



Activities' Report - Year 2023

Delegate/Fabrizio Dabbene CNR IEIIT

1. Introduction

IFAC is an association of States founded in 1956. Each State is represented by a National member Organization (NMO) like CNR for Italy (since the start). There are currently 49 Countries represented: Australia, Austria, Azerbaijan, Belgium, Brazil, Bulgaria, Canada, Chile, China, Croatia, Cuba, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, India, Ireland, Israel, Italy, Japan, Republic of Korea, Republic of Kosovo, Republic of Nord Macedonia, Malaysia, Mexico, Netherlands, Norway, Pakistan, Peru, Poland, Portugal, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Tunisia, Turkey, Ukraine, United Kingdom, USA.

The activities of IFAC mainly consist in the organization of scientific events (around 40 each year) and publication in various subfields of systems and control. The scientific areas are divided in 9 Coordinating Committees (CC), each subdivided in Technical Committees (TC). The most important event is the World Congress (IFAC-WC), scheduled every three years. The 22nd IFAC-WC was held in 2023 in Yokohama (JP), the 23th World Congress will be held in Busan (KR) in 2026 and the 24th IFAC-WC in 2029 in Amsterdam (NL).

There are also IFAC Symposia, Conferences and Workshops. An IFAC Symposium is a technical meeting covering a well-defined theme of Control Engineering. Symposia on the same subject are arranged as a regular series, usually on a triennial basis. They are organized by a host country NMO and are scientifically assisted by those IFAC Technical Committees (TCs) which take an active interest in the selected topics of the meeting. Attendance usually ranges between 100 and 500 participants.

The scientific activities have a broad action range, witnessed by the presence of different [IFAC publications](#), among which eight journals published by Elsevier, namely *Automatica*, *Control Engineering Practice*, *Annual Reviews in Control*, *Engineering Applications of Artificial Intelligence*, *Journal of Process Control*, *Mechatronics*, *Nonlinear Analysis: Hybrid System*, *IFAC Journal of Systems and Control*.

The IFAC president is Dongil “Dan” Cho, in charge till the next Congress, scheduled in Busan, South Korea in 2026. Further information can be found at: <http://www.ifac-control.org/>, see also “ The IFAC Story”, e-book edited by Steve Khane and "Italy in IFAC, from dawn to our days", by Sergio Bittanti, https://bittanti.faculty.polimi.it/docs/IFAC_Italy.pdf.

An Italian President of IFAC in 2029

In 2022 the General Assembly voted Prof. Maria Prandini of Politecnico di Milano as 25th IFAC President. This represents an extremely important achievement for the Italian community and testifies for the central role played by Italian researcher in the international community of systems & control. Maria will be the second Italian president, making Italy one of the few states able to express two presidents since IFAC foundation in 1957

2. Main activities carried on by IFAC during 2023 relevant for Italy and for CNR

In 2023 the IFAC World Congress was held in Yokohama, Japan. The World Congresses are organized on a triennial basis, in a worldwide scale, with attendance of more than 3,000 persons. As a rule, no Symposia or Conferences take place in the year of the Congress, and also the number of Workshops is restricted in order to avoid conflicting dates. Hence, also the activities in Italy were limited for the year 2023.

2.1 International IFAC events in Italy in 2023

Two IFAC co-sponsored international events were organized in Italy in 2023.

- INSTICC/IFAC Conference on Informatics in Control, Automation and Robotics - 20th [ICINCO 2023](#), Rome, Italy, 13-15 November 2023.
- IFAC/IFIP International Workshop on Enterprise Integration, Interoperability and Networking – 17th [EIN 2023](#), Rome, Italy, 15-17 November 2023

2.2 Main events in cooperation with IFAC in 2023

American Control Conference [ACC 2023](#) (in cooperation with AACC), San Diego, CA, USA , May 31 - June 2, 2023

European Control Conference [ECC 2023](#) (in cooperation EUCA), Bucharest, Romania, 13-16 June, 2023

2.4 Automatica.it meeting in 2023

The members of the Italian control community gather every year for the SIDRA (Società Italiana dei Ricercatori di Automatica) workshop and the assembly, where IFAC activities are reported.

The workshop, named Automatica.it, gathers Professors and Researchers from Italian Universities and Research Institutions to share recent advancements and applications in all areas of Control Systems. The 2023 workshop was held in Catania at Monastero dei Benedettini on September 6-7-8, 2023.

2.3 IFACx Italy event in 2023



In 2023 IFAC instituted the IFACx initiative. Each NMO can request the IFACx label for at most 2 domestic events. These may typically be a domestic Conference + one other event such as a summer school, a Webinar series, etc. The technical and scientific quality is the responsibility of the NMO. All submitted requests receive the approval of the Technical Board and Conference Board Chairs. Approval ensures advertisement of the event in the IFAC channels (website, newsletter, social media etc.) and gives the right to use the IFACx logo.

The Italian NMO obtained the IFACx sponsorship for the following event:

SIDRA PhD School on Automatica, Bertinoro (FC), Italy - July 3-8, 2023

Type of event: *Summer school for PhD students in systems and control*

Description: *The SIDRA PhD School on Automatica is organized annually since 1997 by SIDRA, the Italian Society of PhD and Researchers in Automatica. The School is always held in July in the beautiful location of Bertinoro (FC). It consists of a week of classes: usually two parallel courses by renown international researchers in the field, and the topics are selected trying to cover both theoretical and technical aspects. The School is held in a friendly and stimulating environment and every year approximately 60 PhD students from Italy and other countries attend it. A final exam is organized for students for obtaining the credits. The School has two scientific coordinators selected by SIDRA. Since 2012 Prof. Maria Elena Valcher (University of Padova) and Prof. Claudio Melchiorri (University of Bologna) have been indicated as coordinators of the School. This initiative has also the sponsorship of the IEEE RAS and IEEE CSS Italian Chapters.*

3. Activities carried on by Fabrizio Dabbene within IFAC during 2023 and impact on the Italian scientific community

In 2023, the Italian NMO representatives were Fabrizio Dabbene (NMO Chair, CNR IEIIT) and Alessandro Borri (NMO Vice-Chair, CNR IASI).

The NMO Italian representative participates in the General Assembly (GA), that is the most important parliamentary body in IFAC. It dictates the rule of representation, the entrance of new member Countries, in accordance with the articles of the [IFAC Constitution](#), listens and reports the works of the Executive Board and Technical Board. The CNR Italian representative checks and signs the proposals of IFAC events in Italy, organized by Italian IFAC members working in scientific centers (mainly universities). He guarantees the feasibility and quality of the proposed scientific event. The CNR Italian representative proposes to the chairs of the various technical committees the inclusions of Italian members.

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During the Automatica.it 2023 workshop held in Catania, I was invited to participate, as IFAC NMO Representative of Italy, to the Round Table *“L'automatica e le società scientifiche internazionali: prospettive e opportunità per la comunità italiana”*. In this occasion, I underlined the **fundamental role of CNR in the support of the Italian community**.

4. Evaluation of the participation in terms of benefits and membership cost

The participation of CNR in the International Federation of Automatic Control constitutes an opportunity of absolute prestige and great international importance. Since its creation in 1956, Italy has had a fundamental role within IFAC, having elected two presidents, and as testified by the prominent role of Italian researchers in all aspects of IFAC organization, as shown next.

The cost-benefit balance is therefore to be considered absolutely positive, given the return in terms of prestige and image that the CNR obtains by representing the NMO for Italy.

5. Evaluation of Italians' attendance and how to improve interest and involvement

The attendance of Italian researchers to IFAC events has always been very significant.

As an example, we consider the attendance to last IFAC World Congress in Yokoyama, Japan in August 2022. On 3,206 total registrations, 146 were from Italy (that is almost 5%) placing Italy at the 7th place, close to much larger countries.

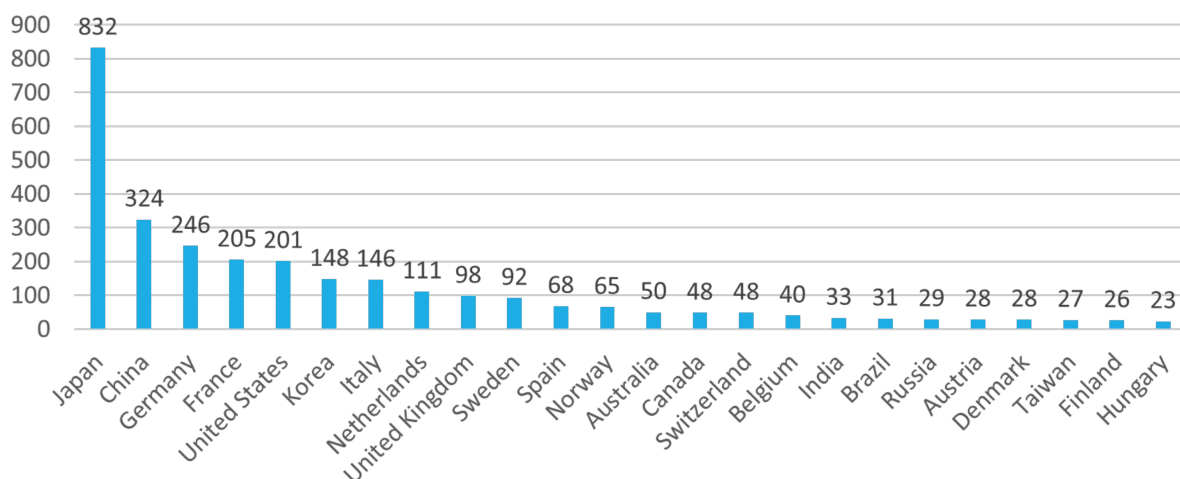


Fig. 1 Registrations to IFAC WC per Country (source Post Congress Report IFAC 2023)

A larger percentage of attendance has been observed, of course, for events held in Europe.

6. Italian experts with important roles within IFAC or within related Commissions and Programs

Italian researchers are heavily involved at any level in the governance and activities of IFAC.

6.1 Presence of Italians in the Governance of IFAC

The presence of Italy in the Council is significant. The Council is responsible to the General Assembly for the management of the Federation. It receives its mandate from the General Assembly and reports to it on the state of the Federation not less frequently than at each Triennial Congress.

- Maria Prandini, Politecnico di Milano, *President-Elect*
- Sergio Bittanti, Politecnico di Milano, *Advisor*
- Alberto Isidori, Università La Sapienza, Roma, *Advisor*

6.2 Presence of Italians in the IFAC Technical Boards

The technical work of IFAC is performed by the Technical Board and the Coordinating Committees (CCs). Each CC consists of a number of Technical Committees (TCs). The presence of Italians in the members of the IFAC Technical Board is also consistent:

Technical Board members

- Alessandro Astolfi, Università di Roma Tor Vergata,
Vice-Chair of the Technical Board
- Alessandro Chiuso, Università di Padova,
Coordinating Committee Chair of CC1 - Systems and Signals
- Laura Menini, Università di Roma Tor Vergata,
Coordinating Committee Chair of CC2 - Design Methods

Technical Committee Chairs

- Alessandro Chiuso, Università di Padova,
Vice Chair of TC 1.1. Modelling, Identification and Signal Processing
- Carla Seatzu, Università di Cagliari,
Chair of TC 1.3. Discrete Event and Hybrid Systems
- Mariagrazia Dotoli, Università di Bari,
Vice-Chair on Social Media of TC 1.3
- Luca Schenato, Università di Padova,
Chair of TC 1.5. Networked Systems
- Sergio Galeani, Università di Roma Tor Vergata,
Chair of TC 2.1. Control Design
- Corrado Possieri, Università di Roma Tor Vergata,
Vice-Chair on Social Media for TC 2.1
- Elena Zattoni, Università di Bologna,
Chair of TC 2.2. Linear Control Systems
- Pierdomenico Pepe, Università dell'Aquila,
Vice-Chair on Publications for TC 2.2.
- Claudia Califano, Università La Sapienza di Roma
Vice Chair on Education for TC 2.3 Non-Linear Control Systems
- Antonella Ferrara, Università di Pavia,
Vice Chair on Industry for TC 2.3
- Gabriele Pannocchia, Università di Pisa,
Chair of TC 2.4. Optimal Control

- Fabrizio Dabbene, CNR IEIIT,
Vice Chair on Publications, TC 2.5 Robust Control
- Simone Formentin, Politecnico di Milano,
Vice Chair on Social Media for TC 2.5.
- Gian Antonio Susto, Università di Padova,
Vice Chair on Industry for TC 3.2. Computational Intelligence in Control
- Marco Macchi, Politecnico di Milano,
Chair of TC 5.1. Manufacturing Plant Control
- Maurizio Faccio, Università di Padova,
Scientific Vice-chair "Plant Operations Management" for TC 5.1.
- Elisa Negri, Politecnico di Milano,
Vice Chair on Education for TC 5.1.
- Daria Battini, Università di Padova,
Vice-Chair for Education for TC 5.2. Management and Control in Manufacturing and Logistics
- Michela Robba, Università di Genova,
Chair of TC 6.3. Power and Energy Systems
- Andrea Monteriù, Università Politecnica delle Marche,
Chair of TC 7.2. Marine Systems
- Giovanni Indiveri, Università di Genova,
Vice-chair on Publications for TC 7.2.
- Paolo Castaldi, Università di Bologna,
Chair of TC 7.3. Aerospace
- Marialuisa Volta, Università di Brescia,
Chair of TC 8.3. Modelling and Control of Environmental Systems
- Matteo Giuliani, Politecnico di Milano,
Vice-Chair on Social Media for TC 8.3
- Antonio Visioli, Università di Brescia,
Chair of TC 9.4. Control Education

6.3 Presence of Italians in the IFAC Conference Board

Main duty of the Conference Board is to consider symposia, conferences, workshops and other technical meetings as recommended to it by the Technical Committee.

- Luigi Glielmo, Università di Napoli,
Vice-Chair of the Conference Board
- Antonella Ferrara, Università di Pavia,
ex officio Member (Congress Advisor)

- Thomas Parisini, Università di Trieste and Imperial College, London
Coordinating Committee Vice-Chair of CC6

6.4 Presence of Italians in the IFAC Publication Board

- Lorenzo Marconi, Università di Bologna,
Ordinary Member
- Maria Elena Valcher, Università di Padova,
Member of the Award Committee

6.5 Presence of Italians in the Editorial Boards of IFAC Publication

Automatica – Elsevier

Editors

Roberto Tempo†, CNR-IEIT
Editor-in-Chief Emeritus (2014 - 2017)

Luca Zaccarian, Università di Trento,
Editor - Nonlinear Systems and Control

Thomas Parisini, Università di Trieste and Imperial College, London
Editor - Control System Applications

Alessandro Chiuso, Università di Padova
Editor - System Identification and Filtering

Associate Editors

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Giacomo Como Politecnico di Torino	Maria Letizia Corradini Università di Camerino	Andrea Cristofaro Università La Sapienza di Roma
Marcello Farina Politecnico di Milano	Francesco Ferrante Università di Perugia	Antonella Ferrara Università di Pavia
Simone Formentin	Andrea Garulli	Giulia Giordano

Politecnico di Milano	Università di Siena	Università di Trento
Ciro Natale Università della Campania	Gianluigi Pillonetto Università di Padova	Maria Prandini Politecnico di Milano
Davide Raimondo Università di Trieste	Luca Schenato Università di Padova	Francesco Vasca Università del Sannio
Antonio Vicino Università di Siena	Mario Zanon IMT Lucca	Mattia Zorzi Università di Padova

Control Engineering Practice - Elsevier

Associate Editors

Luca Bascetta Politecnico di Milano	Andrea Bonci Univ. Politecnica delle Marche	Maide Bucolo Università di Catania
Francesco Cuzzola Politecnico di Milano	Daniela De Palma Università di Salento	Alessandro Di Giorgio Università La Sapienza di Roma
Mario Luca Fravolini Università di Perugia	Daniela Iacoviello Università La Sapienza di Roma	Giovanni Indiveri Università di Genova
Alessio Merola Università di Catanzaro	Castaldi Paolo Università di Bologna	Cecilia Pasquale Università di Genova
Antonio Pietrabissa Università La Sapienza di Roma	Gianfranco Rizzo Università di Salerno	Silvio Simani Università di Ferrara
Cristiano Maria Verrelli Università di Roma Tor Vergata		

Engineering Applications of Artificial Intelligence - Elsevier

Board of Editors

Annalisa Appice Università di Bari	Tania Cerquitelli Politecnico di Torino	Luca Di Gaspero Università di Udine
Elisabetta Fersini Università di Milano-Bicocca	Paola Festa Università di Napoli Federico II	Agostino Forestiero CNR ICAR
Giancarlo Fortino Università della Calabria	Antonella Guzzo Università della Calabria	Delfina Malandrino Università di Salerno
Stefania Montani Univ. del Piemonte Orientale	Gabriella Pasi Università di Milano-Bicocca	Luigi Pontieri CNR ICAR
Giovanna Sannino CNR ICAR	Gian Antonio Susto Università di Padova	

Journal of Process Control - Elsevier

Senior Editors

Gabriele Pannocchia, Università di Pisa

Mechatronics

Advisory Board Members

Alessandro Beghi, Università di Padova

Former Editors

Claudio Melchiorri, Università di Bologna

Associate Editors

H. R. Karimi Politecnico di Milano	G. Magnani Politecnico di Milano	P. Rocco Politecnico di Milano
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Nonlinear Analysis: Hybrid Systems

Honorary Editors

A. Giua

Università di Cagliari

Senior Editors

M.D. Di Benedetto

Università dell'Aquila

Associate Editors

A. Colombo Politecnico di Milano	Mauro Franceschelli Università di Cagliari	Mauro Franceschelli Università di Cagliari
Elisabetta Punta CNR IEIIT	Elena Zatonni Università di Bologna	

6.5 Italians awarded with IFAC prizes

6.5.1 IFAC Fellows

Fellows elected for the period 2020-2023

Antonella Ferrara, Università di Pavia

Maria Elena Valcher, Università di Padova

Fellows elected for the period 2017-2020

Marco Claudio Campi, Università di Brescia

Maria Domenica Di Benedetto, Università dell'Aquila

Alessandro Giua, Università di Cagliari

Fellows elected for the period 2014 - 2017

Alessandro Astolfi, Università La Sapienza di Roma and Imperial College, London

Thomas Parisini, Università di Trieste and Imperial College, London

Fellows elected in 2011

Patrizio Colaneri, Politecnico di Milano

Fellows elected in 2009

Giorgio Picci, Università di Padova

Bruno Siciliano, Università di Napoli Federico II

Fellows elected in 2008

Sergio Bittanti, Politecnico di Milano

Antonio Vicino, Università di Siena

Fellows elected in 2007

Edoardo Mosca, Università di Firenze

Roberto Tempo†, CNR IEIIT

Fellows elected in 2006

Guido Guardabassi†, Politecnico di Milano

Fellows elected in 2005

Alberto Isidori, Università La Sapienza di Roma

6.5.2 IFAC "outstanding service award"

Awarded in 2023

Lorenzo Marconi, Università di Bologna

Laura Menini, Università Tor Vergata di Roma

Awarded in 2017

Alessandro Astolfi, Università La Sapienza di Roma and Imperial College, London

Alessandro Giua, Università di Cagliari

Awarded in 2014

Marco Claudio Campi, Università di Brescia

Awarded in 2011

Patrizio Colaneri, Politecnico di Milano

Awarded in 2008

Sergio Bittanti, Politecnico di Milano

Awarded in 2002

Alberto Isidori, Università La Sapienza di Roma

Awarded in 1990

Guido Guardabassi†, Politecnico di Milano

6.5.2 Major IFAC Awards

The Giorgio Quazza Medal

1996: Alberto Isidori, Università La Sapienza di Roma

High Impact paper award

2014: Alberto Bemporad, IMT Lucca

2017: Franco Blanchini, Università di Udine

6.5.2 Major IFAC Journal prizes

Automatica paper prize

Gianluigi Pillonetto (2017), Davide Raimondo (2017), Claudio Bonivento, Alberto Isidori, Lorenzo Marconi, Andrea Paoli (2005), Franco Bianchini (2002), Alberto Isidori (1993), Roberto Tempo (1993)

Control Engineering Practice Paper Prize

Matteo Corno, Sergio Savaresi, Mara Tanelli, Luca Fabbri (2011)

Journal of Process Control Paper Prize

Gilberto Pin, V. Francesconi, Francesco Cuzzola, Thomas Parisini (2014)

Journal of Engineering Applications of Artificial Intelligence Paper Prize

Massimiliano Barletta, A. Gisario, Stefano Guarino (2008)

Mechatronics Paper Prize

M. Costanzo (2023)

Nonlinear Analysis: Hybrid Systems Paper Prize

Franco Blanchini, Daniele Casagrande, Giulia Giordano, Umberto Viaro (2017)

Annual Reviews in Control Paper Prize

Anton Postkurnikov, Roberto Tempo (2020)

IFAC Congress prizes

Young author prize:

Luca Deori (2017)

Luca Ballotta (2020)

Application paper prize:

A. Ballucchi, L. Benvenuti, A. Sangiovanni-Vincentelli, G. Serra, C. Lemma (2005)

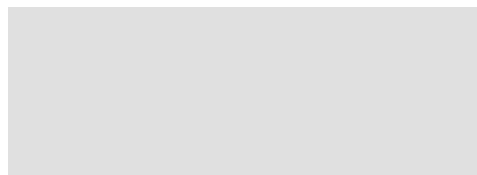
Interactive Paper prize:

M. Corno, P. Spagnol, S. Savaresi (2014)

7. Conclusions

As this report highlights the Italian community in Systems and Control is highly active in the organization and participation of IFAC scientific events, in the review process of such events, in the presence in Technical Committees and various editorial rosters of IFAC journals. **IFAC in Italy is in very good shape, both from the qualitative and quantitative viewpoint.**

Torino, May 8, 2024





**Consiglio Nazionale
delle Ricerche**

Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni
Fabrizio Dabbene