrations with dedicated space on the private parking lot (40€ per m² - minimum 12,5m², i.e. one parking space)

Round tables to discuss special topics in a dedicated room for 200 attendees (1:30 hour slot at 900€)

High quality lunches for the team performing the demonstrations and for invited guests (25€ per lunch)
Outdoor open road demonstration starting from a dedicated space on the private parking lot (500€)
Outdoor private road demonstration on the territory of the former accommodation area (1000€).
Outdoor test area consisting of a rectangular space of about 100m x 200m (2,000€ for four 1-hour slots, one on Wednesday 12 morning for rehearsal the others for demonstrations on Wednesday 12 afternoon, Thursday 13 morning and afternoon).
Outdoor test track consisting of a loop including the air base runway (1,800m) and the parallel taxiway (3,000€ for four 30 minutes slots, one on Wednesday 12 morning for rehearsal the others for demonstrations on Wednesday 12 afternoon, Thursday 13 morning and afternoon).

M.Accommodation and Lunches

The IFAC 2017 local organization provided some accommodation and lunches services to help most congress attendees.

Accommodation at University

A special accommodation offer at University Campus is proposed for all IFAC participants, and for students in particular. The rooms are in a unique building dedicated for hosting IFAC attendees only during the World Congress. The building is at a couple of minutes walking distance to the Université Paul Sabatier line B metro station. The metro allows a direct link in less than 20 minutes to the Congress venue and to most city center important places.

The rooms are 9 square meters size and include a small shower room and a kitchenette. The single size bed can be lifted to provide additional free living space. The university campus rooms are for one person and they are exclusively booked for Congress delegates.



Upon arrival, the team of IFAC 2017 volunteers is in charge of the check-in in the university campus accommodation with the following schedule:

7 July from 18:00 till midnight

8 July from 12:00 till midnight

9 July from 12:00 till midnight

Booking procedure and prices

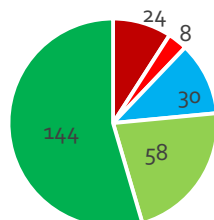
The accommodation offer includes a breakfast that was been served at the nearby University Campus restaurant. Prices are for one week, from Friday 7 July evening to Saturday 15 July morning, independently of the actual arrival/departure dates. The dates are strict, no possibility to stay after Saturday 15 July.

reduced fee for students only: 210€ for the entire week

fee for other attendees: 260€ for the entire week.

Concerning **the accommodation at University Campus**, the results of the post-congress survey are given in the next pie chart. This figure is to be compared to the 539 reserved rooms (15,6% of the total registrations). **All rooms have been reserved!**

It was a good initiative to provide accommodation at the University Campus



■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

Total responses for this item	264	47.9%
Positive responses	202	77%
Negative responses	32	12%

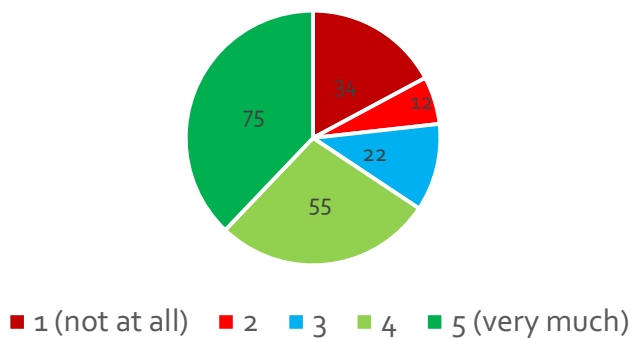
Hotel booking service

The IFAC 2017 local organization pre-booked rooms at negotiated prices to facilitate hotel booking for attendees. A partnership with the departmental committee of tourism was set up and a dedicated booking web service was created with various hotel proposals.

We do not have details of the number of persons who actually booked using this service but it is evaluated to close to 300 (less than 10% of the total number of registrations). Seemingly people used the service to have a clue about relevant hotels but booked using alternative booking systems. This is unfortunate for the congress organizers that had negotiated a retribution of about 4% on the sales (compared to the 25% taken by web services such as Booking.com), but pretty much understandable because the dedicated hotel booking web service was of far lower quality. This appreciation comes from the fact that the organizers have had to intervene many times to solve booking problems that should have been handled by the company that provided the service (and was perceiving its own percentage of the sales). Nevertheless, the attendees seem to have globally appreciated the hotel booking service.

The results of the post-congress survey concerning **the hotel booking service** are given in the next pie chart.

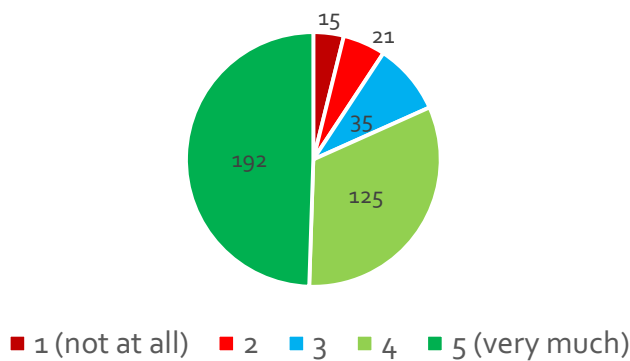
I used the hotel booking service and found it useful



Total responses for this item	198	35.9%
Positive responses	130	65%
Negative responses	46	23%

The results of the post-congress survey concerning **the quality of the hotels** are given in the next pie chart. As organizers, we have had some doubts about the hotel capacities when starting the project of hosting the World Congress. We are happy to see with these figures that there has not been any major problem on this side. There have been enough accommodation facilities and the quality of these was globally adequate. The feedback we received from the hotels was on their side very positive. Organizing World Congress in a period when usually they have few clients (business slows down during summer), resulted in a major increase in hotels revenues.

The hotel I was staying at was correct



Total responses for this item	388	70.4%
Positive responses	317	81%
Negative responses	36	9%

Lunches

Lunches were not included in registration fees. But a wide range of offers was available close to the Congress Center.

Lunch at Arsenal University Campus

This self-service restaurant of the neighboring Toulouse Capitole University is located at less than ten minutes walking distance from the Congress center. The walkway to the Restaurant was displayed on the Congress venue map. Usually closed during the summer break, it was open for the IFAC World Congress attendees with a special lunch offer. Tickets could be purchased via the registration site. For logistics reasons, and because the number of lunches was limited (the offer was sold-out on 3 april 2017 !), the offer was as follows:

- Lunches for the 5 days of the World Congress at the price of 40€
- Lunches are for Monday 10, Tuesday 11, Wednesday 12, Thursday 13 and Friday 14.
- No refund will be possible in case of unused tickets.

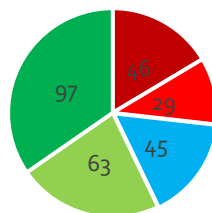


The results of the post-congress survey concerning **the lunches at University Campus** are given in the next pie chart.

This figure is to be compared to the 815 offers sold (23,5% of the total registrations).

The rather high rate of negative answers (compared to other questions) is certainly related to the fact that some attendees expected a higher quality of food, which is unfortunately not the case at the University cafeteria (at the price of 8€ per lunch), and also because of a misunderstanding concerning the availability of the cafeteria on Friday 14th of July, which has been compensated by tickets with value of 10€ to have a snack lunch in the park.

It was a good initiative to organize lunches
at the University Campus cafeteria



■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

Total responses for this item	280	50.8%
Positive responses	160	58%
Negative responses	75	26%

Lunch at Marché Victor Hugo Village (snack lunches in the park)

Market places have an important part in the French art de vivre. Buying fresh meat, fish, fruits and vegetables at dedicated stands providing local tasteful products is the first step for excellent French cuisine. In Toulouse there are several such markets, open every morning (except on Mondays). The largest one is Marché Victor Hugo in the city center, close to the Capitole Square. It is even considered as one of the largest in France.



WWW.MARCHE-VICTOR-HUGO.FR

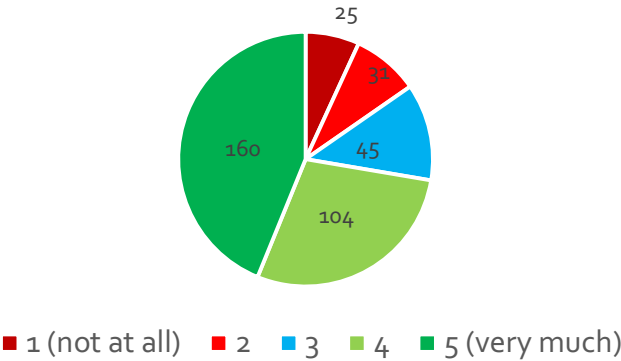


For the first time ever, specially for the IFAC World Congress, the Marché Victor Hugo has accepted to leave its usual quarters, and bring their excellent products, cooked and well prepared, to the delegates. This Marché Victor Hugo Village will take place next to the Congress venue, in the Compans Caffarelli Park. Attendees will be able to purchase products prepared with the help of the market bakeries, the poulterers, the fish merchants, the pork butchers, the beef butchers, the wine merchants, the cheese makers and the vegetable and fruit dealers. You will have fresh French bread, cakes and pastries; roasted chicken, duck and foie gras; oysters, shrimps and raw tuna salads; ham, saussisson and chorizo; local beer, wine and fresh fruit juices; the famous grilled Toulouse sausage and other grilled pieces of meat; fruits and vegetable; plates with Comté, Rocamadour, Roquefort and Cantal cheese.

The delegates have the opportunity to purchase these products and enjoy their meal in the Compans Caffarelli Park.

The results of the post-congress survey concerning **the snack lunches in the park** are given in the next pie chart. This offer has had very little impact on the Congress budget (we payed for the electricity) and provided no income. We believe it was useful for the Congress attendees to have this possibility to have a quick lunch close to the Congress Center. The proposed street food may have been better organized or of different quality but we are most thankful for the partners who organized it since this was the first time for them to provide such a service.

I appreciated the snack lunches in the park



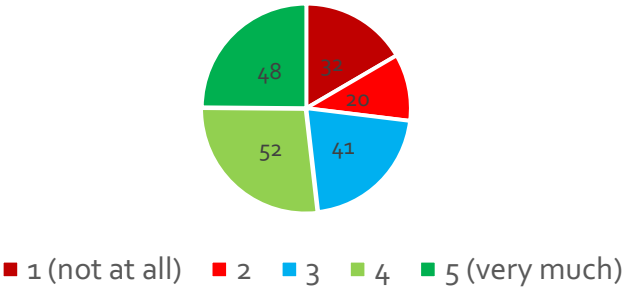
Total responses for this item	365	66%
Positive responses	264	72%
Negative responses	56	15%

Other places where to eat in Toulouse

Initially we attempted to establish some partnership between the Congress organization and restaurants to identify partner restaurants that can adapt their menu and easily accommodate English speaking clients. This attempt has failed for unknown reasons. Apparently, the tastes of the organizing team and those of the congress attendees did not match perfectly.

The results of the post-congress survey concerning **the subjective restaurant recommendations**, made by the congress organization team, are given in the next pie chart.

I followed the restaurant recommendations provided on the web site and appreciated them



Total responses for this item	193	35%
Positive responses	100	52%
Negative responses	52	27%

N. Social Program

Several Ceremonies and Receptions was organized during IFAC2017 Congress. These Ceremonies and Receptions was open to all delegates and registered accompanying persons having indicated their willingness to attend the events during registration. Costs was included in the registration fees.

President Dinner

- The following personalities and their accompanying persons were invited to the President’s dinner:
- IFAC Officers, Council Members and Advisors
 - IFAC TB and EB members
 - IFAC 2017 Plenary speakers
 - IFAC Fellows to be appointed
 - IFAC Service Awardees
 - IFAC Journals Editors-in-Chief
 - Major Sponsors and local institutions representatives
 - French NMO guests
 - NOC guests

During the dinner, the IFAC President handed the IFAC Service Awards, the IFAC Fellows Awards and the Chestnut Textbook Award. This last award was handed in presence of Andrew Chestnut, son of Harold Chestnut, IFAC’s first President.





Opening Ceremony and Welcome Reception

Sunday 9 July 18:00 at Palais des Sports and 20:00 at Congress Center

The Opening Ceremony was held in Palais des Sports Multipurpose Arena from 18:00 to 20:00.

The ceremony was organized as follows:

- Video recalling IFAC foundation in Paris 1957 and past 20 IFAC World Congresses (while people got seated)
- Artistic Performance – Gyropodes
(all performances aimed at illustrating the stability of motion, in reference to the book by A.M. Lyapunov published for the first time outside Russia in 1907 by Toulouse University)
- Opening speech by Janan Zaytoon IFAC President
- Welcome speech by Bertrand Montubert – representative of Occitanie Region
- Welcome speech by Dominique Faure – representative of Toulouse Métropole
- Artistic Performance – Acrobatic Tango, followed by Cyr wheel
- Janan Zaytoon IFAC President hands the IFAC Major Awards and IFAC Advisors Awards
- Artistic Performance – Acrobatic bicycle
- Round table presenting the organization and program of the Congress by
 - Dimitri Peaucelle – IFAC 2017 General Chair
 - Denis Dochain – IFAC 2017 International Program Committee Chair
 - Didier Henrion – IFAC 2017 International Program Committee Chair





After the Opening Ceremony, the Welcome Reception was held at the Pierre Baudis Congress Center simultaneously in *Caravelle* (level 0) and *Concorde* (level -1) halls. Buffet food and beverages were served. It was the opportunity to appreciate local French cuisine and to reconnect with colleagues from around the world.

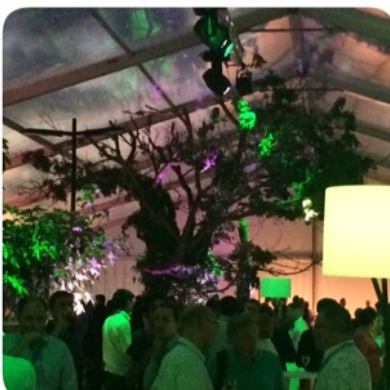
Congress Gala Dinner

Thursday 13 July 19:30 at Le Manoir du Prince

Buffet food and beverages were served in a garden party atmosphere. Two live music stages alternated with swing, jazz and popular French songs. 14th of July is the French national day, known as Bastille Day, official day of the French revolution. Traditionally popular parties with music, dances are organized at this occasion in all cities and towns. These parties are usually organized by firemen brigades and known as “bal des pompiers”. The IFAC 2017 gala dinner aimed at recreating this informal, popular atmosphere. There was no dress code.

In the results of the post-congress survey, seemingly most of the negative appreciations came from the organization of the Gala dinner which was one of the major challenges. First of all, we had decided that all participants should have the opportunity to attend this festive event related to the celebration of the 60th anniversary of IFAC. This choice imposed the buffet style dinner. A seated banquet style dinner for more than 3000 participants could not be hosted appropriately in any of the locations we have explored in Toulouse. Moreover,

the organizers believe that the buffet style organization has advantages in terms of number of people you may exchange with during the event. The second big concern with respect to this gala dinner was the transportation to and back from the event. This transportation issue could have been handled better for sure and the technical problem that occurred in the subway did not help. We apologize for the drawbacks of the organization.



Closing Ceremony, Farewell Reception

Friday 14 July 16:00 at Palais des Sports and 18:00 at Congress Center

The Closing Ceremony was the last official event of the 20th IFAC World Congress. It featured the announcement of Congress Prizes and IFAC Journal Awards, as well as the official transmittal of IFAC presidency to Germany. The Farewell Reception was also the opportunity for the German colleagues in charge of organizing the next IFAC World Congress in Berlin to bring beers for all delegates!

The ceremony was organized as follows

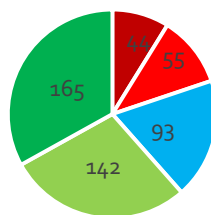
- Slideshow of pictures taken during the Congress (while people got seated)
- Presentation of the painter Louis Bottero who performed on stage during the whole ceremony.
- Paul Van Den Hof, Chair of IFAC Award Committee, and Alison Waldron, Elsevier representative, proceeded with the Journal Awards ceremony.
- Paul Van Den Hof, with the presence of each paper prize chair, proceeded with the Congress Awards ceremony.
- Alberto Isidori, Chair of IFAC Foundation Board of Trustees, and Pedro Albertos, Chair of the IFAC Foundation Award Selection Committee, handed the IFAC Foundation Award
- Last words by IFAC 2017 General Chair
- Last words by outgoing IFAC President Janan Zaytoon
- Painting by Louis Bottero revealed – it features IFAC and Berlin
- First speech of the new IFAC President – Frank Allgower
- Speech by the IFAC 2020 Berlin NOC Chair – Klaus Janschek



The painting by Louis Bottero is now owned by CNRS, the structure supporting financially the World Congress organization. It is exposed at LAAS-CNRS in Toulouse.

The results of the post-congress survey concerning **the food and drinks events of the Congress** are given in the next pie chart.

The coffe breaks and social events (welcome, gala, farewell)
were well organized with good food & drinks



■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

Total responses for this item	499	91%
Positive responses	307	61%
Negative responses	99	20%

O.IFAC2017 Volunteers

140 PhD and masters students from different French university and research institutions, volunteered to help us in the set up and the organization of the congress. We did not use a company specialized in the reception by hosts or hostesses except for the cloakroom.



More than 3500 bags to assemble!

The role of the volunteers was to welcome, to guide the participants, to hand out the badges and the conference kits, but also to be present in the different sessions to help the speakers in case of problem. Before the start of the event, the volunteers assembled the congress kits: more than 3500 bags to assemble! In return, IFAC2017 offered them the conference registration, the accommodation and the meals.



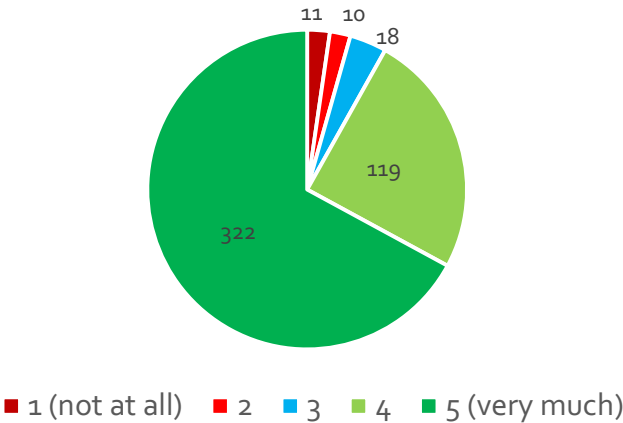
A volunteer’s mission management software was organized as well. Volunteers signed up for assignments in the software tool. The assignments covered 1/3 of the world congress duration. The rest of the time they could attend the sessions as participants. Most of them presented papers at the congress. A Whatsapp group was also created for the volunteers to communicate quickly with each other.



All volunteers’ names are in the Appendix. We thank them for their great involvement and their good mood!

The results of the post-congress survey concerning **the help provided by the students working as volunteers** at the Congress are given in the next pie chart. These positives reactions are very much appreciated and has been conveyed to volunteers.

I appreciated the help from the IFAC Volunteers



Total responses for this item	480	87%
Positive responses	441	92%
Negative responses	21	4%

Venue Assessment

P. Congress venue

The 20th IFAC World Congress was held in the Toulouse city center, in the district named Compans-Caffarelli. The venue provided:

- comfortable, modern congress conditions,
- easy access from outside Toulouse and within the city,
- hotel accommodation at reasonable distance,
- direct metro connection to accommodation at university campus,
- easy planning of tourist and technical visits in Toulouse and the Occitanie region,
- close-by restaurants and special offers for lunches.

The Congress venue combines the buildings described below. The sessions mainly took place at the Pierre Baudis Congress center, some at Hotel Mercure Toulouse Centre Compans and Palais des Sports, few ones (Automotive dedicated technical sessions) at Le Manoir du Prince.

Pierre Baudis Congress Center

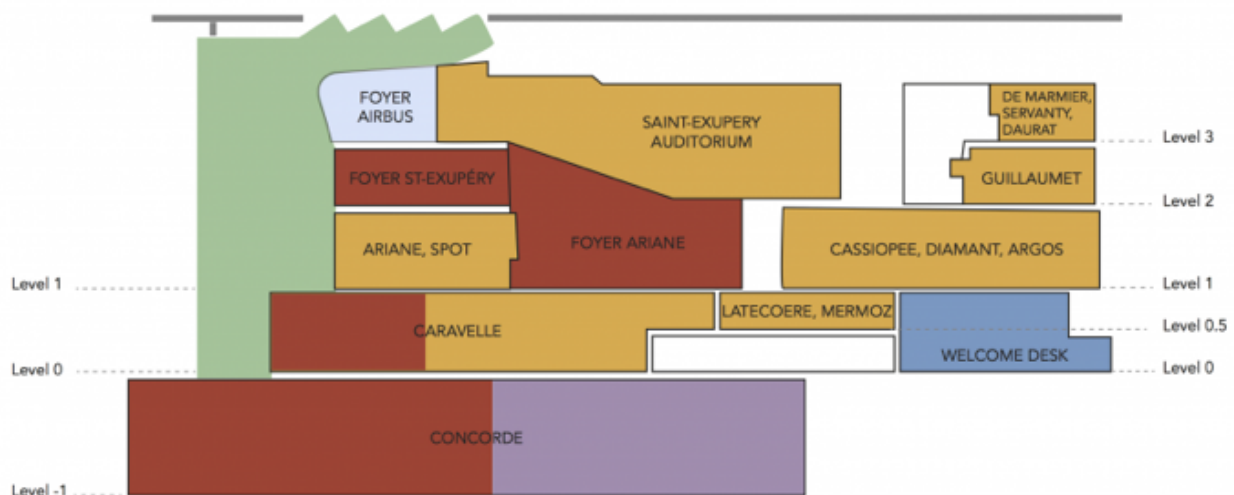
11 Espl. Compans Caffarelli, 31000 Toulouse

The congress center serves as the central meeting location. It hosted:

- The welcome desk (ground floor).
- The desk for tourist offers.
- The exhibitors (Concorde room at -1 basement level).
- The main coffee break locations (Concorde Hall at Level -1, Caravelle Hall at Level 0, Ariane Hall at level 1).
- Bag storage facilities in Caravelle Hall at Level 0.
- The session rooms:
 - Caravelle 1, Caravelle 2, Caravelle 3 (ground floor)
 - Latécoère, Mermoz (0.5 intermediate level)
 - Spot, Diamant, Argos, Cassiopée, Ariane 1, Ariane 2 (1st floor)
 - St Exupéry Auditorium, Guillaumet 1, Guillaumet 2 (2nd floor)
 - Daurat, Servanty, De Marnier (3rd floor)



The Congress Center building consist of 6 levels. Most of the session rooms was in this building or in the Hotel Mercure building which is directly connected to it.



Hotel Mercure Toulouse Centre Compans

Boulevard Lascrosses, 8 Espl. Compans Caffarelli, 31000 Toulouse

The hotel is the neighboring building next to the congress center, with a direct internal link between the two buildings. It hosted:

- a friendly cafe and restaurant (not in the Security Congress zone),
- the sessions rooms: Gavarnie, Toulouse, Conques, Cordes, Lourdes, Pic du Midi (with direct access from the Congress Center).



Palais des Sports

3 Rue Pierre Laplace, 31000 Toulouse

The Palais des Sports main building hosted the opening and closing ceremonies, as well as the plenary sessions.

This multi-sports arena is located in front of the congress center across the pedestrian square called Esplanade Compans Caffarelli. It hosted:

- the opening and closing ceremonies (main arena),
- the plenary and semi-plenary sessions (main arena),
- the demonstrator session rooms: handball, volleyball at Level -1,
- the sessions rooms: basketball, rugby, football, hockey (in temporary buildings located next to the demonstrator rooms).



Novotel Toulouse Centre Compans Caffarelli

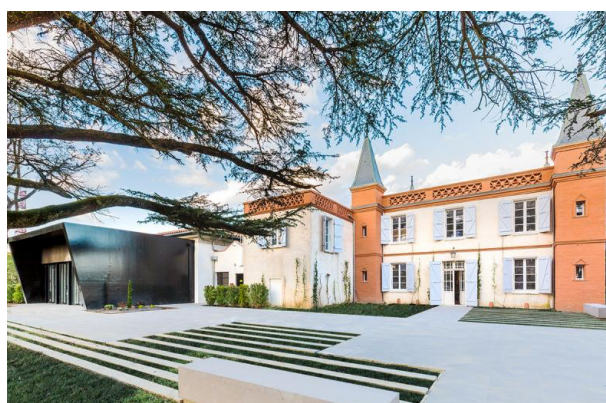
5 Place Alphonse Jourdain, 31000 Toulouse

This hotel is situated at five minutes walking distance across the Compans-Caffarelli park. It hosted the IFAC secretariat and IFAC official meetings, including the Technical Committee meetings.

Le Manoir du Prince

999 Routes de Seysses - 31120 Portet - sur - Garonne

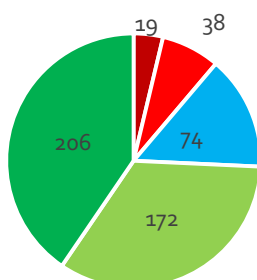
This recently renovated prestigious site hosted the Congress Gala Dinner and well as Automotive dedicated technical sessions (including demonstrations) on Thursday 13 July.



(The number of sites and the distance between them imposed also a flexible and reactive champagne delivery system.)

The number of sites for the scientific sessions required having the clearest orientation signs to allow participants to go from one session to another as easily as possible. Specifics maps and signs have therefore been developed and we are happy about the positive opinion expressed in the Post-Congress Survey indicated in the next pie chart.

The orientation in the Congress Venue was easy



■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

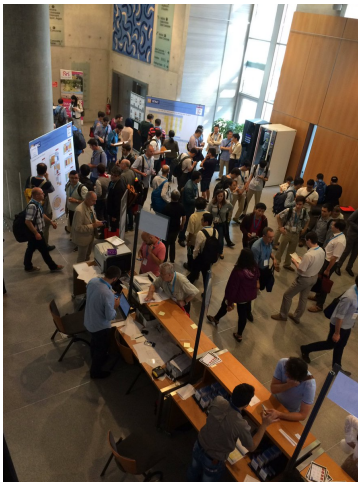
Total responses for this item	509	92%
Positive responses	378	74%
Negative responses	57	11%

Welcome Desk and Security

France, as many other countries, has suffered these last years from several terrorist attacks. In reaction, the authorities have strengthened security procedures, in particular for all events gathering large number of attendees. The organizers were bound to establish enforced procedures to enable safe access and security of attendees.

The IFAC 2017 World Congress with over 3.400 attendees was concerned. The following security measures had to be applied during the Congress:

- A unique entrance/exit to the Congress venue site.
- Permanent security check of all people entering the site.
- Security check of all bags, parcels and luggage.
- Entrance was permitted only to Congress registered attendees certified by a Congress badge (or the congress attendee voucher on the first day of arrival).
- The Congress badge was delivered to individuals in person upon presentation of a photo ID such as the passport.

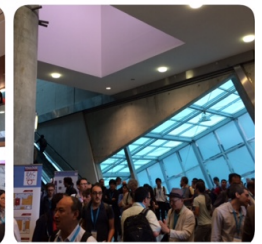
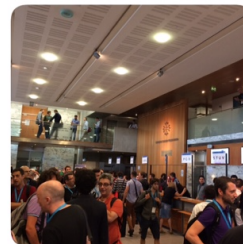


To facilitate the implementation of these security measures, before the congress a voucher was sent by email to all participants. This voucher was to be shown at the security post to enter in the convention center and thus recover the congress badge and congress kit.

All the delegates had to bring their voucher with them when they arrive for the first time, and have an ID (passport for example) to get the Congress Badge. Accompanying persons should also come themselves to fetch their Congress Badge and present an ID.

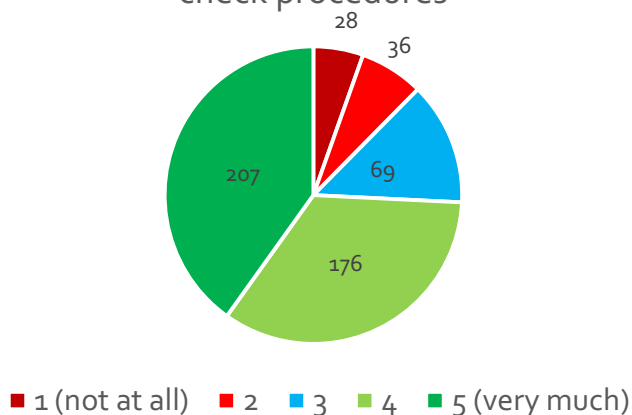


The implementation of the security procedure has been a very sensitive issue for the organization. We knew this would be confusing for some participants, but in the current context, this procedure was mandatory and was imposed by the security authorities. Finally, we are pleased to see that this has been positively perceived. To minimize the inconvenience of this process, effort was made to allow participants to move from one building to another without security control.



The results of the post-congress survey concerning **the access and organization of the security check procedures** at the Congress are given in the next pie chart.

Access and organization went smoothly despite the security check procedures



Total responses for this item	516	93.6%
Positive responses	383	74%
Negative responses	64	12%

Q. Tourism

For the attendees, an online service by our Pays d'Oc partner was available to book tourism services in advance.

City tours for Accompanying Persons

Registered accompanying persons (see registration page) will be offered a commented 2 hours walking visit of Toulouse city center on Monday 10 July afternoon, to be chosen among the following two:

Secret Toulouse or the unknown city:

An elegant virgin, a small knight, a saint in its niche, a worshipped lady, a prince in his hotel, an artist inspired... so many anecdotes reveal the multiple hidden facets of the city.

Visit in on Monday 10 July and starts at 14:00.

Great monuments of Toulouse:

This visit to the historic heart of Toulouse serves up an array of emblematic monuments: Le Capitole, the basilica of Saint-Sernin, the Jacobins Convent and the Hôtel de Bernuy are all yours!

Visit in on Monday 10 July and starts at 14:30.

The meeting point for both visits is in front of the entrance of the Tourism office, Donjon du Capitole, in the Square Charles de Gaulle garden situated behind the Town Hall Capitole building.

Offers by Pays d'Oc partner

An online service is available to book:

Original visits of Toulouse both in the morning and in the evening

Visits to amazing neighboring towns

Visits aerospace dedicated museums ("sky and stars" offer)

The booking service starts with a schedule with all offers. Click on one to access to the booking page.

A380 factory

The "Sky and stars" offer by Pays d'Oc also brings you to the entrance of the Airbus A380 factory plant. If you are interested you should book directly following this link. Please note that booking in advance is compulsory (at least 2 days before your visit for non european union citizens) and that you'll need to confirm your identity and bring your passport with you.



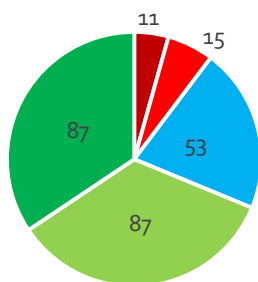
Other touristic offers were setup in cooperation with So*Toulouse Tourist Office and were available at the Congress venue during the event.

We also provided booth space for **partners selling local products** at the Congress Center.



The results of the post-congress survey concerning **the tourism offers** are given in the next pie chart.

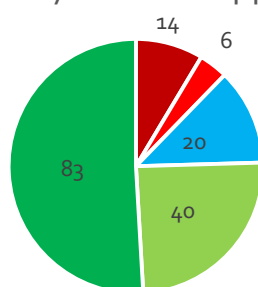
The tourism offers were satisfactory



Total responses for this item	253	45.9%
Positive responses	174	69%
Negative responses	27	11%

■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

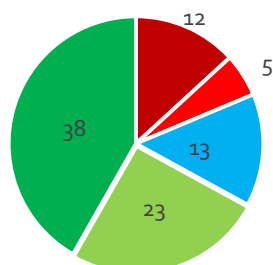
I went to a city tour and appreciated it



Total responses for this item	163	29,58%
Positive responses	123	75%
Negative responses	20	12%

■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

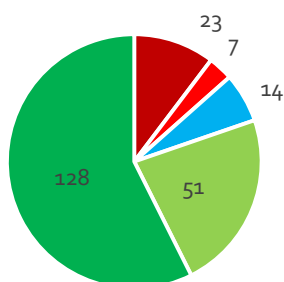
I went to a bus tour to a neighboring town and appreciated it



Total responses for this item	91	16.51%
Positive responses	61	67%
Negative responses	17	18%

■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

I visited one or more museums in Toulouse and appreciated these



Total responses for this item	223	40.5%
Positive responses	179	80%
Negative responses	30	13%

■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

R. Host City and Region

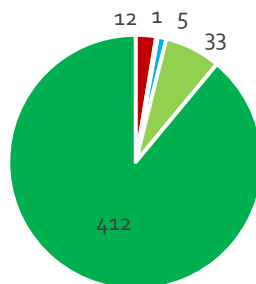
The public transport ticket that was offered in the congress kit, was very appreciated by delegates. We thanks So'Toulouse for this offer.

The participants enjoyed the lively and typical atmosphere of Toulouse, its reasonable size, and the kindness of local people.

The results of the post-congress survey concerning **the host City and Region** are given in the next pie charts.



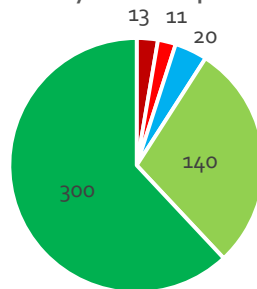
I appreciated the free ride metro+bus tickets



■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

Total responses for this item	463	84%
Positive responses	445	96%
Negative responses	13	2%

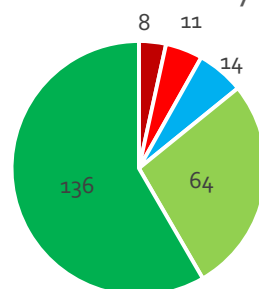
I enjoyed the lively atmosphere of Toulouse



■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

Total responses for this item	484	87%
Positive responses	440	91%
Negative responses	24	5%

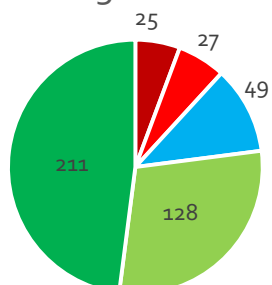
The neighboring towns and countryside worth the travel



■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

Total responses for this item	233	42.3%
Positive responses	200	86%
Negative responses	19	8%

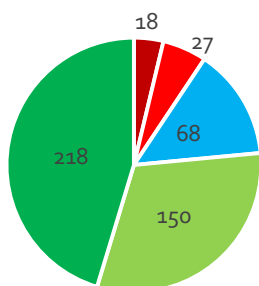
I would be interested in coming to Toulouse for other conferences



Total responses for this item	440	79.9%
Positive responses	339	77%
Negative responses	52	12%

■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

I recommend Toulouse as a touristic destination

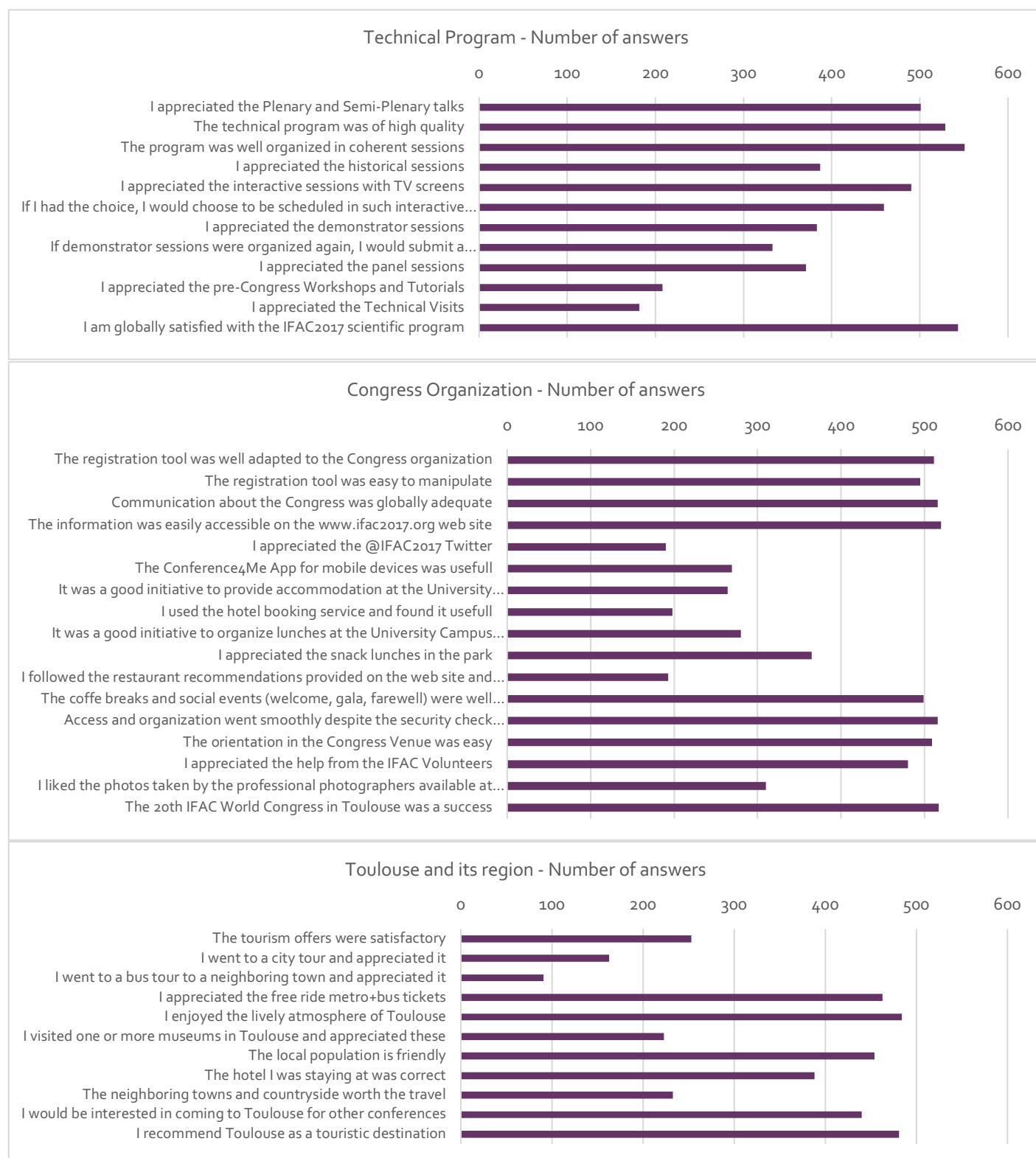


Total responses for this item	481	87.3%
Positive responses	368	77%
Negative responses	45	9%

■ 1 (not at all) ■ 2 ■ 3 ■ 4 ■ 5 (very much)

Appendices

S. Post Congress Survey - Number of Answers



T. Volunteers

NOC Volunteers	
Volunteers team	Missie AGUADO, Zaher AL CHAMI, Rabah AMMOUR, Kwami Dodzivi ANANI, Paulo Ricardo ARANTES GILZ , Victor ARELLANO, Dmitrii ARKHIPOV, Mohamad Taki ASGHAR, Mohamad Ali ASSAAD, Rafael BAILON-RUIZ, Linda Dominique Fabiola BAMBARA, Nathalie BARBOSA, Matthieu BARREAU, Pascal BEGER, Ghazi BEL HAJ FREJ, Adel BELKADI, Bassem BHIRI, Yusuf BHUJWALLA, Davide BICEGO, Mathias BLANDEAU, Maxence BLOND, Adèle BOCHE, Mohamed Taha BOUDALI, Yassine BOUKAL, Chaouki Nacer Eddine BOULTIFAT, Anthony BOURDELLE, Jean-Louis BOUVIN, Yasser BOUZID, Mathieu BRUNOT, Baptiste CADALEN, Paul CAZENAVE, Sophie CERF, Alia CHEBLY, Abdelhamid CHELLAL, Amira CHOUCANE, Xing CHU, Raphael COHEN, Torbjørn CUNIS, Gabriel DA SILVA SERAPIÃO LEAL, Benjamin DALMAS, Violaine DALMAS, Nathan DANES, Guillaume DAVY, Jean-Alexis DELAMER, Flavien DESCHAUX, Diego Armando DIAZ VARGAS, Florian DIETRICH, Laëtitia DIEZ, Ana Carolina DOS SANTOS PAULINO, Nicolas ESPITIA HOYOS, Hélène EVAIN, Maxime FEINGESICHT, Francesco FERRANTE, Lya FONTAINE, Clément GALETTA, Noussaiba GASMI, Asma GASMI, Clément GAZZINO, Asmaa GHOUARI, Karla Itzel GOMEZ SOTELO, Joel Abraham GONZALEZ VIEYRA, Quentin GRANDEMANGE, Lydia HABIB, Hichem HADDOU BENDERBAL, Abderraouf HADJ HENNI, Sabrina HADJERAS, Aldjia HADJERAS, Ayoub HADRANE, Idir HAMAZ, Mounir HAMMOUCHE, Sandra HAMZE, Roxana HESS, Sara HOUALEF, Jean IBARZ, Wei JIANG, Guangying JIN, Zohra KADER, Pauline KERGUS, Imane KHAYOUR, Thomas LALOIX, Kokou LANGUEH, Thomas LAURAIN, François LEBORNE, Harmonie LEDUC, Nicolas LENOBLE, Yantong LI, Quan LIU, Bainan LIU, Francisco LOPEZ RAMIREZ, Xiaoyan MA, Mohamed Adlene MAGHENEM, Elaheh MALEKI, Flore De Asis MARTI, Dory MERHY, Hosameldin Awadalla Omer MOHAMED, Nolwenn MONOT, Hafida MOUHAGIR, Simon MUSTAKI, Nadia NDHAIEF EP GAALLOUL, Eric NGUYEN VAN, Collince Christian NZUKAM, Gustav OMAN LUNDIN, Claire PAYA, Zhihao PENG, Arthur PERODOU, Dorine PETIT, Romain PICHARD, Jesse James PRINCE , Elodie ROBERT, Diego Jair RODRIGUEZ OBANDO, Christophe ROMAN, Nadia ROSERO, Jean-Nicola RUSSO, Rim SADDEM, Mohammed SAFI, Alexandre SAHUGUEDE, Mohamad SLEIMAN, Nicolas STAUB, Abdourahim SYLLA, Ayoub TAHIRI, Khaoula TIDRIRI, David TOCAVEN, Marco TOGNON, Thomas TOUBLANC, Tuan Anh TRAN, Quang Huy TRUONG, Simone URBANO, Alexandre VIEIRA, Sérgio WAITMAN, Yue WANG, Xing WEI, Yanqiao WEI, Yuchen XIE, Dacheng ZHANG, Guangxue ZHANG , Emmanuel ZIMMERMANN
Volunteers serving at Demonstrators	Ali AHMAD, Laurent AUTRIQUE, Etienne BELIN, Marie-Françoise GERARD, Rémy GUYONNEAU, Laurent HOUSSIN, Abdessamad KOBI, Pierre MELCHIOR, Franck MERCIER, Laetitia PEREZ

U. Technical Associate Editors

T Acarman (TR), M Adachi (IT), EH Aghezzaf (BE), T Ahmed-Ali (FR), HS Ahn (KR), M Alamir (FR), A Alonso (ES), T Alpcan (AU), D Antunes (NL), E Aranda-Bricaire (MX), KB Ariyur (US), I Arsie (IT), S Aseev (RU), N Aspragathos (GR), L Autrique (FR), V Azhmyakov (CO), J Back (KR), N Bakhtadze (RU), L Bako (FR), Z Banaszak (PL), JP Barbot (FR), R Bars (HU), L Basanez (ES), M Basset (FR), AS Bazanella (BR), J Bentsman (US), B Benyo (HU), L Benyoucef (FR), G Besancon (FR), A Besancon-Voda (FR), A Bobtsov (RU), D Bogle (GB), J Bokor (HU), X Bombois (FR), J Bontsema (NL), D Bonvin (CH), L Bourrouilhou (NL), D Bresch-Pietri (FR), F Bullo (US), L Busoniu (RO), C Califano (IT), K Camlibel (NL), M Canova (US), SI Caramihai (RO), EB Castelan (BR), A Castelletti (IT), S Celikovskiy (CZ), N Chaillet (FR), Y Chamailard (FR), M Chappell (GB), CD Charalambous (CY), T Charalambous (FI), A Chemori (FR), L Cheng (CN), P Cheng (CN), A Chiuso (IT), PD Christofides (US), A Cinar (US), G Colin (FR), ML Corradini (IT), I Craig (ZA), A Crespo (ES), FA Cuzzola (IT), A D'Ariano (IT), P Daoutidis (US), C de Prada (ES), P Dehombreux (BE), L del Re (AT), A Delibasi (TR), T Desaive (BE), MD Di Benedetto (IT), M Diehl (DE), M Djemai (FR), PD Docherty (NZ), T Dodd (GB), M Dotoli (IT), L Dugard (FR), Y Ebihara (JP), I Erlich (DE), G Ewald (PL), M Fadel (FR), A Fowler (AU), CT Freeman (GB), E Fridman (IL), S Galeani (IT), S Garatti (IT), SS Ge (SG), D Georges (FR), F Giri (FR), A Giua (FR), JM Gomes Da Silva Jr (BR), R Goodall (BR), B Gopaluni (CA), K Graichen (DE), JT Gravdahl (NO), C Guardiola (ES), M Guay (CA), JL Guzman (ES), J Hauser (US), V Havlena (CZ), M Heemels (NL), G Herrmann (GB), MA Hersch (GB), L Hetel (FR), S Hirche (DE), H Hjalmarsen (SE), E Hryniewicz (PL), B Huang (CA), J Huang (HK), M Huang (CA), K Ikeda (JP), JI Imura (JP), G Indiveri (IT), H Ito (JP), B lung (FR), D Ivanov (DE), A Jadbabaie (US), B Jayawardhana (NL), ZP Jiang (US), KH Johansson (SE), I Karafyllis (GR), N Karampetakis (GR), N Karcianas (GB), A Karimi (CH), HR Karimi (IT), M Karkee (US), EC Kerrigan (GB), M Kinnaert (BE), A Kleimenov (RU), P Kopacek (AT), U Kotta (EE), C Kravaris (US), Y Kunii (JP), CM Lagoa (US), V Laurain (FR), M Lazar (NL), Y Le Gorrec (FR), JM Lee (KR), K Leiviska (FI), A Leong (DE), Z Lin (US), JJ Loiseau (FR), S Longo (GB), M M'Saad (FR), A Macchelli (IT), M Macchi (IT), JAT Machado (PT), J Machado (PT), C Mahulea (ES), Y Majanne (FI), A Malikopoulos (US), N Manamanni (FR), C Manzie (AU), I Markovsky (BE), B Maschke (FR), T McKelvey (SE), C Melchiorri (IT), C Meloni (IT), A Mesbah (US), T Meurer (DE), B Misgeld (DE), S Mishra (IN), N Miskovic (HR), CH Moog (FR), JA Moreno (MX), D Muñoz de la Peña (ES), S Narayanan (US), M Netto (FR), SI Niculescu (FR), M Niitsuma (JP), M Nitulescu (RO), S Nomm (EE), G Notarstefano (IT), C Novara (IT), C Ocampo-Martinez (ES), Y Ohta (JP), N Olgac (US), S Onori (US), H Ozbay (TR), L Ozkan (NL), G Pannocchia (IT), EV Panteley (FR), I Papamichail (GR), A Parisio (GB), CE Pereira (BR), F Peres (FR), T Perez (AU), I Petrovic (HR), H Pierrel (FR), R Pintelon (BE), P Plöger (DE), MM Polycarpou (CY), M Pouliquen (FR), M Prandini (IT), C Pretty (NZ), C Prieur (FR), V Puig (ES), D Quevedo (DE), M Rakotondrabe (FR), B Rehak (CZ), W Ren (US), N Rezg (FR), G Rizzo (IT), M Robba (IT), BGM Robert (FR), E Rogers (GB), D Romero (MX), E Rondeau (FR), JA Rossiter (GB), A Ruano (PT), M Ruderman (NO), J Sabatier (FR), S Sacone (IT), M Sato (JP), S Savaresi (IT), T Sawaragi (JP), O Sawodny (DE), M Sayed-Mouchaweh (FR), CW Scherer (DE), R Schmid (AU), KW Schmidt (TR), A Sciarretta (FR), O Sename (FR), A Serrani (US), Y Shastri (IN), T Shen (JP), H Shimizu (JP), H Siguerdidjane (FR), S Simani (IT), R Sipahi (US), I Smets (BE), RS Smith (CH), M Sorrentino (IT), SK Spurgeon (GB), A Steinboeck (AT), IN Stoian (RO), T Stoilov (BG), T Suzuki (JP), G Sziebig (NO), P Tabuada (US), H Tanaka (JP), L Tang (CN), A Tarasyev (RU), MK Tiwari (IN), M Tomizuka (US), P Tona (FR), A Tsourdos (GB), I Tzortzis (CY), T Ushio (JP), T Van Cutsem (BE), PMJ Van den Hof (NL), JW van Wingerden (NL), M Verhaegen (NL), F Vernadat (FR), GA Viswanathan (IN), F Viti (LU), B Vogel-Heuser (DE), M Volta (IT), T Vyhlidal (CZ), FY Wang (US), J Wang (US), L Wang (CN), L Wang (AU), H Weber (DE), G Weichhart (AT), E Weyer (AU), JF Whidborne (GB), X Xie (FR), F Yalaoui (FR), T Yamaguchi (JP), Y Yildiz (TR), T Yucelen (US), J Zamorano (ES), S Zampieri (IT), MB Zaremba (CA), J Zhang (CN), XP Zhang (GB), QC Zhong (US), J Zhou (CN), MC Zhou (US), T Zubowicz (PL)

V. Technical Committees Statistics

The table below provides some data about the contributions submitted to the World IFAC. The first keyword of each contribution was used to decide in which Technical Committee it falls. These are not statistics about the accepted papers.

TC	IS	IS-P	OIT	OIT-P	C-P	C-S	C-EA	Tot-P	Tot-S	Tot-EA	R	A	D	H	Tot-C	Tot
1.1	1	9	6	71	198	1	5	283	1	7	274	15	2	0	204	291
1.2	0	0	2	36	66	3	0	101	3	0	100	4	0	0	69	104
1.3	1	6	8	103	69	0	0	140	6	2	131	3	8	6	69	148
1.4	0	0	0	0	64	1	2	84	1	2	87	0	0	0	67	87
1.5	2	12	3	40	154	0	2	212	0	2	211	3	0	0	156	214
2.1	0	0	2	19	104	2	3	120	2	4	121	3	1	1	109	126
2.2	10	58	3	68	167	1	1	254	1	8	254	1	0	8	169	263
2.3	3	19	7	101	285	0	0	391	3	8	385	4	1	12	285	402
2.4	2	11	1	23	102	1	3	154	3	4	149	9	2	1	106	161
2.5	0	0	0	0	46	0	0	72	1	1	74	0	0	0	46	74
2.6	1	5	2	39	31	0	2	61	0	7	65	0	0	3	33	68
3.1	0	0	0	0	22	0	0	25	0	0	23	2	0	0	22	25
3.2	0	0	4	36	19	0	1	50	1	1	52	0	0	0	20	52
3.3	0	0	1	10	10	0	1	13	0	1	10	2	2	0	11	14
4.1	1	13	0	0	27	0	1	43	0	1	42	2	0	0	28	44
4.2	6	35	8	94	97	0	3	191	0	3	180	7	6	1	100	194
4.3	1	8	3	12	145	0	5	173	0	5	154	15	9	0	150	178
4.5	0	0	1	4	30	0	2	44	1	2	44	2	1	0	32	47
5.1	1	9	3	19	33	0	3	72	0	3	69	5	1	0	36	75
5.2	0	0	6	75	26	1	2	63	1	3	64	3	0	0	29	67
5.3	0	0	2	6	10	0	1	33	2	1	35	1	0	0	11	36
5.4	0	0	2	28	17	0	1	67	0	1	66	2	0	0	18	68
6.1	2	11	1	15	82	0	2	117	0	2	113	4	1	1	84	119
6.2	1	8	1	6	38	0	0	59	0	0	50	9	0	0	38	59
6.3	4	25	9	107	117	2	3	234	2	5	219	21	1	0	122	241
6.4	1	7	2	16	46	0	1	73	0	1	67	6	1	0	47	74
7.1	0	0	3	65	91	1	0	143	2	5	130	13	7	0	92	150
7.2	0	0	1	19	18	0	0	37	0	0	36	1	0	0	18	37
7.3	0	0	1	8	54	2	0	66	2	0	59	8	1	0	56	68
7.4	2	12	2	22	44	0	1	70	1	6	73	3	1	0	45	77
7.5	1	6	2	14	79	0	0	108	0	0	105	1	2	0	79	108
8.1	0	0	2	4	6	0	1	10	0	2	10	1	1	0	7	12
8.2	2	11	3	69	37	1	3	107	1	3	108	2	1	0	41	111
8.3	0	0	3	32	13	0	1	34	0	1	33	2	0	0	14	35
8.4	2	12	1	8	28	1	1	59	1	1	61	0	0	0	30	61
9.1	0	0	1	3	30	0	0	31	0	7	36	2	0	0	30	38
9.2	0	0	0	0	3	0	1	5	0	3	8	0	0	0	4	8
9.3	0	0	0	0	11	0	0	11	0	14	23	2	0	0	11	25
9.4	0	0	2	93	28	0	1	40	0	15	37	3	15	0	29	55
9.5	2	11	0	0	7	0	5	19	1	46	58	6	2	0	12	66

- The first pair of columns gives the number of Invited Sessions (**IS**) and the number of papers (**IS-P**) submitted to these IS. Although the number of papers per session was fixed to 6, the PaperPlaza tool had no hard limit on the number of papers that may be submitted by the authors who had the session code. This explains why the number of contributions is not always a multiple of 6. Notice as well that the number of papers indicated here is the number of papers submitted to the corresponding Invited Session. An Invited Session falls mainly within the scope of one TC but the papers taken individually can fall in the scope of other TCs depending on the first keyword declared by the authors.
- The second pair of columns gives the number of Open Invited Tracks (**OIT**) and the number of submitted papers (**OIT-P**) per OIT. Once again notice that the number of papers indicated here is the number of papers submitted to the corresponding OIT. A track falls mainly within the scope of one TC, but the papers of a Track taken individually can fall in the scope of other TCs depending on the first keyword declared by the authors.
- The next three columns give the number of contributed papers (**C-P**), of contributed Survey papers (**C-S**) and contributed Extended Abstracts (**C-EA**). There contributions were submitted individually without referring to any Invited Session or Open Invited Track.

- The next three columns give the sum of the number of papers including those in Invited Sessions, in Open Invited Tracks and Contributed papers. The columns make the difference between the papers (Tot-P), the Survey papers (Tot-S) and the Extended Abstracts (Tot-EA).
- The four columns coming next show how the total number of papers is divided among Regular papers (R), Application papers (A), demonstrator papers (D) and History papers (H).
- The last two columns indicate the total number of contributed papers (Tot-C) and the total number of papers including those in Invited sessions and Open Invited Tracks (Tot).

Concerning CC9 data, it should be said that an Open Invited Track of Extended Abstracts was submitted to gather contributions of young PhD students from French research centers who served the IFAC World Congress as volunteers. This track was reviewed by an ad hoc committee and covered all IFAC topics but was technically attached to TC9.4 (control education). 77 papers were submitted to this track and are spread in the Tot-EA column of the Technical Committees for TC9.1 to TC9.5.

W. Technical Committees in the Program

The way the Program was build is explained using the table on the next page.

Each session room was given a number which is used in PaperPlaza to define the Tracks. The capacity of each room is given both in terms of audience and of number of papers that may be presented in a session slot. For Interactive Sessions (rooms 1 to 4) the number of presentations was set to 14 which corresponded to the 14 TV screens that were made available in these spaces.

Each session slot defined by a room (columns) and a time slot (horizontal lines) was filled by either an Invited Session (IS), a session related to an Open Invited Track (OIT) proposal, or Contributed papers pertaining to a Technical Committee. Since each IS or OIT is also related to a TC, the table provides a quick overview of the number of parallel sessions having close topics. The last column of the table indicates the slots during which the Technical Committees met.

The table was filled while attempting to satisfy the following rules:

- History session (in red) and panel sessions (purple) have priority access to large capacity rooms.
- TC with many submissions have priority access to large capacity rooms.
- Keep as low as possible the number of parallel sessions of the same TC.
- When sessions of a same TC are in parallel, these should be in neighboring rooms.
- Sessions of a given TC should be maintained in the same rooms.
- No TC sessions during TC meetings.
- Demonstrators are in the allocated demonstrator rooms.
- Papers of PhD students from the special Track of Extended Abstracts are in Interactive sessions.
- The number of Interactive sessions per TC is proportional to the number of papers per TC.
- OIT sessions should be composed only of papers accepted to that OIT (no contributor paper transferred to an OIT).
- Sessions corresponding to a TC should be composed only of papers submitted with main keyword from that TC (no paper transferred from one TC to another).

Room	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	33	25	26	27	28	29	30	31	32	TC meetings
Capacity	Inter	Inter	Inter	Inter	30	30	92	50	60	308	147	55	500	100	104	30	50	28	180	40	40	65	50	50	Demo	40	40	40	40	Demo	100	40	Demo	
nb slots	14	14	14	14	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6		6	6	6	6		6	6		
Mo.A	6.3	6.3	6.3	7.5	3.3	2.5	1.1	1.1 OIT	2.4 OIT	2.3	2.3 IS	1.5	2.2 IS	2.6	2.2 IS	1.2	4.2	4.1	3.2 OIT	8.2 OIT	6.4	9.1	7.1	7.1		4.3	5.2	7.2	6.2 OIT					9.4 5.4 4.5 1.3
Mo.B	5.1	2.2	4.5	2.3	1.4	2.5	1.1	1.1	2.4 OIT	2.3	2.3 IS	1.5	1.3 IS	2.2	2.2 IS	1.2	4.2	4.1	6.3	8.2 OIT	2.1	6.3	7.1	1.3	Demo	4.3	5.2 OIT	7.2	7.5					
Mo.C	1.5	1.5	1.5	2.3	1.4	2.5	1.1	1.1	2.4 OIT	2.3	2.3 OIT	3.2 OIT	1.3 IS	2.2	2.2	1.2	8.3	4.1	6.3	6.4 IS	2.1	6.3 OIT	2.6	1.3		4.3	5.2 OIT	6.1 IS	7.5					8.2 4.2
Tu.A	2.2	7.1	1.4	1.4	8.3 OIT	2.5	1.1	1.1 OIT	2.4	2.3	2.3 OIT	3.2 OIT	2.6 IS	6.4 OIT	7.4 OIT	1.2 OIT	4.2	4.1 IS	6.3	8.2	2.1 OIT	6.3 OIT	2.2	1.3		4.3	5.2 OIT	6.1 OIT	6.2 IS					9.2 1.5 5.1
Tu.B	MACS	7.1	4.2	2.4	1.4	5.4	1.1	1.1 OIT	2.4	2.3	9.5 IS	1.5	2.3 OIT	6.4 OIT	7.4 OIT	1.2	8.3 OIT	8.1	6.3	8.2 OIT	2.1	6.3 OIT	2.6 OIT	1.3 OIT	1.3 OIT	4.3	5.2 OIT	6.1 OIT	7.5					3.3 2.2 3.1 4.1
Tu.C	3.1	7.1	4.2	2.4	1.4	5.4	1.1	1.1 OIT	2.4	2.3	9.5 IS	1.5	2.3 OIT	2.2	2.2	1.2	8.3 OIT	8.1	6.3	8.2 OIT	2.1	6.3 OIT	2.6 OIT	1.3 OIT		4.3	5.1 IS	3.2	7.5					5.2 2.3 2.5 6.2 7.4 6.1
We.A	MACS	1.2	2.6	2.3	7.3	5.4 OIT	1.1	1.5 OIT	2.4	2.3	2.3 OIT	7.4	Panel	2.2	2.2 OIT	4.2	4.2 IS	8.3	6.3	8.2 IS	2.1	6.3 OIT	7.1 OIT	1.3 OIT		4.3	5.2 OIT	6.1	7.5 OIT					5.3
We.B	MACS	2.2	2.3	2.3	7.3	5.4 OIT	1.1	1.5 OIT	2.4	2.3	2.3 OIT	7.4	Panel	2.2 OIT	2.2 OIT	4.2	4.2 OIT	8.4 OIT	6.3	8.2 OIT	2.1	6.3 OIT	7.1 OIT	1.3 OIT	9.4 OIT	4.3	5.2 OIT	6.1	7.5					3.2 6.4
We.C	MACS	2.2	1.3	1.3	7.3	5.4 OIT	1.1	1.5 OIT	2.4 IS	2.3	2.3 OIT	1.5 IS	7.4 IS	2.2 OIT	2.2 OIT	4.2	4.2 OIT	8.4 IS	6.3	8.2 OIT	2.1	6.3 OIT	7.1 OIT	1.3 OIT		4.3 IS	5.2 OIT	6.1	6.2					6.3 7.5 1.2 2.6
Th.A	MACS	4.3	2.1	2.1	7.3 OIT	5.3	1.1 IS	9.5	2.4	2.3	2.3 OIT	1.5 IS	Panel	9.2	2.2 IS	4.2 IS	4.2 IS	8.4 IS	6.3 IS	8.2	1.3	6.3 OIT	2.6	1.3 OIT		7.2 OIT	3.2 + 3.3	6.1	6.2					
Th.B	2.5	4.3	2.3	2.3	7.3	5.3	1.1 OIT	9.5	2.4	2.3	2.3 OIT	1.5 OIT	6.3 OIT	2.2 OIT	2.2 IS	4.2 OIT	4.2 OIT	8.4	9.4	8.2 OIT	6.4	9.1	2.6 OIT	1.3 OIT		7.2 OIT	5.1 OIT	6.1	6.2		7.1 OIT	7.1 OIT	7.5 OIT	8.3 2.1
Th.C	8.4	4.3	1.1	1.1	8.3 OIT	5.3	1.1 OIT	3.3 OIT	3.2 OIT	2.3	2.3 OIT	1.5 OIT	6.3 OIT	2.2 OIT	2.2 IS	4.2 OIT	4.2 OIT	7.1	9.4	8.2 OIT	6.4	9.1	2.6 OIT	1.3 OIT		7.2 OIT	5.1 OIT	6.1	6.2		7.1 OIT	7.1 OIT		9.5 9.3 7.3 2.4
Fr.A	6.1	5.2	1.1	1.1	7.3	5.4	1.1 OIT	1.5	2.4 IS	2.3	2.3 OIT	1.5	9.3	2.2	2.2 IS	4.2 OIT	4.2 OIT	7.4	6.3 IS	8.2	6.4	6.3 OIT	7.1 OIT	1.3 OIT	Demo	4.5	5.1	6.2	7.5	4.3 OIT				
Fr.B			8.2	8.2	7.3	5.4	1.1 OIT	1.5	2.4	2.3	2.3 OIT	1.5	Panel	2.2	2.2	4.2 OIT	4.2 OIT	7.4	6.3 IS	9.4	6.4	6.3 OIT	5.2	1.3 OIT		4.5	5.1	6.1 IS	7.5					7.1

X. Delegates per Country/Region

Total of 3462 registered delegates from 70 countries/regions.

Country/Region	# Delegates	Country/Region	# Delegates	Country/Region	# Delegates	Country/Region	# Delegates
France	813	Mexico	39	Tunisia	11	Egypt	2
Germany	290	Norway	35	New Zealand	11	Ecuador	2
China	281	Poland	33	Singapore	11	Argentina	2
USA	223	Hungary	33	Saudi Arabia	7	Estonia	2
Italy	168	India	31	Croatia	7	Iceland	2
Japan	156	Turkey	27	Taiwan	7	Bulgaria	2
United Kingdom	132	Denmark	27	Nigeria	7	Ukraine	2
Netherlands	112	Slovakia	25	Romania	6	Kuwait	2
Sweden	105	Czech Republic	22	Cyprus	5	Swaziland	1
Spain	91	Portugal	22	Luxembourg	4	Thailand	1
Russia	77	Finland	19	Iran	4	Serbia	1
Brazil	70	Israel	19	Slovenia	4	Indonesia	1
Canada	63	South Africa	17	Algeria	3	Panama	1
Korea	55	Greece	16	Pakistan	3	Libanon	1
Belgium	52	Colombia	14	Arab Emirates	3	Malaysia	1
Australia	51	Marocco	14	Vietnam	2	Guinea	1
Austria	50	Ireland	13	Peru	2		
Switzerland	47	Chili	12	Qatar	2		

Y. Papers per Country/Region

The statistics are based on the data extracted for 4260 submitted contributions out of a total of 4267 and for 2724 papers in the program. There was a total of 8956 authors of papers in the Congress program from 83 countries/regions. The following table indicates the number of corresponding authors of submitted contributions; the number of corresponding authors of papers in the program; the number of authors of papers in the program.

Country/Region	Contributed and invited Submissions (# Corresponding Authors)	Contributed and invited papers in Program (# Corresponding Authors)	Contributed and Invited Papers in Program (# All Authors)
Total	4260	2724	8956
France	748	506	1783
Germany	314	238	741
China	430	208	709
USA	310	216	679
Italy	239	184	641
United Kingdom	163	109	334
Netherlands	115	92	296
Japan	165	101	293
Spain	107	71	273
Sweden	98	81	258
Brazil	131	69	246
Russia	152	89	209
Canada	95	60	181
Australia	72	55	176
Mexico	96	56	166
Switzerland	56	48	165
Belgium	55	39	139
Austria	43	36	112
New Zealand	26	19	103
India	70	31	94
Portugal	40	24	92
Korea, South	58	26	90
Denmark	29	22	87
Hungary	33	25	83
Slovakia	45	25	80
Norway	28	24	78

Country/Region	Contributed and Invited Submissions (# Corresponding Authors)	Contributed and Invited Papers in Program (# Corresponding Authors)	Contributed and Invited Papers in Program (# All Authors)
Poland	40	27	71
Turkey	45	23	61
Greece	25	14	53
Israel	29	19	53
Tunisia	33	14	48
Czech Republic	33	21	47
Finland	24	13	45
Colombia	16	8	41
Romania	29	12	39
Chile	17	10	34
South Africa	25	11	32
Ireland	16	12	31
Singapore	11	8	26
Morocco	35	8	22
Iran	19	6	20
Algeria	22	4	19
Argentina	5	4	19
Croatia	8	6	18
Saudi Arabia	13	6	14
Luxembourg	8	4	12
Slovenia	5	3	12
Taiwan	15	4	12
Egypt	5	3	11
Cyprus	4	2	10
Ukraine	4	2	9
Bulgaria	3	2	7
United Arab Emirates	7	3	7
Cameroon	1	1	6
Cuba	4	2	5
Malaysia	5	1	5
Pakistan	9	2	5
Belarus	2	0	4
Peru	2	1	4
Bangladesh	0	0	3
Costa Rica	1	1	3
Ecuador	5	2	3
Ghana	0	0	3
Iceland	2	1	3
Lebanon	3	2	3
Macedonia	0	0	3
Serbia	0	0	3
Thailand	1	1	3
Burkina Faso	1	1	2
Estonia	1	1	2
Indonesia	2	1	2
Kenya	0	0	2
Kosovo	2	0	2
Qatar	3	1	2
Albania	0	0	1
Jordan	0	0	1
Oman	0	0	1
Panama	0	0	1
Sri Lanka	0	0	1
Venezuela	1	1	1
Vietnam	1	1	1