

Final Program



21 – 23 October 2026
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Contents

General Information	4
Badges.....	5
Best Paper Award	8
Conference Location	4
Conference Proceedings.....	6
How to get there.....	4/5
Internet Connection.....	6
Meeting Room.....	6
Need Help?	6
Paper Legend	8
Registration.....	6
Social Events and Lunches	6/7
Tickets	5
 Quick Program Overview.....	 9
Welcome Address.....	13
 Scientific Program	 13
 Wednesday, October 21.....	 13
Thursday, October 22	19
Friday, October 23.....	25
 ESM®'2027/GAME-ON®'2027	 28
 Conference Location	 29
.....	31
 Notes.....	 32
 Registration Form	 33
 EUROSIS Contact Info.....	 34

General Information

1.1 Conference Location

The ESM®'2026/GAME-ON®'2026 Conference itself is held at



ENIM

**1 route d'Ars Laquenexy
57070 Metz, France**

 Tel: +33 (0)3 87 37 54 30

 Email:
daniel.roy@enim.univ-lorraine.fr

See the Campus map for more location info at the back of the programme.

The meeting rooms are in the ENIM building. The way to the meeting rooms will be signposted. Registration will start on Wednesday from 8.00 a.m. till 4.00 p.m. On Thursday from 8.30 a.m. till 5.00 p.m. On Wednesday from 09.00 a.m. till 09.30 a.m. The registration desk will be located in the main hall of the ENIM building. The meeting rooms are ENIM AUDITORIUM LEVEL 0, ROOM A - 1A10 LEVEL 1, ROOM B - 1A11 LEVEL 1 and ROOM C - 2A26 LEVEL 2.

Reaching the ENIM Campus

By Plane:

Metz lies some 75 kms from [The Luxembourg International Airport](#), some 16.5 km (10.3 mi) from [The Metz-Nancy-Lorraine Airport](#) located in Goin, southeast of Metz and 320 kms from [France international Charles de Gaulle Airport](#) in Paris. On arrival at [The Luxembourg International Airport](#), take bus [line 29](#) to [Luxembourg train station](#) and a regional train ([TER](#)) to [Metz](#) city train station. From [Lorraine Airport](#), the tour operator [Coutarel](#) offers connections between Metz (Pôle multimodal rue aux Arènes) train stations to and from the airport by minibus or coach, depending on demand (15€). This service serves all commercial flights from the airport. Considering the short train journey between Paris and the Metz [Lorraine TGV railway station](#) (82 minutes), the [France international Charles de Gaulle Airport](#) may also be a good alternative.

By Train:

Trains coming from French and European main cities arrive either at Metz station or Lorraine Station. High-speed trains may arrive at either (*). [Metz Railway Station](#) is connected to the French high speed train (TGV) network, which provides a direct rail service to Paris and Luxembourg. The time from Paris ([Gare de l'Est](#)) to Metz is 82 minutes. Additionally, Metz is served by the [Lorraine TGV railway station](#), located at Louvigny, 25 km (16 mi) to the south of Metz, for high speed trains going to Nantes, Rennes, Lille and Bordeaux (without stopping in Paris). Also, Metz is one of the main stations of the regional express trains system, [Métrolor](#).

General Information

(*) From the [Lorraine TGV railway station](#), there is direct shuttle from station to station for TGV connections. Information on these can be found at the SNCF stations and ticket offices and online at [oui.sncf](#). Shuttle timetables are available [here](#).

By Bus and Mettis:

[Public transport](#) in Metz includes a bus rapid transit system, called Mettis. [Mettis vehicles](#) are high-capacity hybrid bi-articulated buses and stop at designated elevated tubes, complete with disability access. Mettis has its own planned and integrated transportation system, which includes two dedicated lines that spread out into the Metz conurbation. Mettis lanes A and B serve the city's major facilities (e.g., city centre, university campus and hospitals), and a transport hub is located next to the railway station. There are 2 direct bus lanes from main train station or city center to [ENIM/ENSAM](#) (the 2 building are close from each other).

By standard bus, lane L4 direction “Grange Aux Bois”, “Grandes Écoles” stop. From city center, or Train station, it's a 30' journey, with a frequency of one bus every 20 minutes.

By Mettis lane B a high service rate bus (with dedicated road and traffic priority). Mettis is the name given to the two bus rapid transit (BRT) lines in the Metz area. It uses a dedicated road and has priority at traffic lights. The conference venue is located on the B line, direction “Hopital Mercy”, “Grandes Écoles” or “Ensam” stops. From city center, or Train station, it's a 20' journey, with a frequency of one bus every 10 minutes.

By Car:

Metz is accessible via two motorways: The [A31](#) (North-south axis from Luxembourg to Bourgogne and further south to the Mediterranean) and the [A4](#) (West-east axis from Paris to Strasbourg and further on to Prague)

ALL OTHER MAPS ARE AT THE BACK OF THIS PROGRAMME

1.2 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.

1.3 Tickets

Extra tickets for the social event and lunches are available from the Registration desk. **(at conference prices)** All participants will be issued with tickets for bus travel, lunch and the conference dinner. **Or just the badge will apply.**

General Information

conference dinner: lunch	€ 80 € 25/lunch
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1.4 Registration

The **ESM®'2026/GAME-ON®'2026** Registration Desk will be open for information and will be located in the main hall of the ENIM building in the same hallway as the meeting rooms:

Wednesday, October 21 8.00 a.m. to 04.00 p.m.

Thursday, October 22 8.30 a.m. to 05.00 p.m.

Friday, October 23 9.00 a.m. to 9.30 a.m.

1.5 Conference Proceedings

Each fully paid registrant will be provided with a copy of the Conference Proceedings (printed format and/or electronic format) after the conference. Price: (or equivalent in another currency) for an extra printed copy

ESM'2026 Proceedings	€ 60
GAME-ON'2026 Proceedings	€ 35

Other Proceedings can be ordered from the EUROSIS website.

1.6 Meeting Rooms

The **ESM®'2026/GAME-ON®'2026** meeting rooms are the **ENIM AUDITORIUM LEVEL 0, ROOM A - 1A10 LEVEL 1, ROOM B - 1A11 LEVEL 1 and ROOM C - 2A26 LEVEL 2**. Directions to the rooms will be signposted.

1.7 Internet Connection

There is full free WIFI at the conference site. Participants are advised to log in using their EDUROAM account.

1.8 Need Help?

Please see the conference desk in **ENIM AUDITORIUM LEVEL 0** for your questions

1.9 Social Events and Lunches

All registrants are invited: to the **Coffee Breaks** (3 days), the **Lunches** (2 days), a **guided city tour** which is scheduled from 18h30 to 19h30 on Wednesday the 21st and the **Conference Dinner on Thursday the 22nd of October** at 20.00 hours at **LA RESERVE, 5 Av. Ney, 57000 Metz, France**.

General Information

To the Coffee Breaks and Lunches



ENIM

1 route d'Ars Laquenexy
57070 Metz, France

Tel: +33 (0)3 87 37 54 30

Email:

daniel.roy@enim.univ-lorraine.fr

To the Guided Tour



A guided city tour is
scheduled from 18h30 to
19h30

To the Conference Dinner



From 20.00 p.m to 23.00 p.m.

The conference dinner will be held
on **Thursday the 22nd of
October** in the evening at
**La Reserve – Restaurant a Metz,
sous les voûtes de 1559**

5 Avenue Ney
57000 Metz, France

Tel: +33 3 87 17 17 17

Website:

<https://www.lareserve-metz.com/>

General Information

1.10 Best Paper Award

During the conference the papers, which were accepted as extended papers will be judged by the committee and participants in order to choose the best paper of the ESM®'2026 conference. The best paper candidate receives a certificate signed by the General Conference and Program Chairs.

1.11 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.

The room has an LCD projector and an overhead projector

SESSION CHAIRPERSONS

ALL NAMES OF 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**

Sessions with extended papers: If you are a session chair in a session with extended papers make sure the session participants have a copy of the best paper award form and ask them to return them to you at the end of the session. After the session hand over the collected forms to Philippe Geril.

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

PAPER NUMBERS IN THE FINAL PROGRAMME FOLLOWED BY “ONL” MEAN THESE PAPERS WILL BE PRESENTED ONLINE

FINAL PROGRAMME ESM'2026 AND GAME-ON'2026 QUICK OVERVIEW

WEDNESDAY, 21st OCTOBER 2026			
08.00-16.00	REGISTRATION IN THE ENIM MAIN HALL		
08.45 - 09.00	WELCOME MEETING ROOM A - ENIM AUDITORIUM LEVEL 0, ENTRANCE IN THE HALL		
	ESM'2026 – GAME-ON'2026 WELCOME		
09.00 - 10.00	ESM'2026 KEYNOTE SESSION – ROOM A - ENIM AUDITORIUM LEVEL 0, ENTRANCE IN THE HALL		
	KEYNOTE SPEAKER JOËL COLLOC UNIVERSITÉ DU HAVRE – NORMANDY UNIVERSITY LE HAVRE, FRANCE		
10.00 - 10.30	COFFEE BREAK - ENIM MAIN HALL		
10.30 - 12.30	ESM'2026 SESSIONS		
	ROOM A - 1A10 LEVEL 1	ROOM B - 1A11 LEVEL 1	ROOM C - 2A26 LEVEL 2
	SIMULATION IN ENERGY ENVIRONMENTS ANALYTICAL AND NUMERICAL TECHNIQUES I	AUTONOMOUS SYSTEMS	MANUFACTURING OPTIMIZATION SIMULATION
12.30 - 13.30	LUNCH BREAK		
13.30 - 15.00	ESM'2026 SESSIONS		
	ROOM A - 1A10 LEVEL 1	ROOM B - 1A11 LEVEL 1	ROOM C - 2A26 LEVEL 2
	TUTORIAL OVSEP AVAKIAN SUMUP SOFIA, BULGARIA	WORKSHOP SIMULATION TOOLS MARIA HANINI AND MAHIMA GHOSH IMPERIAL COLLEGE LONDON, UNITED KINGDOM	INVITED SPEAKER MARCIN CHOINSKI WARSAW UNIVERSITY OF LIFE SCIENCES, SGGW, WARSAW, POLAND
15.00 - 15.30	COFFEE BREAK - ENIM Main Hall		
15.30 - 17.30	ESM'2026 SESSIONS		
	ROOM A - 1A10 LEVEL 1	ROOM B - 1A11 LEVEL 1	ROOM C - 2A26 LEVEL 2
	ANALYICAL AND NUMERICAL TECHNIQUES II	LARGE LANGUAGE MODELS	SIMULATION IN LOGISTICS
18.30	A guided city tour is scheduled from 18h30 to 19h30.		

THURSDAY, 22nd OCTOBER 2026			
08.30 - 17.00	REGISTRATION		
09.00 - 10.00	ESM'2026 - GAME-ON '2026 KEYNOTE SESSION – ROOM A - ENIM AUDITORIUM LEVEL 0, ENTRANCE IN THE HALL		
	KEYNOTE SPEAKER LE THI HOAI AN UNIVERSITÉ DE LORRAINE METZ, FRANCE		
10.00 - 10.30	COFFEE BREAK - ENIM MAIN HALL		
10.30 - 12.30	ESM'2026 SESSIONS		
	ROOM A - 1A10 LEVEL 1	ROOM B - 1A11 LEVEL 1	ROOM C - 2A26 LEVEL 2
	OPTIMIZATION METHODOLOGY	MACHINE LEARNING	SIMULATION IN SMART MANUFACTURING
12.30 - 13.30	LUNCH BREAK		
13.30 - 15.00	ESM'2026 – GAME-ON '2026 SESSIONS		
	ROOM A - 1A10 LEVEL 1	ROOM B - 1A11 LEVEL 1	ROOM C - 2A26 LEVEL 2
	WORKSHOP MONIKA ARESTA UNIVERSITY OF AVEIRO AVEIRO, PORTUGAL	INVITED SPEAKER PETER MITIC UCL LONDON, UNITED KINGDOM	INVITED SPEAKER VLADIMIR KOLTCHANOV ANYLOGIC AVON-FONTAINEBLEAU FRANCE
15.00 - 15.30	COFFEE BREAK - ENIM Main Hall		
15.30 - 18.00	ESM'2026 – GAME-ON '2026 SESSIONS		
	ROOM A - 1A10 LEVEL 1	ROOM B - 1A11 LEVEL 1	ROOM C - 2A26 LEVEL 2
	PLAYER INTERACTION AND GAME DESIGN	PARALLEL COMPUTING AND ENGINEERING SIMULATION	EMERGENCY MANAGEMENT SIMULATION
20.00 - 23.00	CONFERENCE DINNER AT LA RESERVE, 5 Av. Ney, 57000 Metz, France		

FRIDAY, 23rd OCTOBER 2026			
09.00 - 09.30	REGISTRATION		
09.00 - 10.00	ESM'2026 KEYNOTE SESSION – ROOM A- ENIM AUDITORIUM LEVEL 0, ENTRANCE IN THE HALL		
	KEYNOTE SPEAKER REMI BONIDAL ARCELOR/MITTAL MAIZIERES LES METZ, FRANCE		
10.00 - 10.30	COFFEE BREAK - ENIM Main Hall		
10.30 - 12.00	ESM'2026 SESSIONS		
	ROOM A - 1A10 LEVEL 1	ROOM B - 1A11 LEVEL 1	ROOM C - 2A26 LEVEL 2
	AI IN SIMULATION	MAN-IN-THE-LOOP SIMULATION	BACK-UP SESSION
12.00 - 12.15	CLOSING SESSION ESM'2026 – GAME-ON'2026 AND BEST PAPER AWARD ROOM A - ENIM AUDITORIUM LEVEL 0, ENTRANCE IN THE HALL		
12.15 - 13.15	LUNCH BREAK MEETING AREA FOR POST CONFERENCE VISIT PARTICIPANTS ONLY		
13.15 – 15.00	POST CONFERENCE VISIT		

Conference Notes

NOTES

Wednesday, 21st October 2026

REGISTRATION

08.00 - 16.00

REGISTRATION ENIM MAIN HALL

08.45 – 09.00

**ROOM A - ENIM AUDITORIUM LEVEL 0– 08.45-09.00 WELCOME
WELCOME ADDRESS**

Introduction to ESM®'2026 – GAME-ON®'2026

By Stephane Fontaine, Director of Ensam Campus Metz, Pierre Chevrier, Director of Enim and Alexandre Sava, LCFC director.

09.00 – 10.00

**ROOM A – ENIM AUDITORIUM LEVEL 0 – 09.00-10.00 KEYNOTE
KEYNOTE**

Chairs: Daniel Roy, Univ. de Lorraine, ENIM, LCFC, Metz, France



ESM_KEY_01

**INDICIA: An Assessment Indicator for Healthcare AI Systems
that focuses on the Caregiver-Patient Relationship and
Algorithmic Transparency**

Joël Colloc.....5

10.00 - 10.30

COFFEE BREAK - MEETING AREA IN ENIM MAIN HALL

Welcome - Wednesday

Wednesday, 21st October 2026

10.30 - 12.30

ROOM A – 1A10 LEVEL 1 - 10.30-11.30 ESM 2026 SESSION SIMULATION IN ENERGY ENVIRONMENTS

Chair: Jean-Yves Dantan, Arts et Métiers, Inst.Tec., LCFC, Metz, France

SIM_ENERG_01

A Calibrated Sub-Stations Building Simulator for District-Heated Residential Buildings and Evaluation of Control Strategies

Christoffer Hansson and Gideon Mbiydenyuy..... 347

SIM_AGENT_01

An Iterative Co-Simulation Pipeline for Coupled Models

Amy Liffey, Khoa Nguyen, Sandro Luh and René Schumann 82

ROOM A – 1A10 LEVEL 1- 11.30-12.30 ESM 2026 SESSION ANALYTICAL AND NUMERICAL TECHNIQUES I

Chair: Jean-Yves Dantan, Arts et Métiers, Inst.Tec., LCFC, Metz, France

ANMT_01

Pies with Gradient-Driven Knot Refinement for 2D Stress Analysis

Agnieszka Boltuć and Eugeniusz Zieniuk..... 29

ANMT_03

A Hybrid PIES-PINN Approach for solving Two-Dimensional Orthotropic Potential Problems

Eugeniusz Zieniuk and Krzysztof Szerszeń..... 35

ROOM B – 1A11 LEVEL 1 - 10.30-12.30 ESM 2026 SESSION AUTONOMOUS SYSTEMS

Chair: Joël Colloc, Université of Le Havre, Le Havre, France

SIM_AI_06_ONL

Model for Visual Terrain Relative Navigation

Paweł Śliwa 192

SIM_AUTO_01

A Particle Swarm Optimization Algorithm for Mobile Robot Path Planning with Hermite Smoothing

Artur Babiaryz..... 197

Wednesday, 21st October 2026

SIM_EMERG_01

Development of a Low-Cost Open-Hardware throwable Mobile Robot for Remote Reconnaissance

Krzysztof Jaskot and Dawid Prokop 202

SIM_AI_04

Deep Reinforcement Learning vs. PID Control: A Comparison of Autonomous Navigation of a Blimp in 3D Environment

Tomasz Grzeszczak, Michał Lasak and Maja Rudnicka..... 205

ROOM C – 2A26 LEVEL 2 - 10.30-12.00

ESM 2026 SESSION

MANUFACTURING OPTIMIZATION SIMULATION

Chair: Paul Stief, Arts et Métiers, Inst. of Techn., LCFC, Metz, France

SIM_OP_01

Holonic Control Architecture for Reconfigurable Manufacturing Systems

Sophie Hennequin, Adegoke Adesanmi, Daniel Roy and Ashraf Faraj 249

SIM_OP_03_MANUF

Using Optimisation Tool for the Design Improvement of Production Systems – An Integrative View of Mathematical Modelling and Design Process

Paul Stief, Meisam Pour Massahian Tafti, Xavier Godot, Ali Siadat, Jean-Yves Dantan, Juan-Camilo Gomez Echeverri and Josselin Schumacker..... 254

SIM_AI_14

Toward Deep Energy Neural Networks as Surrogates for Mass-Spring Models of Textiles

Sylvain Chabanet, Atal-Anil Kumar, Oriane Dermay and Thibaut Raharijaona 258

12.30 – 13.30

LUNCH BREAK

13.30 - 15.00

ROOM A – 1A10 LEVEL 1- 13.30-15.00

ESM2026 TUTORIAL

TUTORIAL

Chair: Philippe Geril, ETI-EUROSIS, Ostend, Belgium

Sessions - Wednesday

Wednesday, 21st October 2026



ESM_TUT_01_ONL

[Building Simulation Models with Flow-Based Programming using FMesh](#)

Ovsep Avakian, SumUp, Sofia, Bulgaria

**ROOM B – 1A11 LEVEL 1 - 13.30-15.00
WORKSHOP ON SIMULATION TOOLS**

ESM2026 WORKSHOP

Chairs: Maria Hanini and Mahima Ghosh, Imperial College, London, UK

SIM_TOOLS_W_01

Quantum Kernels without the Quantum Computer: Demonstrating a Simulation-Based Stylometry Pipeline for Attributing AI-Generated Text

Kalin Kopanov and Tatiana Atanasova..... **91**

SIM_TOOLS_W_02

A Probabilistic Risk-Ranking Tool for Assessing Food Chain and Environmental Risks of Nitrification Inhibitors in Grazed Pastoral Systems

Vaibhav Bhatia, Patrick Forrestal, Surinder Saggat, Dumsane T. Matse, Marta Alfaro and Enda Cummins..... **96**

**ROOM C – 2A26 LEVEL 2 - 13.30-15.00
INVITED SPEAKER**

ESM 2026 SESSION

Chair: Paul Stief, Arts et Métiers Inst. of Techn., LCFC, Metz, France



ESM_INV_03

A Inherently Discrete-Time SIS of Epidemic Model Spread in a Heterogeneous Population with a Health Function projecting a Closed Unite Interval into Itself

Marcin Choński.....**19**

Wednesday, 21st October 2026

15.00 - 15.30

COFFEE BREAK - MEETING AREA IN ENIM MAIN HALL

15.30 - 17.30

ROOM A – 1A10 LEVEL 1- 15.30-17.30 ESM2026 SESSION ANALYTICAL AND NUMERICAL TECHNIQUES II

Chair: Sophie Hennequin, UNIV. de Lorraine, ENIM, LCFC, Metz, France

ANMT_05

Influence of Selected IFPIES Parameters on Solutions in the Domain

Andrzej Kuźelewski and Eugeniusz Zieniuk 40

ANMT_06

**Efficient 2D Elastoplastic Analysis using PIES with Global TELLES
Transformation for handling weakly Singular Domain Integrals**

Agnieszka Boltuć and Eugeniusz Zieniuk 46

ANMT_08

**A SIS–Type Continuous-Time Model of Tuberculosis Spread in a Heterogeneous
Population with a Linear and a Bilinear Transmission Function**

Marcin Choński and Sylwia Stachowiak 61

SIM_TEL_01_ONL

**Advanced Modeling and Algorithmic Techniques for Self-Similar IP Network
Traffic Simulation and Performance Evaluation**

Izabella V. Lokshina and Cees J. M. Lanting 54

ROOM B – 1A11 LEVEL 1 - 15.30-17.00 ESM2026 SESSION

LARGE LANGUAGE MODELS

Chair: Peter Mitic, UCL, London, United Kingdom

SIM_AI_17_NEUR

**Dynamic Super-Resolution Strategy for Efficient Scene Text Legibility
Classification**

Seweryn Kalisz, Michał Marczyk and Rafał Fagas 145

SIM_AI_18

**Cross-Lingual Agreement between Text and Speech Emotion Recognition:
Towards Robust Multimodal Perception in Social Robots**

Kamil Skowroński, Adam Galuszka and Eryka Probiez 153

Wednesday, 21st October 2026

SIM_METH_13

Exploring OODA Loops through Categorical Formalisation and Executable Aspect Semantics

Ian Oliver and Pekka Kuure..... 161

ROOM C – 2A26 LEVEL 2 - 15.30-18.00

ESM 2026 SESSION

SIMULATION IN LOGISTICS

Chair: Daniel Roy, Univ. de Lorraine, ENIM, LCFC, Metz, France

SIM_METH_01

Modelling of Potential Symbiosis Networks based on a Fuzzy Cognitive Map: A Nigeria Case

Adegoke Adesanmi, Daniel Roy and Sophie Hennequin..... 283

SIM_LOGIS_03

GRADES – A New Graph-Based System Dynamics and Discrete Event Simulation for Business Sector Supply Chains: Part 1: Agriculture

Asharab A. Haider, Johannes A. Koller, Alison Moldovan-Mauer and Dirk Beinert..... 286

SIM_METH_10

Tackling Transaction Data Scarcity with a Multi-Paradigm Simulation Approach for Supply Chain Networks

Asharab A. Haider, Johannes A. Koller, Alison Moldovan-Mauer and Dirk Beinert..... 290

SIM_TOOLS_01

Ontology-based Market Agents: Towards a Dynamic Instantiation of Supply Chain Simulations

Lasse Hammer, Andreas Schäfer, Patrick Westphal, Lorenz Bühmann, Minu Lee, Arlena Wellßow and Eric MSP Veith 300

SIM_QUEUE_01_ONL

Simulation and Facility Layout Design for Intelligent Management in Fast Food Restaurants: Reducing Service Times and Maximizing of Operational Efficiency through Discrete-Event Simulation

Esteban Chuquillanqui-Mantari and Rodolfo Chávez-Castillo 307

18.30 - 19.30 SOCIAL PROGRAMME – CITY VISIT



A guided city tour is scheduled from 18h30 to 19h30

Thursday, 22nd October 2026

REGISTRATION

08.30 - 17.00

REGISTRATION ENIM MAIN HALL

09.00 - 10.00

**ROOM A – ENIM AUDITORIUM LEVEL 0 – 09.00-10.00 KEYNOTE
KEYNOTE**

Chair: Daniel Roy, Univ. de Lorraine, ENIM, LCFC, Metz, France



ESM_GAME_ON_KEY_02

**[Beyond LLMs: Structured World Models via Difference of
Convex functions Algorithm](#)**

[Prof. LE THI Hoai An](#), Membre Sénior de l'IUF, Université de
Lorraine, Metz, France

10.00 - 10.30

COFFEE BREAK - MEETING AREA IN ENIM MAIN HALL

10.30 - 12.30

**ROOM A – 1A10 LEVEL 1- 10.30-12.00 ESM 2026 SESSION
OPTIMIZATION METHODOLOGY**

Chair: Jean-Yves Dantan, Arts et Métiers Inst.Tec., LCFC, Metz, France

MONTE_CARLO_01

Robust Set-Based Design by Monte-Carlo Simulation and Decision Tree

Jean-Yves Dantan 81

SIM_OP_04_ONL

**Direct Versus Indirect Methods in Singular optimal Control: A Structural
Benchmark**

[Mariusz Bodzioch](#) 71

Sessions - Thursday

Thursday, 22nd October 2026

SIM_OP_06_ONL

Gradient-Based Switching-Time Optimization for Singular Optimal Control: Locality, Admissibility and PMP Diagnostics

Mariusz Bodzioch 77

ROOM B – 1A11 LEVEL 1 - 15.30-17.00

ESM2026 SESSION

MACHINE LEARNING

Chair: Tian Zhang, Arts et Métiers Inst. of Techn., LCFC, Metz, France

SIM_AI_01

A Machine Learning Approach for Decision Support in Infertility Risk Assessment

Dawid Zamojski, Adam Pudelko, Emilia Morawiec, Anna Bednarska-Czerwinska and Michal Marczyk 119

SIM_METH_05_AGENT_ONL

Multi-Agent Simulation of Phishing using a Metamodel Integrating Machine Learning for Detection

Moussa Koïta, Mohamed Y. Maize and Oumar Y. Maïga 125

SIM_METH_05_AGENT_ONL

Sequential Linearization for Physics-Informed Extreme Learning Machines: A Benchmark-Motivated Fix for Nonlinear PDE Failures

Karol Struniawski 132

SIM_METH_08_HPCN_ONL

Physics-Informed Extreme Learning Machines for Steady-State Amplified Spontaneous Emission: A Feasibility Study

Karol Struniawski 132

ROOM C – 2A26 LEVEL 2 - 10.30-12.30

ESM 2026 SESSION

SIMULATION IN SMART MANUFACTURING

Chair: Paul Stief, Arts et Métiers Inst. of Techn., LCFC, Metz, France

SIM_SMART_MANUF_01

Towards Smart Industry: A Modular Framework for Adaptive Monitoring of WAAM Systems

Soukaina Sadiki, Sandra Chevret, Paul Stief and Alexandre Sava 265

SIM_SMART_MANUF_02

Scalability Assessment of Reconfigurable Manufacturing Systems under New Product Integration

Leila Khalili Doost Maklavani, Paul Stief, Jean-Yves Dantan and Nathalie Klement 269

Thursday, 22nd October 2026

SIM_SMART_MANUF_06

Vision-Language Models in Smart Industry: Benchmarking OVOD Architectures for Real-World Deployment

Tomasz Strzoda 273

SIM_SMART_MANUF_04

Industry 5.0 in Production Management Courses: Integration of Operator's Well-Being using Simulation-Based Decision-Making

Jelena Petronijevic, Tian Zhang, Alain Etienne, Jean-Yves Dantan and Ali Siadat 278

12.30 - 13.30

LUNCH BREAK

13.30 - 15.00

ROOM A – 1A10 LEVEL 1- 13.30-15.00
WORKSHOP

GAMEON 2026 SESSION

Chair: Philippe Geril, ETI-EUROSIS, Ostend, Belgium



WRK_01_GAME_ONL

Evaluating the Player Experience: A Hands-On Workshop in Heuristic Evaluation and the RITE Method

Mónica Aresta.....5

ROOM B – 1A11 LEVEL 1 - 13.30-15.00
INVITED SPEAKER

ESM2026 SESSION

Chair: Tian Zhang, Arts et Métiers Inst. of Techn., LCFC, Metz, France



INV_02

[Sentiment and Reputation: a New Paradigm](#)

Peter Mitic, UCL, London, United Kingdom

Thursday, 22nd October 2026

ROOM C – 2A26 LEVEL 2 - 13.30-15.00

ESM 2026 SESSION

INVITED SPEAKER

Chair: Jelena Petronijevic, Arts & Métiers Inst.Tec., LCFC, Metz, France



INV_01

[Multi-Method Simulation Software AnyLogic. Current Features and Road Map](#)

[Vladimir Koltchanov](#), Anylogic, Avon-Fontainebleau, France

15.00 - 15.30

COFFEE BREAK - MEETING AREA IN ENIM MAIN HALL

15.30 - 18.00

ROOM A – L226 - 15.30-18.00

GAME-ON '2026 SESSION

PLAYER INTERACTION AND GAME DESIGN

Chair: Philippe Geril, EUROSIS-ETI, Ostend, Belgium

GAME_DES_04_ONL

Player Agency and the Structural Discord of the Hero's Journey in Interactive Media

[Barbaros Bostan](#) and Ahmet Ozan Apaydin **11**

GAME_DES_06

Analyzing Player Engagement in Action Role Playing Games using STEAM Achievements and User Reviews

[Z. Volkan Hacitahiroğulları](#), Çakır Aker and H. Kutay Tinç **15**

GAME_DES_01

Brutalism of Control

Güven Çatak and [Server Z. Masalcı](#) **23**

GAME_DES_03

Gaming over Quic: An Empirical Evaluation of Transport Protocols in Multiplayer Voxel Games

[Mike Vandersanden](#), Dries Coenen, Joris Herbots, Wim Lamotte and Peter Quax **31**

Thursday, 22nd October 2026

GAME_DES_08_VR_ONL

Design and Development of an Immersive Virtual Reality System for Executive Control Training in Children with ADHD

Aihua Cao, Li Zheng, Peilin Li, Tingting Ma and Mei Si..... 37

ROOM B – 1A11 LEVEL 1 - 15.30-17.30

ESM2026 SESSION

PARALLEL COMPUTING AND ENGINEERING SIMULATION

Chair: Alexander Sava, Arts et Métiers Inst. of Tec., LCFC, Metz, France

SIM_PRED_01

A Design-Time Archetype Lens for HLA Object Models

Okan Topçu 171

HPCN_01

Beyond Single Stream Testing: A Large-Scale Statistical Evaluation of Modern Pseudo-Random Number Generators

Théau Wartel, Loïc Yon, David R.C.Hill and Benjamin Antunes.....176

SIM_AI_03_ENERG

Learning Strategy for XGBOOST Based Energy Consumption Forecasting of an Injection Molding Machine

Mohammed Charraoui, Rosa Abbou, Alexandre Sava and Julien Launay.....211

SIM_METH_04_ROB

A Three Degree of Freedom Mathematical Model Representing the Apparent Mass and Fore-and-Aft Cross Axis Apparent Mass of the Human Body exposed to Vertical Vibration

Naser Nawayseh.....219

ROOM C – 2A26 LEVEL 2 - 15.30-18.00

ESM 2026 SESSION

EMERGENCY MANAGEMENT SIMULATION

Chair: Eric Veith, OFFIS, Oldenburg, Germany

SIM_AI_15_EMERG

Potential of Artificial Intelligence in Scenario Creation in the Context of Simulations and Training in Disaster Management

Daniel Chovanec, Jozef Ristvej, Jozef Kubás and Vladimír Andrassy 313

SIM_METH_11_EMERG_ONL

A Multi-Sector Network Model for Assessing Critical Infrastructure Resilience

Piotr Stapor and Ryszard Antkiewicz..... 318

Sessions - Thursday

Thursday, 22nd October 2026

SIM_EMERG_03_ONL
Optimisation and Stochastic Simulation Methods to Reduce Uncertainty in Assessing the Impact of EDT on Military Operations
 Andrzej Najgebauer, Ryszard Antkiewicz, Sławomir Wojciechowski
 and Dawid Maślanik 326

SIM_AGENT_03
When Wildfire Breaks the Grid: A Validated Extreme-Event Testbed for Infrastructure Resilience
Eric M.S.P. Veith and Vivian Sultan.....332

SIM-ENERG_03
Mapping the Next Line of Wildfire Defense: GIS-Based REFCL Prioritization in Southern California
Vivian Sultan, Eric MSP Veith, Aristotle Ochoa and Carlos Rodriguez..... 340

19.30 - 22.30

CONFERENCE DINNER



From 20.00 p.m to 23.00 p.m.
 The conference dinner will be held
 on **Thursday the 22nd of October** in the evening at
La Reserve – Restaurant a Metz,
sous les voûtes de 1559
 5 Avenue Ney
 57000 Metz, France
 📞 Tel: **+33 3 87 17 17 17**
Website:
<https://www.lareserve-metz.com/>

Friday, 23rd October 2026

REGISTRATION

09.00 – 09.30

REGISTRATION ENIM MAIN HALL

09.00 - 10.00

ROOM A – ENIM AUDITORIUM LEVEL 0 – 09.00-10.00 KEYNOTE
KEYNOTE

Chairs: Daniel Roy, Univ. de Lorraine, ENIM, LCFC, Metz, France



KEY_03

[Multiscale Numerical Simulation for Steelmaking
Process Decarbonization and Optimization](#)

[Rémi Bonidal](#), ArcelorMittal, Maizières les metz, France

10.00 - 10.30

COFFEE BREAK - MEETING AREA IN ENIM MAIN HALL

10.30 - 12.00

ROOM A – 1A10 LEVEL 1- 13.30-15.00 ESM' 2026 SESSION
AI IN SIMULATION

Chair: Joël Colloc, Université of Le Havre, Le Havre, France

SIM_AI_07_ONL

How a Small Fine-Tuned Model can rival a Large General-Purpose Model
in Culinary Tasks

Jan K. Krajewski, Aleksandra Hinc, Leszek J. Chmielewski

and [Arkadiusz Orłowski](#).....101

SIM_AI_08

Set Transformer for Bundle Recommendation: Modeling Bundles as Sets

[Suman Kumar](#), Aakash Swami and Siddhartha Sarkar 106

Friday, 23rd October 2026

SIM_AI-10_ONL

Conservative Simulation-Guided Design Exploration using Uncertainty-Aware Graph Neural Network Surrogates

Pancho Dachkinov 111

ROOM B – 1A11 LEVEL 1 - 10.30-12.00

ESM2026 SESSION

MAN-IN-THE-LOOP SIMULATION

Chair: Tian Zhang, Arts et Métiers Inst. of Techn., LCFC, Metz, France

SIM_CYBER_01

Towards Social Automation: Mathematical Modelling, Simulation and Control of Human Centric Systems

Eryka Probiez 229

SIM_AGENT_04

Mixed-Model Simulation to Enable Human-Aware Decision-Making in Reconfigurable Manufacturing Systems

Tian Zhang, Jelena Petronijevic, Maroua Ratby, Mustapha Douache, Rémy Balland and Némó Grandidier 234

SIM_AGENT_06

Agent-Based Simulation of Human Robot Interaction in Assisted Living Environments: Trust, Emotion and Adaptive Robot Behaviour

Eryka Probiez, Anita Gałuszka, Adam Gałuszka and Kamil Skowroński 242

ROOM C – 2A26 LEVEL 2 - 10.30-12.00

ESM 2026 SESSION

BACK-UP SESSION

Chair: To be announced

This session is for participants who were unable to present at the allotted time. Updates will be posted during the conference

POSTER PRESENTATION DURING THE CONFERENCE

SIM_LOGIS_01

Pathplanning in Dynamic Environments

Matthias Becker and Joel Lienhard 187

Friday, 23rd October 2026

12.00 - 12.15

**ROOM A – L226 - 12.00-12.15 ESM'2026 – GAME-ON'2026 SESSION
CLOSING SESSION**

Chair: Daniel Roy, Université de Lorraine, LCFC, Metz, France

ESM[®]'2026 – GAME-ON[®]'2026 Closing Session and Best Paper Award

FOR POST CONFERENCE VISIT PARTICIPANTS ONLY

12.15 - 13.15

LUNCH BREAK – AND MEETING AREA

13.15-15.00

POST CONFERENCE VISIT

Sessions - Friday

ESM[®]'2027- GAME-ON[®]'2027

ESM[®]'2027

GAME-ON[®]'2027

Proposals for workshops, special tracks, exhibitions etc. can be sent in by
December 1, 2026 to Philippe.Geril@eurosis.org

Conference Site Map

How to reach Metz by TGV



Conference Site Map

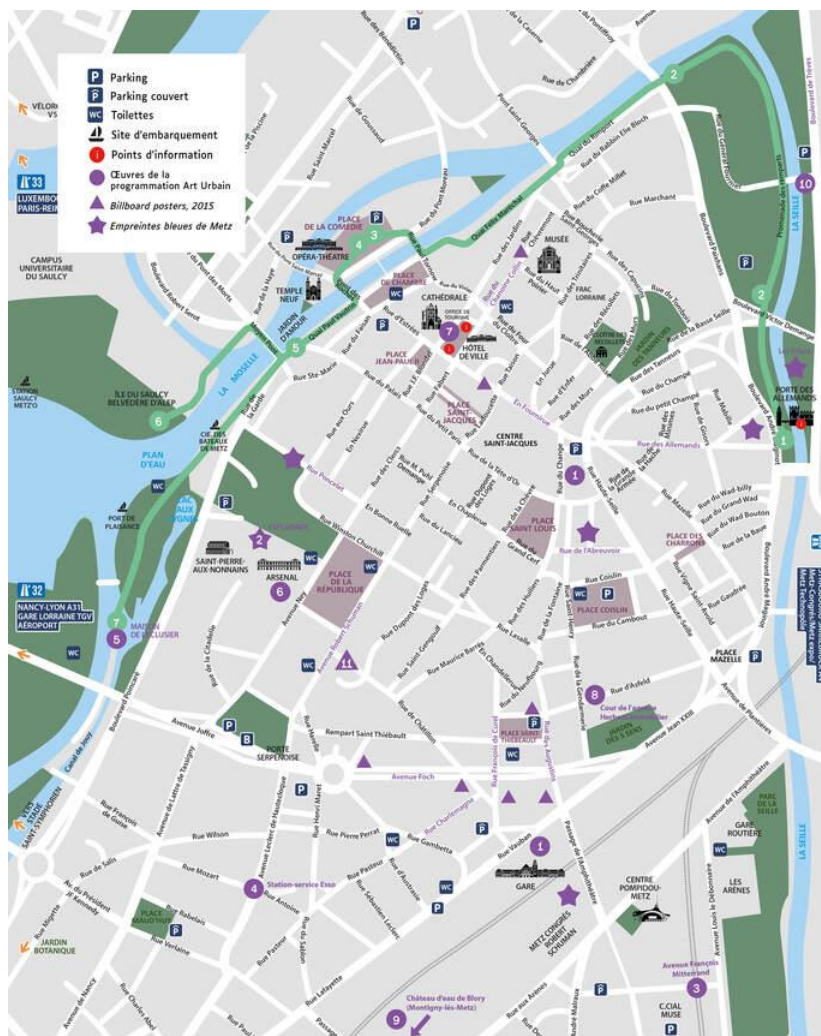
Conference Site Map

Metz City Centre Maps



A full scale copy of the map above can be downloaded from

<https://www.tourisme-metz.com/en/planning-your-trip/brochures-to-download>



La Reserve: Conference Dinner location is at nr 6 above

Conference Site Map

Conference Venue Map



**All ESM®'2026 -GAME-ON®'2026 PRESENTATIONS WILL BE HELD
AT THE ENIM BUILDING
1 Route d'Ars Laquenexy
F-57070 Metz**

Conference Site Map

NOTES

ESM®'2026- GAME-ON®'2026 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): ☐ HOME ☐ BUSINESS		
STREET		
CITY		
ZIPCODE	COUNTRY	
TELEPHONE	FAX	
E-MAIL		
DATE	SIGNATURE	
1. ☐ EUROSIS member € 600 Member Number: _____		€ _____
2. ☐ Members of Sponsor or Affiliate Society € 600		€ _____
3. ☐ Non-Member Participant € 655		€ _____
4. ☐ Student Participant € 480		€ _____
5. ☐ Students, <u>who are not authors</u> but who wish to attend the conference, or ONE DAY PARTICIPANTS pay: € 380		€ _____
(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.		
6. ☐ Tutorial registration ONLY - €30 (students) Or €80 (non students)/ per tutorial		€ _____
6. ☐ Conference Dinner Ticket for Companion € 80 ☐ Lunch Ticket for Companion € 25/day		€ _____
7. ☐ Extra Conference Proceedings € 60 Cash and Carry (plus 6% VAT)		€ _____
VAT Number if applicable: _____		
TOTAL AMOUNT DUE		€ _____
TOTAL AMOUNT REMITTED		€ _____

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

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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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