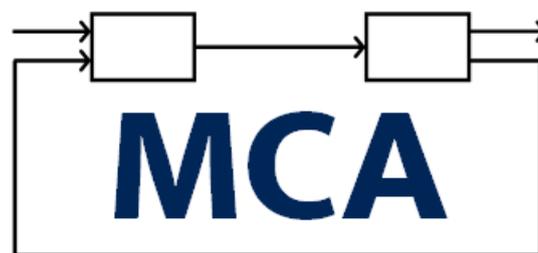# 30th MEDITERRANEAN CONFERENCE ON CONTROL & AUTOMATION (MED'22)

June 28 – July 1, 2022
Divani Apollon Palace & Thalasso
Vouliagmeni - Athens, Greece

SPONSORED BY

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THIRTY YEARS OF MED – A TOUCH OF HISTORY

Acknowledgement: Credit to NASA

Thirty years have passed since the first MED took place in 1993, in Chania, Crete, in Greece. Since then, the conference is organized annually, and now, in 2022, we celebrate the 30th MED that takes place in the Divani Apolon Palace and Thalasso, in Vouliagmeni, which is part of the Athenian Riviera.

It was thirty-one years ago, not far from Vouliagmeni, in Glyfada, where the idea of launching and organizing a conference on Control and Automation was proposed by Prof. Manolis Christodoulou, during a dinner at his place. The idea was to first organize the conference in Greece and perhaps, pending success, rotating it to other Mediterranean countries. We all agreed, and it was decided, that a key element for a successful conference was high technical quality of contributions, and Technical Co-sponsorship from IEEE Control Systems Society (CSS), which was secured even at the first 1993 MED conference. In fact, our goal was, and it still is, to run the MED conference following and implementing the same review standards as in the highest quality control conferences. We all thought that high quality was the key to longevity and success. Manolis should be very proud of this vision that has served us exceptionally well for 30 years. He, sadly and suddenly, passed away earlier this year. We take this as a further opportunity to offer our deep and sincere condolences to his family.

During the first baby steps of MED, the selection of general chairs and sites was handled informally. However, in 1998 the Mediterranean Control Association (MCA) was founded, see www.med-control.org, to address the high interest of the technical community in the MED conferences. The MCA Board is the governing body; its members, who have all served as general chairs of past MEDs, approve proposals for future MEDs. In addition, they use their extensive experience to guide and help MED organizers, sharing best practices. Every

conference since the first one in 1993 has been technically co-sponsored by the IEEE CSS and later by the Robotics and Automation Society (RAS) as well.

MCA has honored a small number of prominent members of our technical community with two awards. The ***MCA Founders*** award was awarded to Manolis Christodoulou in 2005. This award recognizes outstanding long-term service to the MCA and MED. The ***MCA Ktesibios Award***, first awarded in 2000, was established "*to recognize exceptional contributions to theory, design, or practice in the areas of systems, control, or automation, sustained over a long period of time*". The recipient should have a demonstrated solid record of scientific and professional activities that have directly impacted countries in the Mediterranean region. The award is a silver replica of a "Kantharos," an ancient drinking vessel." Starting in 2000, the recipients have been: Alberto Isidori, Spyros Tzafestas, Michael Athans, and George Saridis.

In the following pages you will find the complete list of the first 30 MED conferences including dates, venues, and general, honorary, and program chairs. Also, the Keynote speakers for each MED are listed. We are very proud of consistently attracting such well-known speakers, which highlights the high technical quality of the MED conferences**.**

Panos Antsaklis, President
Mediterranean Control Association

HISTORY OF 30 YEARS OF MED CONFERENCES

30th Mediterranean Conference on Control and Automation (MED'22)
June 28-July 1, 2022, Vouliagmeni-Athens, Greece
GC: Kimon P. Valavanis, Maria Prandini
HC: Panos J. Antsaklis, Zalman Palmor
PC: Andrea Monteriù, Alessandro V. Papadopoulos
Plenaries: Frank Allgöwer, Sandra Hirche, John Lygeros, Nick Sigrimis

29th Mediterranean Conference on Control and Automation (MED'21)
June 22-25, 2021, Bari, Italy
GC: Mariagrazia Dotoli, Laura Giarrè
PC: Laura Giarrè, Elisa Franco
Plenaries: Anuradha Annaswamy, Anna Stefanopoulou, Giuseppe Notarstefano

28th Mediterranean Conference on Control and Automation (MED'20)
September 16-18, 2020, Saint-Raphaël, France
GC: Didier Maquin
PC: Kimon P. Valavanis, Didier Theilliol
Plenaries: Alexander Medvedev, Daniel Zelazo, Charles Poussot-Vassal

27th Mediterranean Conference on Control and Automation (MED'19)
July 1-4, 2019, Akko, Israel
GC: Tal Shima, Zalman Palmor
PC: Leonid Mirkin, Daniel Zelazo
Plenaries: Shimon Marom, Martina Maggio, Florian Dörfler

26th Mediterranean Conference on Control and Automation (MED'18)
June 19-22, 2018, Zadar, Croatia
GC: Stjepan Bogdan, Sandra Hirche
HC: Panos J. Antsaklis, Kimon Valavanis
PC: Nikola Miskovic, Roberto Galeazzi
Plenaries: Bart De Moor, Maryam Kamgarpour, Yasamin Mostofi

25th Mediterranean Conference on Control and Automation (MED'17)
July 3-6, 2017, Valletta, Malta
GC: Simon G. Fabri, Didier Theilliol
PC: Marvin Bugeja, Xenofon Koutsoukos
Plenaries: Raffaello D'Andrea, Visakan Kadirkamanathan, Marios Polycarpou

24th Mediterranean Conference on Control and Automation (MED'16)
June 21-24, 2016, Athens, Greece
GC: Panos J. Antsaklis, Kimon P. Valavanis
PC: Didier Theilliol, Anthony Tzes
Plenaries: Alessandro Astolfi, David Harari, Yannis A. Phillis, Roland Siegwart, Roberto Tempo

23rd Mediterranean Conference on Control and Automation (MED'15)
June 16-19, 2015, Torremolinos, Spain
GC: Joseba Quevedo, Victor Fernando Muñoz
PC: Sebastian Dormido, Didier Maquin
Plenaries: Tore Hägglund, Manuel Silva, Magnus Egerstedt

22nd Mediterranean Conference on Control and Automation (MED'14)
June 16-19, 2014, Palermo, Italy
GC: Laura Giarré, Francesco Alonge
PC: Giuseppe Conte
Plenaries: Stephen P. Boyd, Munther A. Dahleh, Mustafa Khammash

21st Mediterranean Conference on Control and Automation (MED'13)
June 25-28, 2013, Platanias-Chania, Crete, Greece
GC: Panos J. Antsaklis, Kimon P. Valavanis
PC: Nikos C. Tsourveloudis
Plenaries: Anibal Ollero, Frank L. Lewis, Thomas Parisini, Petros A. Ioannou

20th Mediterranean Conference on Control and Automation (MED'12)
July 3-6, 2012, Barcelona, Spain
GC: Joseba Quevedo
PC: Pedro Albertos
Plenaries: Mario Sznaier, Sergio Bittanti, Alicia Casais

19th Mediterranean Conference on Control and Automation (MED'11)
June 20-23, 2011, Aquis Corfu Holiday Palace, Corfu, Greece
GC: Anthony Tzes
PC: George Pappas
Plenaries: Roger Goodall, John S. Baras, Claire Tomlin, John N. Tsitsiklis

18th Mediterranean Conference on Control and Automation (MED'10)
June 23-25, 2010, Congress Palace, Marrakech, Morocco
GC: Abdellah Benzaouia & Ahmed El Hajjaji
PC: Dominique Sauter
Plenaries: Marcel Staroswiecki, Christos G. Cassandras, Zalman J. Palmor, Antonio Sala

17th Mediterranean Conference on Control and Automation (MED'09)
June 24-26, 2009, Makedonia Palace, Thessaloniki, Greece
GC: Vassilios Petridis, Frank L. Lewis
PC: Thomas Parisini
Plenaries: Petros Ioannou, Jie Huang, Tony Vardulakis, Libor Kral, Alkis Konstantellos

16th Mediterranean Conference on Control and Automation (MED'08)
June 25-27, 2008, Congress Center, Ajaccio-Corsica, France
GC: Dominique Sauter
HC: Panos Antsaklis
PC: Ron Patton
Plenaries: Miroslav Krstic, Silviu-Iulan Niculescu, Andrea Bobbio

15th Mediterranean Conference on Control and Automation (MED'07)
June 27-29, 2007, Divani Caravel Hotel, Athens, Greece
GC: Panos Antsaklis, Kimon Valavanis
PC: Zdenko Kovacic
 Plenaries: Mike J. Grimble, Joerg Raisch, Karl Henrik Johansson, Tariq Samad

14th Mediterranean Conference on Control and Automation (MED'06)
June 28-30, 2006, Università Politecnica delle Marche, Ancona, Italy
GC: Giuseppe Conte, Marcello Napolitano
Plenaries: Siva S. Banda, Kevin M. Passino, Gilead Tadmor, Bernd R. Noack, Marek Morzynski
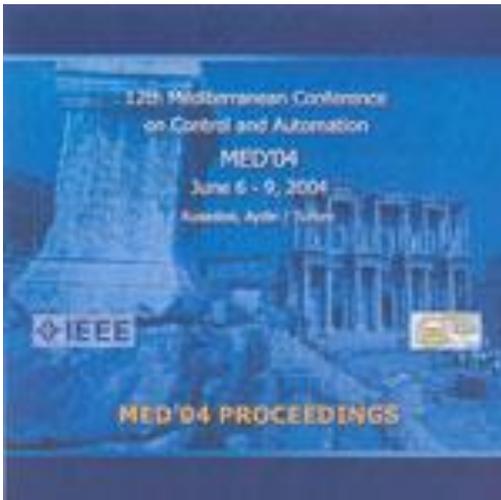
13th Mediterranean Conference on Control and Automation (MED'05)
June 27-29, 2005, Hawaii Grand Hotel & Resort, Limassol, Cyprus
GC: Marios M. Polycarpou
PC: Michael A. Demetriou
Plenaries: Christos Cassandras, Eduardo Sontag, Julie Chen

12th Mediterranean Conference on Control and Automation (MED'04)
June 6-9, 2004, Kusadasi, Turkey
GC: Okyay Kaynak
HC: Tamer Basar
PC: Petros Loannou, Robert King, Li Qiu
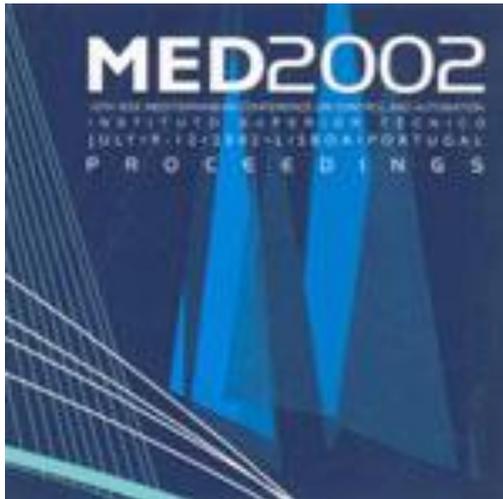Plenaries: Oussama Khatib, Xi-Ren Cao, George J. Vachtsevanos, Umit Ozgüner

11th Mediterranean Conference on Control and Automation (MED'03)
June 18-20, 2003, Rodos Palace Hotel, Rhodes, Greece
GC: Frank L. Lewis, Kimon P. Valavanis
PC: Stjepan Bogdan
Plenaries: Panos Antsaklis, Gerd Hirzinger, Manfred Morari, Shankar Sastry

10th Mediterranean Conference on Control and Automation (MED'02)
July 9-13, 2002, Lisbon, Portugal
GC: Joao J.S. Sentieiro
PC: Michael Athans
Plenaries: H. I. Christensen, J. C. Doyle, P. Varaiya, O. Faugeras, R. Kumar, M. A. Dahleh, E. Crawley, D. G. Luenberger

9th Mediterranean Conference on Control and Automation (MED'01)
June 27-29, 2001, Hotel Excelsior, Dubrovnik, Croatia
GC: Zoran Vukic, Kimon P. Valavanis
PC: Zdenko Kovacic, Kostas J. Kyriakopoulos
Plenaries: Michael Athans, Petar Kokotovic, Murat Arcak, Vladimir Muljevic, Lotfi Zadeh

8th Mediterranean Conference on Control and Automation (MED'00)
July 17-19, 2000, University of Patras, Rio, Greece
GC: Peter P. Groumpos, Panos Antsaklis
PC: Nick T. Koussoulas
Plenaries: George Metakides, Shankar Sastry
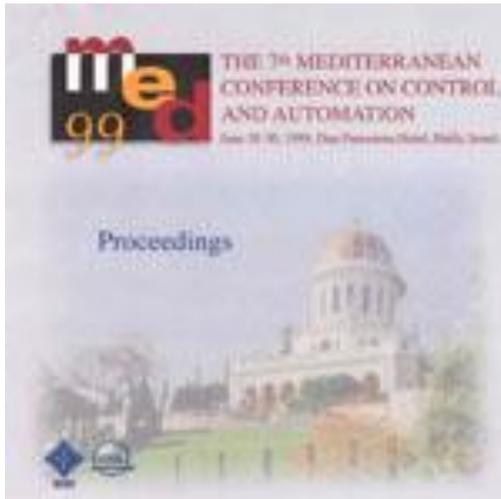
**7th Mediterranean Conference
on Control and Automation (MED'99)**
June 28-30, 1999, Dan Panorama Hotel, Haifa, Israel
GC: Zalman J. Palmor, Howard Kaufman
PC: Arie Feuer
Plenaries: Graham Goodwin, Michael Heymann,
Stephen Boyd, Yaakov Bar-Shalom, David Bayard
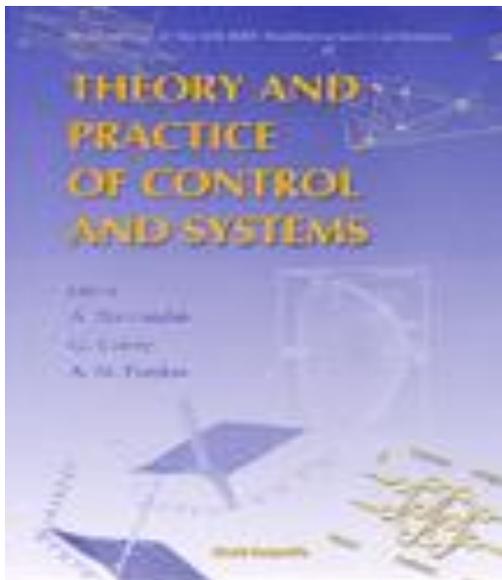
**6th Mediterranean Conference on Control and
Automation (MED'98)**
June 9-11, 1998, Hotel Carlos V, Alghero, Sardinia,
Italy
GC: Antonio Tornambe
PC: Giuseppe Conte

**5th Mediterranean Conference on Control,
Systems (MED'97)**
July 21-23, 1997, Phaethon Beach Hotel Club,
Paphos, Cyprus
GC/PC: Theodore E. Djaferis
Keynote: Sanjoy Mitter

4ᵗʰ Mediterranean Symposium on Control and Automation (MED'96)
June 10-13, 1996, Louis Maleme Beach Hotel, Chania, Crete, Greece
GC: Frank L. Lewis, Petros P. Groumpos, Paris N. Paraskevopoulos
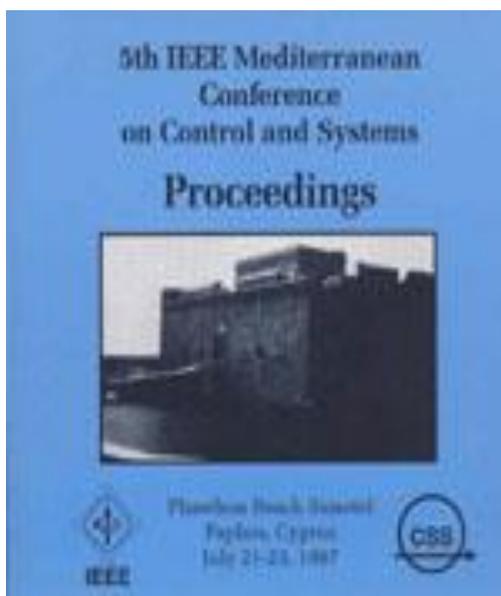HC: Panos J. Antsaklis
PC: Kostas Kyriakopoulos, Petros G. Voulgaris
Plenaries: Frank L. Lewis, Dave Boland, Vladimir Kucera

3ʳᵈ Mediterranean Symposium on Control and Automation (MED'95)
July 11-13, 1995, Limassol, Cyprus
GC: Petros A. Ioannou
PC: Frank L. Lewis

2ⁿᵈ Mediterranean Symposium on New Directions in Control and Automation (MED'94)
June 19-21, 1994, Louis Maleme Beach Hotel, Chania, Crete, Greece
GC: Kimon P. Valavanis
HC: George N. Saridis
PC: Frank L. Lewis

1ˢᵗ Mediterranean Symposium on New Directions in Control Theory, Applications (MED'93)
June 21-23, 1993, Handris Hotel, Maleme, Chania, Crete, Greece
GC: Manolis A. Christodoulou
PC: Manolis A. Christodoulou, Petros Ioannou
Plenaries: George N. Saridis, H. E. Rauch

Legend: GC: general chair(s) and co-chair(s). PC: program chair(s) and co-chair(s). HC: Honorary chair(s). For details, visit https://www.med-control.org/main/conferences/.

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WELCOME MESSAGE FROM THE MCA PRESIDENT

Dear participants:

On behalf of the Mediterranean Control Association (MCA), the parent organization of the MED conferences, I would like to welcome you to the 2022 MED, the 30th Mediterranean Conference on Control and Automation, which takes place in Vouliagmeni, in the Athenian Riviera.

All MED conferences have always been about bringing together researchers in Control Systems and Automation from the Mediterranean countries, who share much more than technical interests, among other things, culture, and history. Since the beginning, all MED conferences have been technically co-sponsored by the IEEE Control Systems Society and later on by the IEEE Robotics and Automation Society as well. They have consistently kept high quality standards both in the technical program and the conference organization. This is primarily due to the authors who submit technically sound papers, and due to the tremendous effort of all the volunteers who are involved in the technical evaluation of the submitted papers and in the organization of the conferences. I would like to take this opportunity to thank all of them for their time, effort, and wonderful work. Thank you!

The hope was that by June 2022, well over 2 years after COVID-19 first appeared, we would have put the epidemic to rest and would have resumed our normal activities. Unfortunately, that was not to be, even after very effective vaccines were made available. MED'22 is run in hybrid mode, accommodating both physically present and remote participants. Running a successful conference is already difficult enough; it is at least twice as hard to run the conference in dual mode. For this, I would like to extend my sincere thanks to the members of the organizing committee, especially Kimon Valavanis who has devoted countless hours considering every detail of the MED'22 to maximize its chances of success.

The Mediterranean Control Association (MCA) is the sponsoring organization of all MED conferences. MCA selects the organizers and the venues and oversees all conferences. *The* MED has been organized in Cyprus, Malta, Italy, France, Croatia, Turkey, Israel, Portugal, Morocco, Spain, and several times in Greece. For a complete list of the MED conferences, see www.med-control.org where you may also find the Book of Abstracts and conference reports of previous MED that have appeared in the IEEE Control Systems Magazine. The list has also been included in the present Book of Abstracts in celebration of the 30th anniversary of MED.

MED Conference Proceedings may be found online at http://ieeexplore.ieee.org. The Proceedings of early MED Conferences may be downloaded from www.med-control.org.

Looking ahead, MED'23 goes to Limassol, Cyprus, (June 26 – 29, 2023) and I am looking forward to seeing you all there!

Thank you for your participation and contributions to MED'22, the 30th Mediterranean Conference on Control and Automation!

Enjoy the conference!

Panos Antsaklis, President
Mediterranean Control Association (MCA)

WELCOME MESSAGE FROM THE GENERAL CHAIRS

Dear authors and attendees:

On behalf of the 2022 MED Organizing Committee, it is a privilege and a great pleasure to welcome you to this year's Conference. The 2022 MED is coming back to Greece, in the Athenian Riviera, celebrating its 30th anniversary. The three-day Conference, June 29 – July 1, is preceded by a one-day Workshop program, on June 28. The Conference venue is the luxurious Divani Apollon Palace and Thalasso in Vouliagmeni, in the Athenian Riviera. The conference venue is one of the top-rated hotels in Europe and Greece. We are certain that you will be very pleased with the conference venue.

Conference attendees represent academia, industry, government agencies and students, all having deep interest in the state-of-the-art and future directions in control and automation. In response to the Call for Papers, we received 328 contributed and invited session papers. Following a very thorough and in-depth peer review process in which each paper had at least three reviews we accepted a total of 181 contributed and invited session papers, and we have assembled a full three-day top quality Technical Program.

In addition to the parallel Technical Sessions, we also have four Keynote Lectures suitably distributed over the three-day Conference. The keynote speakers are authorities in their perspective areas.

The Organizing Committee members have devoted an enormous amount of time and effort to make sure that the conference is exciting, informative, and educational. We are privileged to know all the members. We are honored to have worked with them and we are truly indebted to everyone for their dedication and professionalism. We also extend a wholehearted "thank you" to all Associate Editors, reviewers, and members of the Technical Program Committees; their help was key to assembling a top-quality Technical Program.

The peer review process was coordinated by the Program Chairs and Vice-Chairs, as well as the Technical Committee members. We thank all of them. Dr. Pradeep Misra has been the essential "glue" that has kept everything together, since all papers were submitted online through https://controls.papercept.net, managed by Pradeep. He has been indispensable throughout, and we wouldn't have been able to complete the paper review process without his help.

We also thank the hotel management and particularly Mr. Spyros Maganiotis, Ms. Stella Kyrgetsou and Ms. Argyro Pagoni for their professionalism and hospitality.

Last but not the least, we thank you for your participation and contribution. We hope you will enjoy the Conference and take advantage of what Vouliagmeni, Athens, and Greece has to offer.

With our warmest regards,

Kimon P. Valavanis and Maria Prandini
General Chairs

WELCOME MESSAGE FROM THE PROGRAM CHAIRS

Dear authors and attendees:

It is with great pleasure that we welcome you to the 30th Mediterranean Conference on Control and Automation, which returns to its birthplace, in Greece. This year, in response to the call for papers, we received 220 technical and invited session papers from authors residing in 40 different countries.

The paper review process has been extremely thorough and rigorous. All papers were also checked for originality using the iThenticate Document Viewer Guide. Our objective was for each paper to have at least three reviews. We met and exceeded this goal as each of the submitted papers, in addition to the reviews, was also checked and reviewed by one of the Program Chairs or members of the Organizing Committee.

Authors of submitted papers used among the following key words to classify their paper: Adaptive control; Aerospace control; Automotive control; Autonomous systems; Biologically inspired systems; Biomedical engineering; Computational intelligence; Computational methods; Cyber-physical systems; Decentralized control; Discrete-event systems; Distributed systems; Disturbance rejection; Education and training; Embedded control systems; Energy efficient systems; Fault diagnosis; Fault tolerant control; Formation control; Fuzzy logic and fuzzy control; Genetic and evolutionary computation; Guidance; Hybrid systems; Image processing; Implicit and hybrid structures; Industrial automation; Manufacturing; Intelligent control systems; Intelligent transportation systems; Linear systems; Marine control; Mechatronic systems; Micro and nano systems; Modelling and simulation; Multi-agent systems; Navigation; Networked systems; Neural networks; Nonlinear control; Nonlinear systems; Optimisation; Petri nets; Power systems and smart grid; Predictive control; Process control; Robotics; Robust control; Switching systems; System identification; Systems biology; Time-delay systems; Unmanned systems; Wireless sensor networks.

The review process resulted in the technical program composed of 181 contributed and invited session peer reviewed papers scheduled in 36 technical sessions. Table I shows the contributed and accepted papers per country. The technical program spans three days, during which all accepted papers are presented, physically or virtually, in addition to the two Tutorial Workshops and the four Plenary Sessions.

Table I: Submitted - Accepted Papers per Country

Country	Submitted	Accepted
Italy	31	30
Greece	33	28
Germany	19	18
United States of America	17	16
Sweden	17	15
France	18	15
India	12	6
Brazil	7	5
Romania	9	5
Russia	7	5
Turkey	6	5
Croatia	5	4
Hungary	4	4
Canada	3	3

Country		
United Kingdom	5	3
Austria	2	2
Poland	2	2
Spain	2	2
Tunisia	3	2
Chile	1	1
China	2	1
Cyprus	1	1
Czech Republic	2	1
Denmark	1	1
Iran	1	1
Israel	2	1
South Korea	2	1
New Zealand	1	1
Slovakia	1	1
Switzerland	1	1
Morocco	2	0
Norway	1	0
Totals	**220**	**181**

We would like to thank everyone who contributed to the program for their enthusiastic involvement and substantial efforts. In particular, we want to acknowledge the Associate Editors for their kind support during the review process. Special thanks go to the organizers of Workshops and Invited Sessions. Our gratitude goes to all reviewers for their valuable contributions and, finally, to all authors for submitting their work to MED.

Thanks also to Dr. Pradeep Misra who helped us in working and effectively using the on-line paper submission and review system. He has been very responsive and helpful in technical issues related to the on-line system.

We really hope that the 2022 MED will provide all attendees and participants with a unique chance to extend their knowledge and network of contacts, to generate new ideas, and to get a better understanding of what is going on in control and automation.

Enjoy not only the technical aspects of the conference but also your stay in Athens and Vouliagmeni. Have a look around to see what this fascinating city offers.

Stay safe around the 'equilibrium', to the next MED!

Andrea Monteriù and Alessandro P. Papadopoulos
Program Chairs

MED'22 INFORMATION

The Venue

The Conference will take place in Vouliagmeni, Greece. The venue is the luxurius Divani Apollon Palace and Thalasso Hotel. For detailed information about the venue and the surrounding area, visit https://divaniapollonhotel.com/.
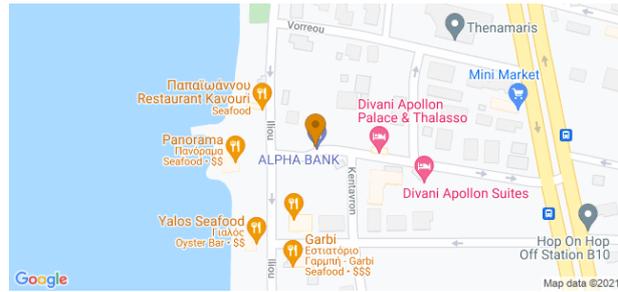
General Information

The conference area is situated on the Ground Floor and on the Lower Ground Floor. All Workshops (Tuesday, June 28) and Technical Sessions (June 29 – July 1) will be in *Platon Hall*, *Athina A*, *Athina B* and *Poseidon C*. Plenary talks will also take place in *Platon Hall*. Registration will be in the *Foyer* of the Ground Floor. For a 360° Panorama View of the space visit https://divaniapollonhotel.com/conference-rooms-360-panoramas/.

Conference Technical Sessions - Wednesday, June 29 - Friday, July 1
There are four parallel technical sessions each day. All conference sessions, including Workshops will be in *Platon Hall*, *Athina A*, *Athina B* and *Poseidon C*.

Exhibits and Promotional Material
Exhibits and promotional material will be on the Ground Floor, close to the Registration area.

Conference Registration
All Conference attendees must register by using the on-line registration when they upload the final version of their papers. Late and on-site registration is also available for non-authors who want to attend the conference. It is not required to present a paper in the conference program to register and to attend the conference. All registered participants must check in at the Registration Desk to pick up their registration packages. Personal badges will be provided to all registered participants. Attendees must always wear the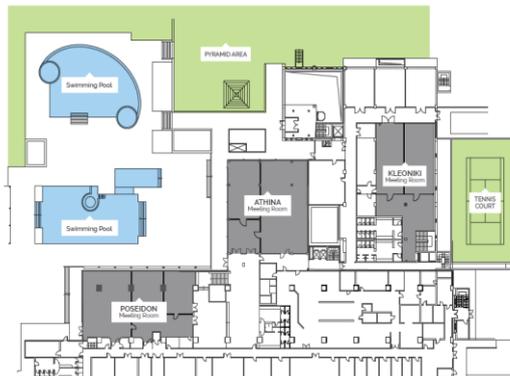ir badges when attending any MED'22 event. Conference details will be posted and updated daily in the registration area. To register, follow the steps:
- ✓ Go to https://controls.papercept.net
- ✓ Scroll down the list until you find MED 2022 - Choose MED 2022 (from the list of conferences)
- ✓ Click on Register for MED 2022
- ✓ Login with your PIN and Password. *First time users must create a 'profile', to get a PIN and Password.*
- ✓ After you Log in, choose **Registree**
- ✓ Follow the self-explained screens to register.

The registration area is the *Foyer* area on the Ground Hall. The registration desk will be open during the following hours:

TUESDAY, JUNE 28:	*Workshop Registration* **only**	8:00 AM – 10:00 AM
	Conference Registration	3:00 PM – 5:00 PM
WEDNESDAY, JUNE 29:	8:00 AM – 5:00 PM	
THURSDAY, JUNE 30:	8:00 AM – 4:00 PM	
FRIDAY, JULY 1:	8:00 AM – 9:00 AM	

On-site conference registration policy & fees
Attendees will be able to register for the Conference under the following registration categories and rates:

Attendee Status	Late/Onsite
Regular Registration – (Physical Presence)	$670
Regular Registration – (Virtual Presence)	$480
Student Registration (Physical Presence)	$420
Student Registration (Virtual Presence)	$360
Retiree Registration (Virtual, physical)	$200

T1: Active methods in Autonomous Navigation, June 28, 9:00 AM – 5:00 PM (Physical Presence)	$240
T1: Active methods in Autonomous Navigation, June 28, 9:00 AM – 5:00 PM (Virtual Presence)	$120
T2: Multimodal Sensing for Localization, Planning and Scene Understanding, June 28, 9:00 AM – 5:00 PM (Physical Presence)	$240
T2: Multimodal Sensing for Localization, Planning and Scene Understanding, June 28, 9:00 AM – 5:00 PM (Virtual Presence)	$120
Extra Welcome Reception Ticket	$50
Extra Farewell Reception Ticket	$50
Extra Banquet Ticket	$100
Extra Proceedings	$50

Internet Access
All registered attendees will have complementary internet access.

Coffee Breaks with snacks
There will be two coffee breaks per day for all registered participants, one in the morning and one in the afternoon.

Events and Receptions
The MED 2022 social agenda includes the *Welcome Reception* on Tuesday, June 28, the *Banquet*, on Thursday, June 30, and a small *Farewell* event on July 1. Lunches will be offered to registered participants on June 29, 30 and July 1.

Travel to Athens
Athens, Greece, is easily accessible by air, sea, and road. Once there, the public transportation system provides a safe, dependable, and efficient way to move around the city. The public transportation network consists of underground (metro), train, suburban railways, buses, trolley buses, and trams. Athens is also connected with other parts of the mainland through a network of roads and railways.

Visitors arriving by air will land in the *Athens International Airport "Eleftherios Venizelos"* (IATA code: ATH). This award-winning airport is one of the world's leading airports in overall passenger satisfaction.

The Athens International Airport is serviced by all major airlines, offering direct non-stop flights from/to most of the European cities, New York, Philadelphia, Montreal/Toronto, North Africa, Gulf States, South Africa, and easy connections to the rest of the world. ATH is also serviced by low-cost and/or charter airlines that offer attractive packages.

Transportation from/to Airport to/from Divani Apollon Palace and Thalasso Hotel
Upon arrival to the airport, the easiest way to reach the venue is by taxi and private car (if you also plan to stay for vacation).

Taxi: Taxis are available at the designated taxi waiting area located by Exit 3 at the Arrivals level. Ask the driver to get you to the Divani Apollon Palace Hotel. The average cost on normal traffic is 30 EUR and it takes about 30 minutes to arrive at the hotel. Moreover, the drive from

the airport to locations in the Athens city center takes about 35-40 minutes and costs 38-45 EUR (flat rate – regular fare, from 5 a.m. until midnight) and 54-60 EUR (flat rate – night fare, from midnight to 5 a.m.).

Car: The driving distance is 21.3 km. Exit the Airport, follow the signs to Vari, then Vouliagmeni and Kavouri.
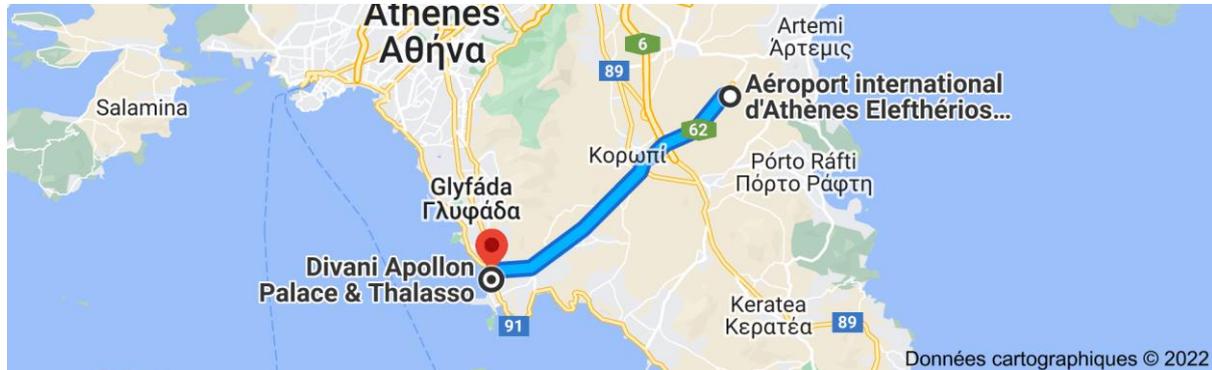
PLENARY LECTURES

The 30th Mediterranean Conference on Control and Automation includes four Keynote Lectures given by leading authorities in their respective fields. All Plenary Lectures will take place in the *Platon Hall.* The Plenary Lectures schedule is shown below.

PLENARY LECTURES		
Day	**Time**	**Platon Hall**
Wednesday June 29	09:00 – 10:00	*Data enabled predictive control*, John Lygeros, ETH Zürich
	14:00 – 15:00	*Control Intelligence in Agriculture 4.0*, Nick Sigrimis, Agricultural University of Athens, and Geosmart.gr, CTO
Thursday June 30	09:00 - 10:00	*High performance control for robots in extreme environments*, Sandra Hirche, Technical University of Munich
Friday July 1	09:00-10:00	*Data-driven MPC: from linear to nonlinear systems with guarantees*, Frank Allgöwer, University of Stuttgart

WORKSHOPS

MED'22 offers two pre-conference Workshops that will take place on Tuesday, June 28.

T1: 9:00 AM – 5:00 PM
> Active Vision Methods in Autonomous Navigation

T2: 2:00 PM – 5:30 PM
> Multimodal Sensing for Localization, Planning and Scene Understanding

TECHNICAL SESSIONS IN MEMORIAM

MED 2022 includes two Sessions "In Memoriam" of two of our colleagues who passed away recently:

a. Dr. Manolis Christodoulou, who was one of the founders of MCA. The Session is organized by his long-term colleagues Drs. Petros Ioannou, Elias Kosmatopoulos and George Rovithakis.

b. Dr. Nikos Karkanias, a regular contributor to MED conferences. The Session is organized by his long-term colleagues Drs. Antonis Vardulakis and Ioannis Leventidis.

MED 2022 TECHNICAL PROGRAM AT A GLANCE

Technical Program Wednesday June 29, 2022

Track 1	Track 2	Track 3	Track 4
08:45-09:00 WeOO **Platon Hall** Opening Session			
09:00-10:00 WePL1 **Platon Hall** **Data Enabled Predictive Control (John Lygeros, ETH Zürich)**			

Track 1	Track 2	Track 3	Track 4
10:30-12:10 WeA1 **Platon Hall** Predictive Control I	10:30-12:10 WeA2 **Athina A** Optimisation I	10:30-12:10 WeA3 **Athina B** Decentralized Control	10:30-12:10 WeA4 **Poseidon C** Nonlinear Systems

14:00-15:00 WePL2
Platon Hall

Control Intelligence in Agriculture 4.0 (Nick Sigrimis, Agricultural University of Athens, and, Geosmart.gr, CTO)

Track 1	Track 2	Track 3	Track 4
15:30-17:10 WeB1 **Platon Hall** Predictive Control II	15:30-17:10 WeB2 **Athina A** Optimisation II	15:30-17:10 WeB3 **Athina B** Intelligent Data Processing from Sensors in Control and Decision Support Systems	15:30-17:10 WeB4 **Poseidon C** Nonlinear Control

Track 1	Track 2	Track 3	Track 4
17:30-19:10 WeC1 **Platon Hall** Linear Systems	17:30-19:10 WeC2 **Athina A** Robust Control	17:30-19:10 WeC3 **Athina B** Neural Networks	17:30-19:10 WeC4 **Poseidon C** System Identification

MED 2022 Technical Program Thursday June 30, 2022

Track 1	Track 2	Track 3	Track 4
09:00-10:00 ThPL1 **Platon Hall** **High Performance Control for Robots in Extreme Environments (Sandra Hirche, Technical University of Munich)**			

Track 1	Track 2	Track 3	Track 4
10:30-12:30 ThA1 **Platon Hall** Autonomous Systems I	10:30-12:10 ThA2 **Athina A** Guidance	10:30-12:10 ThA3 **Athina B** Modeling and Flight Control Design for Aerospace Systems	10:30-12:10 ThA4 **Poseidon C** Robotics I
14:00-16:00 ThB1 **Platon Hall** Autonomous Systems II	14:00-15:40 ThB2 **Athina A** Navigation	14:00-15:40 ThB3 **Athina B** Aerospace Control	14:00-15:40 ThB4 **Poseidon C** Robotics II

16:30-18:10 ThC1 **Platon Hall** Multi-Agent Systems	16:30-18:10 ThC2 **Athina A** Multimodal Sensing for Localization, Planning and Scene Understanding	16:30-18:10 ThC3 **Athina B** Marine Control and Identification	16:30-18:10 ThC4 **Poseidon C** Robotics III

MED 2022 Technical Program Friday July 1, 2022

Track 1	Track 2	Track 3	Track 4
09:00-10:00 FrPL1 **Platon Hall** **Data-Driven MPC: From Linear to Nonlinear Systems with Guarantees (Frank Allgöwer, University of Stuttgart)**			
10:30-12:10 FrA1 **Platon Hall** Fault Diagnosis	10:30-12:10 FrA2 **Athina A** Networked Systems	10:30-12:10 FrA3 **Athina B** Cyber-Physical Systems	10:30-12:10 FrA4 **Poseidon C** Robotics IV
14:00-15:40 FrB1 **Platon Hall** Fault Tolerant Control	14:00-15:40 FrB2 **Athina A** Distributed Systems	14:00-15:40 FrB3 **Athina B** Automotive Control	14:00-15:40 FrB4 **Poseidon C** Robotics V
16:30-18:10 FrC1 **Platon Hall** Discrete-Event and Hybrid Systems	16:30-18:10 FrC2 **Athina A** Power Systems and Smart Grid	16:30-18:10 FrC3 **Athina B** Control, Optimization, and Learning Methods for Emerging Mobility Systems in Smart Cities	16:30-18:10 FrC4 **Poseidon C** Applications