

Final Program



June 3-5, 2025

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ISC'2025 IS A HYBRID EVENT

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

The ISC'2025 final programme, gives information on how to reach the University of Skövde, Skövde, Sweden. Info on how to virtually attend the event for those who are unable to attend onsite will follow online.

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General Information

1. Conference Location

The Conference will be held at



The ASSAR Industrial Innovation Arena

Balthazar Science Center AB

Kavelbrovägen 2B

541 36 Skövde, Sweden

+46 (0)500-44 89 54

anna.syberfeldt@his.se

The ASSAR Industrial Innovation Arena is part of Science Park Skövde, but located in the Volvo area. The ASSAR project was created on the initiative of Science Park Skövde AB, the University of Skövde, IDC West Sweden AB, Volvo Car Corporation and the Volvo Group. **The meeting room will be the ASSAR stage.**

For those taking part virtually in the ISC'2025 Conference there will be an Online Meeting Room using the ZOOM meeting software. ISC'2025 Registration will start on Tuesday June 3rd, at 08.30 a.m. till 15.00 p.m. On Wednesday, June 4th it will be from 08.30 a.m. to 12.00 p.m.

2. Getting to Skövde and the ASSAR Industrial Innovation Arena

By Plane

The best way to reach Skövde is to fly to [Stockholm Arlanda Airport](#) or [Göteborg\(Gothenburg\) Landvetter Airport](#) and take the train from there to Skövde. (See below) In Stockholm, the airport train arrives in Stockholm central station, from where you can switch to a train for Skövde. In Gothenburg there is a [shuttle bus](#) every twenty minutes to the train station.



General Information

By Train

For train connections information concerning the timetables and ticket reservations, please contact [SJ \(Swedish Rail\)](#) (☎ Tel: +46 (0)771-75 75 75) or or the regional transportation company [Västtrafik](#). (☎ Tel: +46(0)771-41 43 00) The prices may vary depending on when you buy the ticket and how old you are. To get a student discount you need to be a student at a Swedish university and be able to show proof of that, as well as a student card. For details on which document or ID is valid by different companies, contact them directly or check for information on their webpages. If you are under 26 years of age you will receive a lower price (very often the same as the student discount). The cheapest price for students and youth under 26 is if you buy a last minute ticket, in Swedish "sista minuten". There are also other tickets to choose between, for more information see [SJ \(Swedish Rail\)- SJ's website](#) As a rule of thumb one could say that unless you can buy the last minute tickets the prices are always cheaper the earlier you make the booking. From Stockholm it takes 2 hours with the fast train and 3.5 hours with the Inter City train to Skövde. From Göteborg it takes 1 hour with the fast train and 1.5 hours with the Inter City train or regional train to Skövde. If you arrive in Stockholm or Göteborg by air and are going to go by train from there to Skövde you need transportation from the airport to the central station. From the airport there are bus transfers that you can take.

By Bus

Skövde in Sweden offers intercity bus connections to more than 5 cities in Sweden like Stockholm, Gothenburg and Karlstad. Some of the most popular companies departing from Skövde are: [Vy Bus4you](#) and [Nettbuss](#). The [bus stop](#) for the [local](#) and regional buses is just outside the station. Stationsgatan 7-9 ,541 30 Skövde.

By Taxi

If you want to call for a taxi, use the app Cabonline.

By Car

Set Google Maps or your GPS navigator on the address Kavelbrovägen 2B 541 36 Skövde and just follow the directions.

On Foot

All chosen hotels in Skövde itself, are within easy walking distance of the ASSAR Industrial Innovation Arena conference site. (see hotel page): <https://www.eurosis.org/conf/isc/2025/hotel.html>)

ALL MAPS ARE AT THE BACK OF THIS PROGRAMME

General Information

ISC'2025 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'2025 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	€ 60
Extra lunch ticket	€ 15

6. Registration

The ISC'2025 Registration Desk will be open for information and registration outside the ASSAR STAGE.

Tuesday, June 3.....08.30 a.m. to 15.00 p.m.
Wednesday, June 4 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'2025**)

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

Printed ISC'2025 Proceedings	€ 40 (plus 30% shipping costs if shipped)
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Other Proceedings can be ordered from the EUROSIS website.

8. Meeting Room

The **ISC'2025** meeting room is the **ASSAR STAGE**. Directions to the room will be signposted.

9. Internet Connection

There will be WIFI at the conference site. The network is named ASSAR GuestNet and the password is Innovation.

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 **ASSAR Café** in the vicinity of the **ISC'2025 ASSAR Stage**.

and the

Conference Dinner on Wednesday the 4th of June at 19.30 p.m. (Location to be announced at the registration desk on Tuesday the 3rd of June).

General Information

12. Conference Visit



Volvo Powertrain, AB Volvo, Skövde, Sweden on
Thursday June 5th

13. Room Legend

The dedicated ISC'2025 meeting room is the **ASSAR STAGE**.

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'2025** 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>

TUESDAY, 3RD JUNE 2025

08.30 - 15.00	REGISTRATION
09.00 - 09.15	OPENING SESSION – ASSAR STAGE WELCOME BY TEHSEEN ASLAM
09.15 - 10.00	KEYNOTE TALK
	ASSAR STAGE
	KEYNOTE TALK EMERGING RESEARCH TRENDS IN SIMULATION BY YASSER M. DESSOUKY
10.00 - 10.30	COFFEE BREAK next to the ASSAR STAGE
10.30 - 12.00	SESSION
	ASSAR STAGE
	DISCRETE EVENT SIMULATION
12.00 - 12.30	LAB TOUR in the ASSAR LAB
12.30 - 13.30	LUNCH BREAK in the ASSAR CAFÉ
13.30 - 15.00	SESSION
	ASSAR STAGE
	SIMULATION IN ENGINEERING
15.00 - 15.30	COFFEE BREAK next to the ASSAR STAGE
15.30 - 17.00	SESSION
	ASSAR STAGE
	SIMULATION AND AI
19.00	INFORMAL PUB VISIT

WEDNESDAY, 4th JUNE 2025

08.30-12.00	REGISTRATION
08.30-09.30	KEYNOTE TALK
	ASSAR STAGE
	KEYNOTE TALK FROM ACADEMIC ROOTS TO INDUSTRIAL IMPACT: THE EVOLUTION OF SIMULATION BY MARCUS FRANTZÉN
09.30-10.00	COFFEE BREAK next to the ASSAR STAGE
10.00-12.30	SESSION
	ASSAR STAGE
	CYBER PHYSICAL SYSTEMS SIMULATION
12.30-13.30	LUNCH BREAK in the ASSAR CAFÉ
13.30-15.00	SESSION
	ASSAR STAGE
	KNOWLEDGE BASED CONTROL SYSTEMS
15.00-16.00	COFFEE BREAK and POSTER SESSION in the ASSAR LAB
16.00-18.00	SESSION
	ASSAR STAGE
	LARGE SYSTEMS MANAGEMENT
18.00-18.15	CLOSING SESSION
	ASSAR STAGE
	BEST PAPER AWARD CLOSING SESSION AND INFORMATION ON COMPANY VISIT PHILIPPE GERIL, ANNA SYBERFELDT & AMOS NG
19.30-22.00	CONFERENCE DINNER: LOCATION TO BE ANNOUNCED

THURSDAY, 5TH JUNE 2025

08.50	MEETING OUTSIDE THE MAIN ENTRANCE OF ASSAR INDUSTRIAL ARENA
09.00-12.00	CONFERENCE VISIT TO VOLVO
	CONFERENCE PARTICIPANTS ARE INVITED TO VISIT VOLVO
12.00	BACK AT THE ASSAR INDUSTRIAL ARENA

Tuesday, 3rd June 2025

Registration

08.30 - 15.00

ASSAR INDUSTRIAL ARENA NEXT TO THE ASSAR STAGE

09.00 – 09.15

ROOM ASSAR STAGE

WELCOME

Opening ISC'2025 and Welcome

Welcome Address

Tehseen Aslam

University of Skövde, Skövde, Sweden

09.15 – 10.00

ASSAR STAGE - 09.15-10.00

KEYNOTE

KEYNOTE SPEECH

Chair: Masood Fathi, University of Skövde



KEY_01

[Emerging Research Trends in Simulation](#)

Yasser M. Dessouky, Professor & Chair, Undergraduate Program Coordinator, Industrial & Systems Engineering, Department of Industrial and Systems Engineering, San Jose State University, San Jose, USA

10.00 - 10.30

COFFEE BREAK next to the ASSAR STAGE

Welcome

Tuesday, 3rd June 2025

10.30 – 12.30

ASSAR STAGE -10.30-12.00

DISCRETE

DISCRETE EVENT SIMULATION

Chair: Enrique Ruiz Zúñiga, University of Skövde

SIM_DISC_01
Case Study on Automatic Simulation Model Update and Validation from Production Data
Simon Lidberg 27

SIM_DISC_03
Evaluating Modular Automated Assembly Systems under Uncertainty: Insights from a Simplified DES Approach
Gary Linnéusson 32

SIM_TRAF_01
Designing a Resilient Automated Waterborne Transport System using Discrete Event Simulation
Marco Bertoni, Alessandro Bertoni, Tobias Larsson and Tobias Husberg 35

12.00 - 12.30

LAB TOUR IN THE ASSAR LAB

12.30 - 13.30

LUNCH BREAK IN THE ASSAR CAFÉ

13.30 – 15.00

ASSAR STAGE -13.30-15.00

ENGIN

SIMULATION IN ENGINEERING

Chair: Enrique Ruiz Zúñiga, University of Skövde

SIM_ENGIN_01
Advancing Model-Based Production System Engineering: A Unified Framework for Virtual Commissioning and Discrete-Event Simulation
Martin Birtic and Anna Syberfeldt 105

Tuesday, 3rd June 2025

SIM_ENGIN_03 An Optical Validation of Johnson-Cook Material Model for Polycarbonate Panels Eckart Uhlmann, Mitchel Polte, <u>Til A. Mager</u> and Nils Bergström	113
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SIM_ENGIN_04 Optimization for Sustainability in Polymer Injection Molding <u>António Gaspar-Cunha</u> , Tomás Marques, João Melo and António Pontes	121
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15.00 - 15.30
COFFEE BREAK next to the ASSAR STAGE

15.30 – 17.00

ASSAR STAGE -15.30-17.00	AI
SIMULATION AND AI	
Chair: Enrique Ruiz Zúñiga, University of Skövde	

SIM_AI_01 Using Large-Language Models for Plug & Produce Manufacturing <u>Mattias Bennulf</u> and Fredrik Danielsson	43
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SIM_VR_01 Enhancing Students' Communication Skills with AI-Powered VR Soft Skills Training <u>Plamen Petrov</u> and <u>Tatiana Atanasova</u>	48
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SIM_AI_06 Industrial Oven Scheduling using Simulation-based Optimization and Artificial Intelligence <u>Siwei Fu</u> and <u>Amos H.C. Ng</u>	51
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19.00
INFORMAL PUB VISIT

Wednesday, 4th June 2025

Registration

08.30 - 12.00

ASSAR INDUSTRIAL ARENA NEXT TO THE ASSAR STAGE

08.30 – 09.30

ASSAR STAGE - 08.30-09.30
KEYNOTE

KEYNOTE SPEECH
Chair: Anna Syberfeldt, University of Skövde



KEY_02
[From Academic Roots to Industrial Impact: The Evolution of Simulation](#)
Marcus Frantzen, Evoma AB, Sweden

09.30 - 10.00

COFFEE BREAK next to the ASSAR STAGE

10.00 – 12.30

ASSAR STAGE - 10.30-12.30
CYBER

CYBER PHYSICAL SYSTEMS SIMULATION
Chair: Anna Syberfeldt, University of Skövde

SIM_CYBER_02
MAXLabs – An integrated Distributed Cyber-Physical Testbed for Manufacturing Research
Anna Syberfeldt, Johan Stahre and Omkar Salunkhe 88

SIM_COLLAB_01
Exploring Initial Perceptions of Industrial Collaborative Robots for Manual Assembly
My Legendi, Raquel Quesada Díaz, Göran Grahn, Maurice Lamb
and Anna Syberfeldt 94

Wednesday, 4th June 2025

SIM_CYBER_01_ONL
Modeling and Simulation of a Framework for Ransomware Attacks Detection using Supervised Machine Learning
Moussa Koïta, Youssouf M. Diagana, Oumar Y. Maïga
and Mamadou K. Traore..... 81

12.30 - 13.30
LUNCH BREAK IN THE ASSAR CAFÉ

13.30 – 15.00

ASSAR STAGE -13.30-15.00	KBS
KNOWLEDGE BASED CONTROL SYSTEMS	
Chair: Anna Syberfeldt, University of Skövde	

SIM_AI_02
Frequency Driven Screw Compressors Unload State Prediction in Modern Air Control System
Kamil Kasprzyk and Adam Galuszka..... 61

SIM_AI_04
Supporting Knowledge-Driven Optimization and Decision Support with a Graph Database: An Industrial Use Case
Ludwig Mittermeier, Amos Ng, Richard Senington, Tommy Fässberg
and Daniel Johansson 71

SIM_INTEL_01_ONL
Smart Control System for Photovoltaic Power Plants
Boris Staykov and Tatiana Atanasova..... 67

15.00 - 16.00
COFFEE BREAK next to the ASSAR STAGE with POSTER SESSION and DEMOS in ASSAR LAB

Sessions - Wednesday

Wednesday, 4th June 2025

16.00 – 18.00

ASSAR STAGE -16.00-18.00

SYS

LARGE SYSTEMS MANAGEMENT
Chair: Anna Syberfeldt, University of Skövde

SIM_ECON_01
Using Finite Mixture Models for Market Segmentation
Liberato Camilleri and Emma Mallia 5

SIM_COM_01
Algorithms for Accelerating Rare Event Simulation with Markov Chain Modeling in Communication Networks
Izabella V. Lokshina and Cees J. M. Lanting..... 20

SIM_EMERG_01_ONL
An Integrated DRM30 – DRM+ Emergency Information System for Extreme Weather Conditions
K. Papatheodosiou, C. Angeli and I. Georgakopoulos..... 16

SIM_EMERG_03_ONL
Statistical Optimization and Risk Management
William Conley..... 10

18.00 – 18.15

ASSAR STAGE - 18.00-18.15

CLOSING

CLOSING SESSION - BEST PAPER AWARD and VISIT
Chair: Philippe Geril, EUROSIS, Ostend, Belgium

Philippe Geril, Anna Syberfeldt and Amos Ng will announce the best paper for ISC'2025, give information about the company visit on June 5th and will end the event with some announcements related to ISC'2026.

19.30 - 22.00
CONFERENCE DINNER

Thursday, 5th June 2025

ISC'2025 CONFERENCE VISIT - 08.50-12.00
CONFERENCE VISIT TO VOLVO

VISIT

08.50 - 12.00

At 08.50 Meeting outside the MAIN ENTRANCE of the ASSAR INDUSTRIAL ARENA

09.00 – 12.00



Volvo Powertrain

AB Volvo
Skövde, Sweden

Company Visit - Thursday

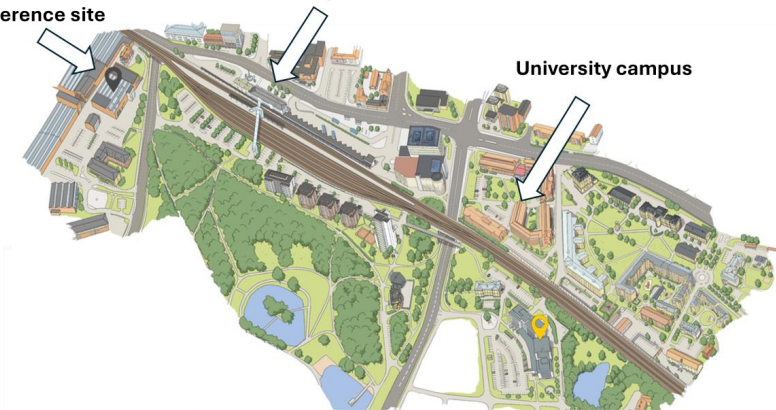
Conference Site Map

MAP

**ASSAR Industrial
Innovaton Arena
Conference site**

Railway station

University campus



ISC'2026

SEE YOU ALL

**At ISC'2026
End of May- Beginning of June, 2026**



[University of the Basque Country](#), San Sebastian, Spain

**Track proposals and tutorial proposals can be sent in
by September 30TH, 2025 to philippe.geril@eurosis.org**

**If you are interested in hosting a EUROSIS conference from 2026 onward, just
contact EUROSIS.**

ISC'2026

NOTES

ISC'2025 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 € 60 <input type="checkbox"/> Lunch Ticket for Companion €15 /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

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