

Final Program



22-24 May 2013

Organized by



Sponsored by



eurosis



Contents

General Information	4
Badges.....	4
Best Paper Award.....	6
Conference Location	4
Conference Proceedings	5
How to get there	4
Internet Connection	5
Meeting Rooms.....	5
Need Help?	5
Paper Legend	6
Registration.....	4
Social Event and Lunches	5
Tickets.....	4
Quick Program Overview.....	8
Welcome Address.....	11
Scientific Program	11
Wednesday, May 22.....	11
Thursday, May 23.....	15
Friday, May 24	19
ISC'2014	21
Conference Location	22
Notes.....	23
Registration Form	24

General Information

1.1 Conference Location

The Conference itself is held at



the Faculty of Engineering
Architecture
Ghent University
Jozef Plateaustraat 22,
B-9000 Gent

The meeting rooms are the Plateauroom, Auditorium B and Auditorium D, respectively on the ground floor and first floor of the building.. Registration will start on Wednesday at 8.30 a.m. till 5.00 p.m. On Thursday it will be from 8.30 a.m. - 5.00 p.m. with Friday registration only from 9.00 a.m.- 09.30. a.m.

ALL 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)

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.**

conference dinner:	€ 55
lunch	€ 25

1.4 Registration

The ISC'2013 Registration Desk will be open for information and registration:

Wednesday, May 228.30 a.m. to 5.00 p. m.
Thursday, May 238.30 a.m. to 5.00 p. m.
Friday, May 249.00 a.m. to 9.30 a.m.

General Information

1.5 Conference Proceedings

Each fully paid registrant will be provided with a copy of the Conference Proceedings (printed format). (Extra copies are available on a **cash and carry** basis at special rates during ISC-2013)

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

ISC'2013 Proceedings	€ 50
Other Proceedings –see price list at desk	

Other Proceedings can be ordered using the forms available at the conference.

1.6 Meeting Rooms

The meeting rooms are the Plateauroom (keynotes), Auditorium B (room A) and Auditorium D (Room B). Directions to the room will be signposted.

1.7 Internet Connection

There is full free WIFI at the conference site.

1.8 Need Help?

Please see the conference desk for your questions

1.9 Social Events and Lunches

All registrants are invited:

To the **Coffee Breaks** for the 2 ½ days which will be served just outside the University in Het Salon, Sint-Pietersnieuwstraat 194. Ghent

To the **lunches** for 2 days which will be served at



De Vooruit
Sint-Pietersnieuwstraat 23
9000 Gent.
☎ Tel: 09.267.28.28
(just round the corner of the conference venue)
As de Vooruit is celebrating its centenary and for this reason all lunches will be based on 100 year old recipes.

General Information

To the **Conference Dinner**



The conference dinner will be held on the 23rd of May in the evening at the Universiteit Gent

Het Pand
Onderbergen 1
9000 Gent

Tel: 09 264 83 05

Fax: 09 264 83 96

We will meet at the entrance of the restaurant at 19.30 p.m

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 ISC'2013 conference. The best paper candidate receives a certificate signed by the General Conference and Program Chairs and also a free registration to any EUROSIS conference within 2 years of receipt of the prize.

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 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

General Information

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

WEDNESDAY, 22nd MAY 2013

08.30-17.00	REGISTRATION	
09.00-09.15	OPENING SESSION	
09.15-10.00	KEYNOTE ADDRESS BY HENDRIK VANMAELE- PLATEAUZAAL	
10.00-10.30	COFFEE BREAK	
10.30-12.30	SESSIONS	
	ROOM A	ROOM B
	MANAGEMENT SIMULATION	SIMULATION IN ENGINEERING I
12.30-14.00	LUNCH BREAK	
14.00-15.00	SESSIONS	
	ROOM A	ROOM B
	WASTE MANAGEMENT SIMULATION	SIMULATION IN ENGINEERING II
15.00-15.30	COFFEE BREAK	
15.30-16.30	SESSIONS	
	ROOM A	ROOM B
	MANUFACTURING SIMULATION	TRAFFIC SIMULATION

FREE EVENING**THURSDAY, 23rd JUNE 2013**

08.30-17.00	REGISTRATION	
09.00-10.00	KEYNOTE SPEECH MATTHIAS KLUMPP – PLATEAUZAAL	
10.00-10.30	COFFEE BREAK	
10.30-12.30	SESSIONS	
	ROOM A	ROOM B
	PRODUCTION OPTIMIZATION	SUPPLY CHAIN SIMULATION
12.30-14.00	LUNCH BREAK	
14.00-15.00	SESSIONS	
	ROOM A	ROOM B
	ELECTRONICS SIMULATION I	LOGISTICS SIMULATION
15.00-15.30	COFFEE BREAK	
15.30-17.00	SESSIONS	
	ROOM A	ROOM B
	ELECTRONICS SIMULATION II	ISC'2014 ORGANIZATIONAL MEETING
19.30 – 22.30	CONFERENCE DINNER.	

FRIDAY, 24th MAY 2013					
09.00-09.30	REGISTRATION				
09.00 10.00	KEYNOTE SPEECH NICOLAE VASILIU – PLATEAUZAAL				
10.00-10.30	COFFEE BREAK				
10.30 12.00	SESSION				
	<table border="1"> <tr> <td>ROOM A</td> <td>ROOM B</td> </tr> <tr> <td>AGV SIMULATION</td> <td>BACK-UP SESSION</td> </tr> </table>	ROOM A	ROOM B	AGV SIMULATION	BACK-UP SESSION
ROOM A	ROOM B				
AGV SIMULATION	BACK-UP SESSION				
12.00-12.15	CLOSING SESSION AND BEST PAPER AWARD – ROOM A				

Wednesday, 22nd May 2013

HALLWAY

Registration

08.30 - 17.00

PLATEAU ROOM

09.00 – 09.15

KEYNOTE

Opening ISC2013 and Welcome

Welcome Address

Veronique Limère, Ghent University of Technology, Ghent, Belgium
ISC'2013, General Conference Chair

El-Houssaine Aghezzaf, Ghent University of Technology, Ghent, Belgium
ISC'2013, General Program Chair

09.15 – 10.00

KEYNOTE SPEECH

Chair: El-Houssaine Aghezzaf, Ghent University, Ghent, Belgium



[Simulation in the boardroom : industrial footprint optimization](#)

Prof. [Hendrik Vanmaele](#), Mobius Consulting, Ghent, Belgium

Welcome

Wednesday, 22nd May 2013

10.00 - 10.30
COFFEE BREAK

10.30 – 12.30

ROOM A-10.30-12.00 **MGMT**
MANAGEMENT SIMULATION
Chair: Jan Studzinski, Polish Academy of Sciences, Warsaw, Poland

AI_02
Simulation Gaming and Natural Language Processing for Modelling Stakeholder Behavior in Energy Investments
A. Ittoo, N.B. Szirbik G.B. Huitema and J.C. Wortmann **23**

METH_03_TEL
Hybrid Simulation of Mobile Business Processes
Stefan Hellfeld **28**

HEALTH_03
How Two Management Engineers and a Simulation Software can support the Organization of a New Surgical Pre-Admission Unit
Giorgio Romanin-Jacur and Federico Segala..... **34**

ROOM B-10.30-12.30 **ENGIN**
SIMULATION IN ENGINEERING I
Chair: Janos Janosy Sebestyen, EK, Budapest, Hungary

MULTI_03
Development and Evaluation of an Order-N Formulation for Multi-Flexible Body Space System
Tushar Ghosh and Leslie J.Quiocho **51**

TOOLS_01
Industrial Simulation in Fluid Power Systems by SIMULINK and AMESIM
Daniela Vasiliu, Georgiana Claudia Vasiliu, Nicolae Vasiliu and Petru-Cristinel Irimia **59**

ENGIN_05
Thermal Modeling of a Battery Package used on Road Vehicle Powertrain
Valerian Croitorescu, Jan Anthonis and Nicolae Vasiliu **67**

Wednesday, 22nd May 2013

ENGIN_07

Numerical Simulation and Experimental Validation of the transients from High Head Hydropower Plants

Radu Puhalschi, Marius Mitroi, Constantin Călinoiu and Nicolae Vasiliu..... 75

12.30 - 14.00

LUNCH BREAK

14.00 – 15.00

ROOM A- 14.00-15.00

MGMT

WASTE MANAGEMENT SIMULATION

Chair: A. Ittoo, University of Groningen, Groningen, The Netherlands

AI_04

Planning Revitalization Sewerage Systems using Decision Rules of Fuzzy Logic

Agnieszka Służalec and Andrzej Ziółkowski 39

OPT_03

Using Optimization Approaches for Modeling, Control and Management of Water Networks

Jan Studzinski 44

ROOM B- 14.00-15.00

MGMT

SIMULATION IN ENGINEERING II

Chair: Valerian Croitorescu, University POLITEHNICA, Bucharest, Bucharest, Romania

ENGIN_10

Lifetime Evaluation of the Mechanical Elements for Hydraulic Turbines by Numerical Simulation

Constantin Drăgoi, Vlad Florin Pîrăianu and Petru-Cristinel Irimia 83

ENERG_01

Modelling Building Effects on Atmospheric Dispersion Comparison between ADMS and ANSYS CFD

Claudia Gheorghe (Nicolici), Ilie Prisecaru, Stefan Nicolici and Radu M.Bilegan 88

Sessions - Wednesday

Wednesday, 22nd May 2013

**15.00 - 15.30
COFFEE BREAK**

15.30 - 16.30

ROOM A- 15.30-16.30 **MANUF**
MANUFACTURING SIMULATION
Chair: Giorgio Romanin-Jacur, University of Padova, Padova, Italy

MANUF_01
Simulation of a Winding Production Unit for the Supply Automation of Bobbins
Brahmadeep and Sébastien Thomassey **127**

MANUF_04
Impact of Industrial Sorting on various Pistachio Categories in link with Aflatoxin Contamination thanks to a Monte Carlo Simulation
Nathalie Wesolek, Alejandra Ramirez-Martinez and Alain-Claude Roudot..... **132**

ROOM B- 15.30-16.30 **TRAF**
TRAFFIC SIMULATION
Chair: El-Houssaine Aghezzaf, Ghent University, Ghent, Belgium

TRAF_05
Analysis of Possible Speedup of the Microscopic Road Traffic Simulation using Aggregate Movement of Vehicles
Tomas Potuzak..... **235**

TRAF_01
Microscopic Simulation of Multimodal Urban Traffic Network
Ivana Čavar, Marjana Petrović and Miroslav Vujić **240**

FREE EVENING

Thursday, 23rd May 2013

HALLWAY

Registration

08.30 - 17.00

09.00 – 10.00

KEYNOTE SPEECH

Chair: Veronique Limère, Ghent University, Ghent, Belgium



Knowledge Simulation and Return on Education in the Logistics Industry
Matthias Klumpp..... 5

10.00 - 10.30

COFFEE BREAK

10.30 - 12.30

ROOM A- 10.30-12.30

MANUF

PRODUCTION OPTIMIZATION

Chair: Rodrigo Rezende Amaral, Ghent University, Ghent, Belgium

OPT_01

Using Shewhart Control Charts for Continuous Model Optimization

Rodrigo Rezende Amaral, Peter Ottoy and Veronique Limère 139

ENGIN_03

**Database-Driven 3D Simulation: a Method Specification using the UML
Metamodel**

Martin Hoppen, Michael Schluse and Juergen Rossmann 147

Sessions - Thursday

Thursday, 23rd May 2013

METH_07

Simulation System for Linear Cutting Plans

Ovidiu-Dorin Alupei-Cojocariu, Nicolae Vasiliu and Szilard Feher 155

MANUF_02

Automotive Production Location Cost Optimization with Productivity and Sustainability Constraints

Matthias Klumpp and Viktor Kuchshaus 160

ROOM B- 10.30-12.30

LOGIS

SUPPLY CHAIN SIMULATION

Chair: Veronique Limère, Ghent University, Ghent, Belgium

LOGIS_12

Sectioned Walking Worker Lines with Loop Balancing

Leif Pehrsson, Amos H.C. Ng, Jacob Bernedixen and David Stockton 187

LOGIS_05

A Scalable Agent Based Decision Support System: Case Manufacturing Supply Chain

Lauri Lättilä and Samuli Kortelainen 198

LOGIS_07

Estimating the Cost Structure of Wood Chip Supply Chains: A Simulation Approach

Lauri Lättilä, Kalle Karttunen, Olli-Jussi Korpinen, Jarno Föhr and Tapio Ranta 203

LOGIS_14

Generic Simulation Model for Assembly Line Supply

Veronique Limère, Kurt Decock and El-Houssaine Aghezzaf 192

12.30 - 14.00

LUNCH BREAK

14.00 - 15.00

Thursday, 23rd May 2013

ROOM A- 14.00-15.00

ELEC

ELECTRONIC NETWORKS SIMULATION I

Chair: Izabella Lokshina, SUNY Oneonta, Oneonta, USA

METH_05

Improving Performance Prediction of Parallel and Distributed Discrete Event Simulation: A Rough Sets Based Approach

László Muka and István Derka 95

TEL_04

Testing The Speed up of Parallel Discrete Event Simulation in Heterogeneous Execution Environments

Gábor Lencse and István Derka 101

ROOM B- 14.00-15.00

LOGIS

LOGISTICS SIMULATION I

Chair: Veronique Limère, Ghent University, Ghent, Belgium

LOGIS_09

A Framework for Discrete Event Simulation of Pick Up and Delivery Problems

Anna Syberfeldt 219

LOGIS_10

Simulation Optimization of Waste Collection Based on Ultrasonic Level Measurements

Anna Syberfeldt 227

15.00 - 15.30

COFFEE BREAK

15.30 – 17.00

ROOM A- 15.30-17.00

ELEC

ELECTRONIC NETWORKS SIMULATION II

Chair: Lazslo Muka, Elassy Consulting Ltd, Budapest, Hungary

TEL_02_COMPLEX

Algorithms for Accelerated Rare Event Simulation with Markov Chain Modelling in Communication Networks

Izabella Lokshina and Evan Schiele 108

Sessions - Thursday

Thursday, 23rd May 2013

ENGIN_04

Supervising Cathodic Protected Nets with CI-based Methods

Matthias Reuter 114

LOGIS_04

Time Response of Operating Systems simulated by Load Balancing in Gridsim

Peter Kvasnica, Igor Kvasnica and Rozmarína Dubovská..... 119

ROOM B- 15.30-16.30

ISC'2014

ISC'2014 ORGANIZATIONAL MEETING

Chair: Philippe Geril, EUROSIS, Ostend, Belgium


This meeting is open to all ISC'2013 participants who are interested in being part of the organization group for ISC'2014


CONFERENCE DINNER – 19.30-22.30



The conference dinner will be held on the 23rd of May in the evening at the Universiteit Gent

Het Pand
Onderbergen 1
9000 Gent

 Tel: 09 264 83 05

 Fax: 09 264 83 96

We will meet at the entrance of Het Pand at 19.30 p.m

Friday, 24th May 2013

HALLWAY

Registration

09.00 - 09.30

09.00 – 10.00

KEYNOTE SPEECH

Chair: Veronique Limère, Ghent University, Ghent, Belgium



[Simulation of the Redundant Electrohydraulic Control Systems](#)

Professor Nicolae Vasiliu, "POLITEHNICA" University of Bucharest, Bucharest, Romania

10.00 - 10.30

COFFEE BREAK

10.30 - 12.00

ROOM A- 10.30-12.00

TRAF

AGV SIMULATION

Chair: Nicolae Vasiliu, POLITEHNICA University Bucharest, Bucharest, Romania

AI_01

Coupling of a Discrete Event Multi-Agent Simulation with a Real Time Multi-Agent Simulation

Christoph Schwarz, Jurij Schachmanow, Jürgen Sauer, Ludger Overmeyer and Georg Ullmann 165

LOGIS_11

Decision-Making in Conceptual AGV Systems Design using Simulation Based Optimization

Leif Pehrsson and Amos H.C. Ng 171

Sessions - Friday

Friday, 24th May 2013

TRAF_03

A Simulation Model using AMR Sensors Applied to Vehicles Classification and Identification

Ramón V. Cirilo Gimeno, Marta Pla Castells, Antonio García Celda and

Javier Martínez Plumé 177

ROOM B- 10.30-12.00

BACK-UP

BACK-UP SESSION

Chair: Philippe Geril, EUROSIS, Ostend, Belgium

This session is open to all ISC'2013 authors who through circumstances beyond their control were unable to present their paper in their allotted slot.

ROOM A- 12.00 - 12.15

BEST PAPER

CLOSING SESSION AND BEST PAPER AWARD

Chairs: Veronique Limère and El-Houssaine Aghezzaf, Ghent University, Ghent, Belgium

ISC'2014

**SEE YOU ALL
JUNE 11-13 FOR ISC'2014
Högskolan Skövde, Skövde, Sweden**



**Track proposals and tutorial proposals can be sent in
by August 30th, 2013 to philippe.geril@eurosis.org**

Other ISC Conferences from 2014 onwards

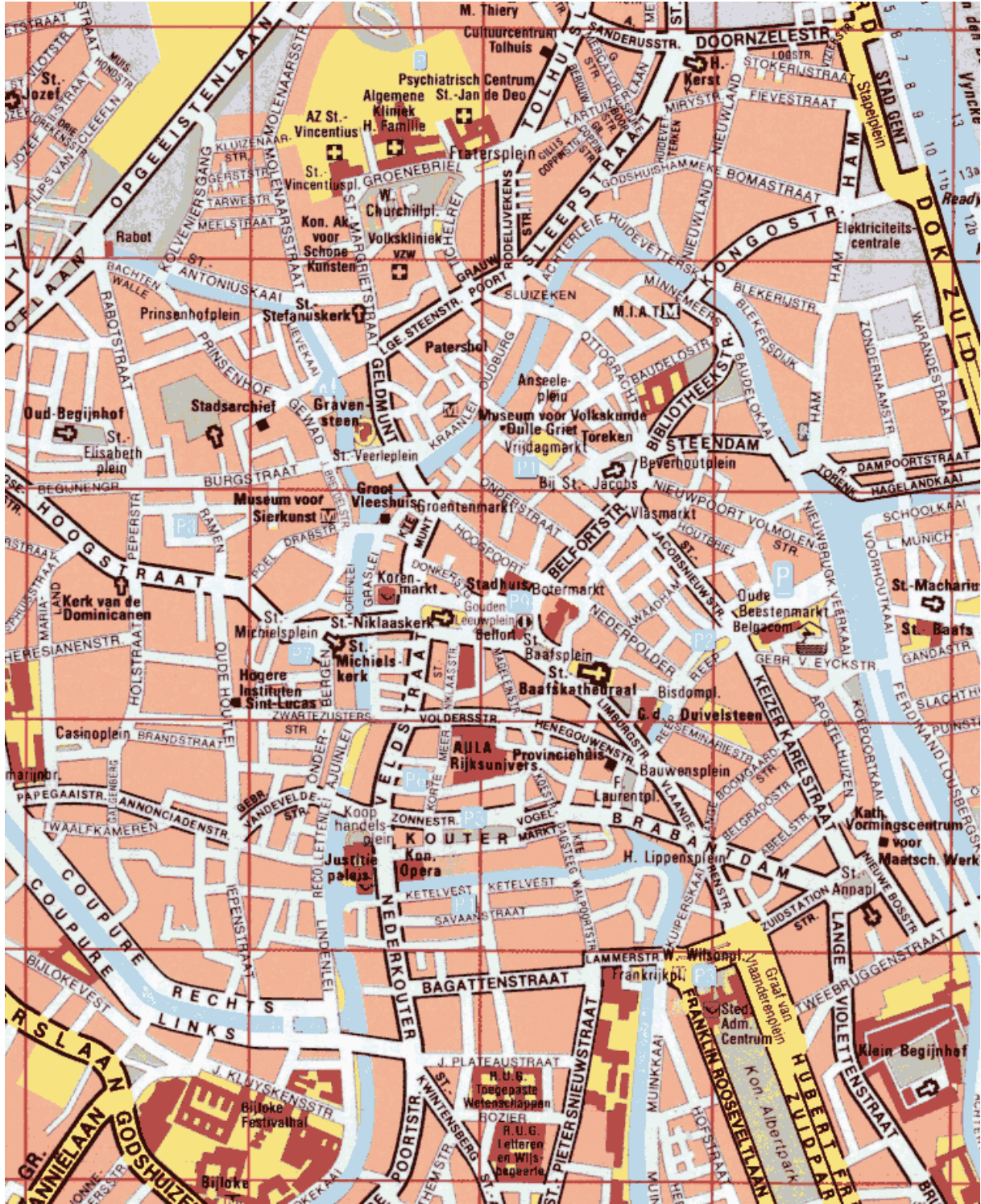
ISC'2015, June 2015, [St.Petersburg State Institute of Technology](#), St.Petersburg, Russia

ISC'2016, June 2016, POLITEHNICA University of Bucharest, Bucharest, Romania

ISC'2017, June 2017, Reykjavik, Iceland

If you are interested in hosting an ISC conference, just contact EUROSIS.

Conference Site Map



Venue in the J. Plateaustraat (Square 2 and 3 just above this text)

NOTES

ISC'2013 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 € 545 Member Number: _____		€ _____
2. <input type="checkbox"/> Members of Sponsor or Affiliate Society € 545		€ _____
3. <input type="checkbox"/> Non-Member Participant € 555		€ _____
4. <input type="checkbox"/> Students, <u>who are not authors</u> but who wish to attend the conference, or ONE DAY PARTICIPANTS pay: € 435		€ _____
(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.		
5. <input type="checkbox"/> Conference Dinner Ticket for Companion € 45 <input type="checkbox"/> Lunch Ticket for Companion € 25/day		€ _____
6. <input type="checkbox"/> Extra Conference Proceedings € 50 Cash and Carry		€ _____
VAT Number if applicable: _____		
TOTAL AMOUNT DUE		€ _____
ADD BELGIAN VAT OF 21% TO THE TOTAL (OBLIGATORY)		€ _____
ADD BANK CHARGE of € 15 in case you pay by BANK or CHEQUE.		€ _____
TOTAL AMOUNT REMITTED		€ _____

- [1] Make payment by **BANK TRANSFER** to account **IBAN CODE: BE03 0014 0814 7784** EUROPEAN TECHNOLOGY INSTITUTE, ETI Bvba, BNP PARIBAS FORTIS BANK, Torhoutsesteenweg 356, B-8400 Ostend, Belgium, **SWIFT CODE: GEBABEBB MENTION YOUR NAME and ISC'2013**
- [2] Or pay by **CHEQUE** and send it to Philippe Geril, EUROSIS-ETI, European Simulation Office, Greenbridge Science Park, Ghent University – Ostend Campus, Wetenschapspark 1, Plassendale 1, B-8400 Ostend, Belgium.
- [3] Or pay by **CREDIT CARD** and fill in the information below:
 Charge my (tick one): Visa Euro/Mastercard American Express Diners
 CARD NO: _____ : _____ : _____ : _____ EXP.DATE: ____ / ____

Authorizing Signature:

Print Signature in CAPITALS

eurosis

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
Greenbridge Science Park
Ghent University – Campus Ostend
Wetenschapspark 1
Plassendale 1.
B- 8400 Ostend, Belgium
 Tel: +32.59.255.330
 Fax: +32.59.255.339
 **Email: Philippe.Geril@eurosis.org**

Please send me info on EUROSIS:

Name:

Address:

.....

.....

Telephone.....

Fax:

Email: