

Final Program



June 3-5, 2024

Organized by



Hosted by



UNIVERSITAT
POLITÈCNICA
DE VALÈNCIA

Sponsored by

AREA42

EUROSIS



GODAN
Global Open Data
for Agriculture & Nutrition



ISC'2024 IS A POST COVID HYBRID EVENT

PRESENTATIONS DENOTED WITH **ONL** AT THE END OF THEIR PAPER CODE
ARE ONLINE PRESENTATIONS

In Cooperation with



2024

The ISC'2024 final programme, gives information on how to reach the Universitat Politècnica de València, Valencia. Info on how to virtually attend the event for those who are unable to attend onsite will follow online.

Contents

General Information	2/7
Badges.....	4
Best Paper Award	8
Chairmen information.....	9
Conference Location	2
Conference Login Info.....	4
Conference Proceedings.....	5
Conference Visit.....	8
How to get there.....	2/3
Internet Connection.....	5
Maps	20
Meeting Room.....	5
Need Help?	5
Paper Legend	8
Registration Info.....	4
Room Legend	8
Social Event and Lunches.....	5/6
Tickets	4
Quick Program Overview.....	10
Welcome Address	13
Scientific Program	10
Monday, June 3	13
Tuesday, June 4	16
Wednesday, June 5.....	19
ISC'2025	21
Notes.....	22
Registration Form	23

General Information

1. Conference Location

The Conference will be held at



[UPV \(Universidad Politecnica de Valencia\).](#)

Building 8E.- 4th floor Red Cube - Room DESCUBRE

On the [UPV interactive map](#)
FIV Facultat d'Informatica
Camino de Vera, s/n
46022 Valencia, Spain

+34 963877204

philippe.geril@eurosis.org

The meeting room will be the DESCUBRE Room, 4th floor Red Cube, Building 8E.

For those taking part virtually in the ISC'2024 Conference there will be an Online Meeting Room using meeting software. (Information on which software to be used, will be sent to all paying participants before the conference) ISC'2024 Registration will start on Monday June 3rd, at 09.00 a.m. till 12.30 p.m. On Tuesday, June 4th it will be from 08.30 a.m. to 12.00 p.m.

2. Getting to Valencia and the Universidad Politecnica de Valencia

By Plane

You will arrive by plane in Valencia at [Valencia Airport](#), which is located 8,5 km outside Valencia. There are direct flights to and from Valencia, international airport to Brussels - Frankfurt - Lisbon - London - Milan - Paris - Zurich. An air shuttle to Madrid and Barcelona ensures easy connection to all other destinations around the world. From [the airport](#) you can take a taxi, an aerobus, [bus](#) or metro to the centre of Valencia.

By Train

Connection with the European railway network daily via France daily connections with all the Spanish major cities. Valencia train station is situated in the centre of the city and has direct connection to principle Spanish and European cities. See the link below under Norte Train Station (RENFE) for more detailed information. At the train station there are bus, tube (100 meters) and taxi connections. [Norte Train Station \(RENFE\)](#)

General Information

By Boat

The major company linking Valencia to other seaports in the Mediterranean all year round is [Trasmediterranea](#).

By Metro

The [Metro Network](#) in Valencia is excellent, but not too helpful for small scale travel. It does not go anywhere in the centre, for example (that has to do with the consistency of the soil in the centre), and it tends to skip other important destinations, such as Canovas and the City of Arts and Sciences. So it is most useful when you need to cover a long distance. In particular, it is the best way to get to the beach and to the university. The metro will also get you to many destinations around Valencia, beyond the city limits. The metro costs 1.20 EUR fixed fee, to any destination within the city limits. The metro also goes way beyond Valencia, at an extra charge. You can download the metro map [here](#) with zones and [here](#) without zones but more geographically correct.

By Bus

Valencia bus station is situated to the west of the city, about 20 minutes from universities. From the bus station there are bus, tube (100 meters) and taxi. You can find the map with the university stops [here](#). You will also find a bus stop in front of the town hall. Buses depart here day and night for the rest of the city centre, the suburbs and the outlying communities. The EMT of Valencia in addition to their 91 lines that transverse the city during the day, has seven nocturnal lines and 3 summer lines that link in summer the centre with beaches of Sands and the Malvarrosa. [BUSES](#) Plaza Correo Viejo 5, 46001-Valencia

By Taxi

You will find the taxis opposite arrivals at the airport. Price: from the airport to the city centre, approximately EUR 21 (day) - EUR 23 (night)

By Car

Use the A-7 del mediterraneo A7 Mediterranean Motorway Connection with the European expressway network. Connections with national highways: N-III, N-340, N-234, N-332 Autovia A-3 Madrid-Valencia. You can view the highway map [here](#).

On Foot

All chosen hotels in Valencia itself, are within easy walking distance of the conference site. (see hotel page):
<https://www.eurosis.org/conf/isc/2024/hotel.html>)

ALL MAPS ARE AT THE BACK OF THIS PROGRAMME

General Information

ISC'2024 VIRTUAL PARTICIPATION AND PRESENTATION. PAPERS DENOTED BY ONL AFTER THEIR CODE WILL BE ONLINE PRESENTATIONS.

As some speakers will present online, we are opening up a virtual environment for the ISC'2024 presentations using the Microsoft TEAMS meeting software. Participants will be notified before the conference on how to log in.

3. Conference Login info

Each registrant will receive a **name login** upon registration. **The login is personal and non-transferrable and can only be your name. Company logins are NOT allowed. Non-regular logins will be removed from the online meetings.**

4. Badges

Each registrant will receive a name badge upon registration. The badge must be worn in order to be admitted to the technical sessions, lunches and social event.

5. Tickets

Extra tickets for the social event and lunches are available from the Registration desk. (**at conference prices**)

Price: (or equivalent in another currency) for extra tickets. All participants will be issued with tickets for lunch and the conference dinner. **Or just the badge will apply.**

Extra conference dinner	€ 70
Extra lunch ticket	€ 35

6. Registration

The ISC'2024 Registration Desk will be open for information and registration in the DESCUBRE ROOM.

Monday, June 3.....09.00 a.m. to 12.30 p.m.
Tuesday, June 2..... 08.30 a.m. to 12.00 p. m.

General Information

7. Conference Proceedings

Each electronic paid registrant will be provided with an electronic copy of the Conference Proceedings. Fully paid onsite participants will be provided with a printed copy of the Conference Proceedings. **This is NOT applicable to students who are not authors and who have not fully registered.** (Extra electronic or printed copies are available after **ISC'2024**)

Price: (or equivalent in another currency) for an extra copy

Printed ISC'2024 Proceedings	€ 40 (plus 30% shipping costs if shipped)
------------------------------	--

Other Proceedings can be ordered from the EUROSIS website.

8. Meeting Room

The **ISC'2024** meeting room is the **DESCUBRE ROOM, 4th floor Red Cube, Building 8E**. Directions to the room will be signposted.

9. Internet Connection

There will be WIFI at the conference site. Participants are informed that EDUROAM is also available at the site.

10. Need Help?

Please contact EUROSIS at the desk in front of the meeting room for your questions

11. Social Event and Lunches

All registrants are invited:

To the **Coffee breaks** and **Lunches** for 2 days which will be available in the **DEBATE Room** next to the **ISC'2024 DESCUBRE meeting room**.

and the

Conference Dinner on Tuesday the 4th of June at 20.00 p.m. at the **Restaurant Puerta Del Mar**.

(<https://www.restaurantpuertadelmar.com/en/puerta-del-mar-valencia/>)

General Information



Restaurant Puerta Del Mar
C/ Transits, 4,
46002 Valencia
Spain
📞 Tel: (+34) 963 940 008
Go to website above on how to
get there.

12. Conference Visit



To visit Robotnik Automation S.L., Ronda Auguste y Louis Lumière, 8, 46980 Parque Tecnológico, Paterna, Valencia, on Wednesday June 5th

13. Room Legend

The dedicated ISC'2024 meeting room is the **DESCUBRE room**.

14. Best Paper Award

During the conference the papers, which were accepted as **extended** papers will be judged by the committee and conference participants in order to choose the best paper of the **ISC'2024** conference.

The best paper author of the conference receives a certificate and a free registration to any EUROSIS event held within 2 years after receiving the best paper award. This registration waiver is only VALID FOR 2 YEARS AFTER RECEIPT AND FOR 1 (ONE) PERSON. In case of multiple authors, one (1) author only can use the registration waiver.

15. Paper Legend

Each paper is designated before each paper by its number. This number has to be entered on the form for the best paper award

General Information

ALL SESSION CHAIRPERSONS IN THIS PROGRAM ARE PROVISIONAL

Session Chairs are chosen on a voluntary basis by proposals by either authors or local committee members or are appointed by the Track Chairs, General Program Chair or General Conference Chair. They are responsible for their assigned session. They make sure their speakers are available, take care of the timing within the session, chair the discussion after each presentation and introduce each speaker based on the CV's given to them by the authors. **If a session chair is not available then the first author takes on the responsibility to chair** In case they chair a session featuring **extended papers**, then they are required to distribute and collect the reviews of that or those papers at the beginning and end of the session. If they have time they should also indicate in their papers the number of session participants.

THE NUMBERS NEXT TO THE PRESENTATIONS DENOTE THE PAGE-NUMBERS IN THE PROCEEDINGS. IF NO NUMBERS ARE MENTIONED THEN THIS PAPER IS NOT PUBLISHED IN THE PROCEEDINGS

THE AUTHORS WHO ARE UNDERLINED ARE NORMALLY THE PRESENTERS

ONLY PAPERS IN GREY BOXES ARE THE EXTENDED PAPERS ELIGIBLE FOR THE BEST PAPER AWARD

CHECK OUT THE OTHER EUROSIS EVENTS ON OUR WEBSITE:

<https://www.eurosis.org>

MONDAY, 3RD JUNE 2024

09.00 - 12.30	REGISTRATION
09.30 - 09.45	OPENING SESSION – BUILDING 8E.- 4TH FLOOR RED CUBE - ROOM DESCUBRE WELCOME BY PHILIPPE GERIL
09.45 - 10.30	INVITED TALK
	MEETING ROOM DESCUBRE
	INVITED TALK BIG DATA AND CLOUD TECHNOLOGIES BY IGNACIO LACALLE ÚBEDA
10.30 - 11.00	COFFEE BREAK in the DEBATE ROOM
11.00 - 12.30	SESSION
	MEETING ROOM DESCUBRE
	DATA SIMULATION I
12.30 - 14.00	LUNCH BREAK in the DEBATE ROOM
14.00 - 15.30	SESSION
	MEETING ROOM DESCUBRE
	DATA SIMULATION II
15.30 - 16.00	COFFEE BREAK in the DEBATE ROOM
16.00 – 17.00	INVITED TALK
	MEETING ROOM DESCUBRE
	INVITED TALK AN OVERVIEW OF OIL SPILL MODELING AND SIMULATION BY M.R. RIAZI
17.00	FREE EVENING

TUESDAY, 4th JUNE 2024

08.30-12.00	REGISTRATION
09.00-10.00	INVITED TALK
	MEETING ROOM DESCUBRE
	INVITED TALK UNCERTAINTY: ITS QUANTIFICATION, MITIGATION, PROPAGATION AND DECISION MAKING BY SATYAJEET BHONSALE
10.00-10.30	COFFEE BREAK in the DEBATE ROOM
10.30-12.30	SESSION
	MEETING ROOM DESCUBRE
	LARGE SCALE SYSTEM AND FACTORY SIMULATION
12.30-14.00	LUNCH in the DEBATE ROOM
14.00-15.30	SESSION
	MEETING ROOM DESCUBRE
	ENGINEERING SIMULATION
15.30-16.00	COFFEE BREAK in the DEBATE ROOM
16.00-16.15	SESSION
	MEETING ROOM DESCUBRE
	BEST PAPER AWARD CLOSING SESSION AND INFORMATION ON COMPANY VISIT
20.00-22.00	CONFERENCE DINNER AT RESTAURANT PUERTA DEL MAR

WEDNESDAY, 5TH JUNE 2024

09.00-09.30	MEETING AT UPV NEAR THE FLAGS OF THE BIOMECHANICS INSTITUTE
09.30-11.30	CONFERENCE VISIT TO ROBOTNIK
	CONFERENCE PARTICIPANTS ARE INVITED TO VISIT ROBOTNIK
11.30-12.00	RETURN TO UPV

Monday, 3rd June 2024

Registration

09.00 - 12.30

BUILDING 8E- 4TH FLOOR RED CUBE –DESCUBRE ROOM

09.00 – 09.15

ROOM DESCUBRE

WELCOME

Opening ISC'2024 and Welcome

Welcome Address

Philippe Geril

ISC'2024, EUROSIS, Secretary General

09.15 – 10.30

ROOM DESCUBRE - 09.15-10.30

INVITE

INVITED SPEECH

Chair: Philippe Geril, EUROSIS, Ostend, Belgium



INV_01

[Big Data and Cloud Technologies](#)

Ignacio Lacalle Úbeda, Universitat Politecnica de Valencia, Valencia, Spain

10.30 - 11.00

COFFEE BREAK IN THE DEBATE ROOM

Welcome

Monday, 3rd June 2024

11.00 – 12.30

ROOM DESCUBRE -11.00-12.30 **DATA**

DATA SIMULATION I

Chair: Philippe Geril, EUROSIS, Ostend, Belgium

SIM_AI_01

Creation of Datasets for Machine Learning in the Anonymisation of Unstructured Documents

Peter Kvasnica 13

SIM_ECON_01

Concept of Express Monitoring of the State's Financial Security

Igor Atamanjuk, Anastasiia Poltorak, Ievgen Sidenko, Edyta Bartnicka and Yuriy Kondratenko 24

SCIFI_IT_01

Applying Regulatory Framework to Public Health Data Ecosystems: Why a Linked Democracy Approach Matters

Izabella V. Lokshina and Cees J. M. Lanting..... 19

12.30 - 14.00

LUNCH BREAK IN THE DEBATE ROOM

14.00 – 15.30

ROOM DESCUBRE -14.00-15.30 **DATA**

DATA SIMULATION II

Chair: Philippe Geril, EUROSIS, Ostend, Belgium

SCIFI-IT_02_ONL

Information-Thermodynamic Consideration on Cancer Cells, Cancer and Structure

Bohdan Hejna..... 30

SIM_OP_01_ONL

Statistical Optimization with and without Balancing Weights

William Conley..... 38

Monday, 3rd June 2024

SIM_OP_03_ONL

Opportunities in Production at the Factory with Statistical Optimization

William Conley..... 59

15.30 - 16.00

COFFEE BREAK IN THE DEBATE ROOM

16.00 – 17.00

ROOM DESCUBRE -16.00-17.00

INVITE

INVITED SPEECH

Chair: Philippe Geril, EUROSIS, Ostend, Belgium



INV_03_ONL

An Overview of Oil Spill Modeling and Simulation

M.R. Riazi.....5

17.00

FREE EVENING

Sessions - Monday

Tuesday, 4th June 2024

Registration

08.30 - 12.00

BUILDING 8E- 4TH FLOOR RED CUBE –DESCUBRE ROOM

09.00 – 10.00

ROOM DESCUBRE - 09.00-10.00

INVITE

INVITED SPEECH

Chair: Philippe Geril, EUROSIS, Ostend, Belgium



INV_02

Uncertainty: Its Quantification, Mitigation, Propagation and Decision Making

Satyajeet Bhonsale and Jan Van Impe, University of Leuven BioTeC+, Ghent, Belgium

10.00 - 10.30

COFFEE BREAK IN THE DEBATE ROOM

10.30 – 12.30

ROOM DESCUBRE - 10.30-12.30

FACTORY

LARGE SCALE SYSTEM AND FACTORY SIMULATION

Chair: Philippe Geril, EUROSIS, Ostend, Belgium

SIM_DISC_01

Performance Evaluation of the Secure Multi-Tenancy System for Smart City IOT Environment using LDAP and Apache KAFKA

Micha Gorawski, Rafa Marjasz and Krzysztof Grochla 47

Tuesday, 4th June 2024

SIM_ELEC_01_ONL

**A Framework to ensure Maximum Radio Coverage in a Competent DRM
Emergency Information System for Natural Disasters**

K. Papatheodosiou, C. Angeli, C. Kytagias and I. Georgakopoulos 52

SIM_AI_03_ONL

Determining throughput of Factory Layouts with Neural Networks

Patrick Eschemann, Astrid Nieße and Jürgen Sauer..... 66

SIM_TOOLS_02

**Combination of Discrete Event Simulation and Agent Based Simulation
for Helicopter Rotable Lifecycle**

Mohammad Zaki bin Mohamud, Ip-Shing Fan and Nicolas Peter Avdelidis 74

12.30 - 14.00

LUNCH BREAK IN THE DEBATE ROOM

14.00 – 15.30

ROOM DESCUBRE -14.00-15.30

ENG

ENGINEERING SIMULATION

Chair: Philippe Geril, EUROSIS, Ostend, Belgium

SIM_AI_05

**Simulation-Generated Training Data for Improved Performance of AI-Based
Industrial Vision Systems**

Anna Syberfeldt and Tehseen Aslam 83

SIM_INTEL_01_ONL

**Hybrid Neural Network and Genetic Algorithm Combination for Recognition
and Avoidance of Vehicle Obstacles**

Ievgen Sidenko, Igor Atamanyuk, Oleksandr Myroniuk, Galyna Kondratenko,
Anastasiia Poltorak and Yuriy Kondratenko..... 88

SIM_ENG_03

**Characterisation of Diesel Fuel Injection Rate Profile by Means of a
Metaheuristic Approach**

Anthony T. Saliba, Jean-Paul Mollicone, Kenneth Scerri and Mario Farrugia 93

Sessions - Tuesday

Tuesday, 4th June 2024

15.30 - 16.00

COFFEE BREAK IN THE DEBATE ROOM

16.00 – 16.15

ROOM DESCUBRE - 16.00-16.15

CLOSING

CLOSING SESSION AND BEST PAPER AWARD

Chair: Philippe Geril, EUROSIS, Ostend, Belgium

Philippe Geril will announce the best paper for ISC'2024, give information about the company visit on June 5 and will end the event with some announcements related to ISC'2025


20.00 - 22.00

CONFERENCE DINNER

Conference Dinner on Tuesday the 4th of June at 20.00 p.m. at the **Restaurant Puerta Del Mar**



Restaurant Puerta Del Mar
C/ Transits, 4,
46002 Valencia
Spain

 Tel: (+34) 963 940 008

Go to website below on how to get there.

[\(https://www.restaurantpuertadelmar.com/en/puerta-del-mar-valencia/\)](https://www.restaurantpuertadelmar.com/en/puerta-del-mar-valencia/)

Wednesday, 5th June 2024

ISC'2024 CONFERENCE VISIT - 09.30-12.00
CONFERENCE VISIT TO ROBOTNIK

VISIT

09.00 - 09.30

MEETING AT UPV NEAR THE FLAGS OF THE BIOMECHANICS INSTITUTE BUILDING 9C where we will take a minibus to ROBOTNIK.

09.30 – 11.30



 **Robotnik**

Robotnik Automation S.L.
Ronda Auguste y Louis Lumière, 8
46980 Parque Tecnológico, Paterna
Valencia (Spain)
 Tel: +34 96 147 54 00
<https://robotnik.eu/>

Robotnik designs, manufactures and markets autonomous mobile robots and manipulators, capable of working autonomously in collaborative environments, sharing space with humans.



In Jan 2023, [United Robotics Group](#), the German-based ecosystem of service robotics companies, announced the agreement to acquire a majority stake in **Robotnik**. With this move, United Robotics Group continues to partner with leading robotic experts contributing to launching the successful third generation of service robots, CobiotX (Robots-for-Humans).

Company Visit - Wednesday

Conference Site Map

MAP



Universitat Politècnica de València Map- 8E
[UPV interactive map](#)

ISC'2025

SEE YOU ALL

**At ISC'2025
June, 2025**

LOCATION TO BE ANNOUNCED SOON

**Track proposals and tutorial proposals can be sent in
by September 30TH, 2024 to philippe.geril@eurosis.org**

**If you are interested in hosting a EUROSIS conference from 2024 onward, just
contact EUROSIS.**

ISC'2025

NOTES

ISC'2024 at Conference Registration Form

Please legibly print or type and fill out completely. (Check appropriate boxes where necessary)

FIRST NAME	LAST NAME	M.I.
COMPANY OR AFFILIATION		
Mailing address (tick one): <input type="checkbox"/> HOME <input type="checkbox"/> BUSINESS		
STREET		
CITY		
ZIPCODE	COUNTRY	
TELEPHONE	FAX	
E-MAIL		
DATE	SIGNATURE	
1. <input type="checkbox"/> EUROSIS member € 570 Member Number: _____		€ _____
2. <input type="checkbox"/> Members of Sponsor or Affiliate Society € 570		€ _____
3. <input type="checkbox"/> Non-Member Participant € 610		€ _____
4. <input type="checkbox"/> Students, <u>who are not authors</u> but who wish to attend the conference, or ONE DAY PARTICIPANTS pay: € 420		€ _____
(Above registration fees include, one copy of the PROCEEDINGS, all midday meals, cocktail, refreshments, coffees and social program,) One Day Participants and Non-Author Students cannot participate in the conference dinner. – NOT APPLICABLE		
5. <input type="checkbox"/> Conference Dinner Ticket for Companion € 70 <input type="checkbox"/> Lunch Ticket for Companion €35 /day		€ _____
6. <input type="checkbox"/> Extra Conference Proceedings € 40 Cash and Carry		€ _____
VAT Number if applicable: _____		
TOTAL AMOUNT DUE		€ _____
		€ _____
TOTAL AMOUNT REMITTED		€ _____

Pay by **CREDIT CARD** and fill in the information below:

Charge my (tick one): Visa Euro/Mastercard American Express

CARD NO: _____ : _____ : _____ : _____ EXP.DATE: ____ / ____

Authorizing Signature:

Print Signature in CAPITALS



EUROSIS was borne out of discussions with the European Community to set up a new kind of Society, which would be project driven instead of driven by pure membership and conferences.

The aim of EUROSIS is to set up topic related Technical Committees which will link directly to European Projects in the field of computer simulation and related areas and to act as a knowledge pool for future European Networks of Excellence, like MOSAIC.

If you would like to receive more information about EUROSIS, please contact

Philippe Geril
EUROSIS-ETI
European Simulation Office
Torhoutsesteenweg 162 B.04.02
B- 8400 Ostend, Belgium
 Tel: +32.473.231.297
 **Email: Philippe.Geril@eurosis.org**

Please send me info on EUROSIS:

Name:.....
Address:
.....
.....
Telephone
Fax:
Email: