Final Program


Organized by

EUROSIS

Co-Sponsored by
Contents

General Information ........................................................................................................... 4
Conference Location ......................................................................................................... 4
How to get there.................................................................................................................. 4
Badges ................................................................................................................................ 4
Tickets .................................................................................................................................. 4
Registration .......................................................................................................................... 5
Conference Proceedings ...................................................................................................... 5
Need Help? ............................................................................................................................. 5
Meeting Rooms .................................................................................................................... 6
Social Event and Lunches ..................................................................................................... 6
Best Paper Award .................................................................................................................. 6
Paper Legend ......................................................................................................................... 6

Quick Program Overview ................................................................................................... 7

Notes ..................................................................................................................................... 10

Scientific Program .............................................................................................................. 11

Monday, June 9 ..................................................................................................................... 11
Tuesday, June 10 .................................................................................................................... 20
Wednesday, June 11 ............................................................................................................. 27

Conference Locations ......................................................................................................... 30

EUROSIS Info ....................................................................................................................... 33
General Information

1. Conference Location

The Conference is being held at the UPV Universita Politecnica de Valencia, Camino de Vera s/n, Valencia, Spain.
The registration desk will be placed on the second floor at the UPV from Monday morning onwards, where registration will start. On Monday and Tuesday registration will be from 8.15 a.m. - 5.00 p.m. with Wednesday registration only from 8.30 a.m.- 9.00. a.m.

ALL MAPS ARE AT THE BACK OF THIS PROGRAMME

TRAVEL INFO

IBERIA, International Airlines of Spain
IFICINA IBERIA
C/ La Paz 14
46003 Valencia
Tel. 34 – 963 527 552 , 34 – 963 523 677
Fax: 34 – 963 520 677
www.iberia.es
Airport Manises – Valencia
Information Service, Phone.: 34 – 961 598 500
Information and Reservations. Serviberia Tel.- 902 400 500
Ticket Office in Valencia Centre.- Tel.- 92 463 52 75 52
Ticket Office at the Airport.- Tel.- 34 961 59 88 09
Distance from the airport to the city centre: 8,5 km

Estacion del norte (RENFE Euromed-Alaris)
C/ Jativa, 24 – 46007 Valencia
tel: 34 – 963 520 202
www.renfe.es

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.

3. Tickets

Extra tickets for the social event and lunches are available from the registration desk. Price: (or equivalent in another currency) for extra tickets

| conference dinner: | 50 EURO |
General Information

4. Registration
The ISC’2003 Registration Desk will be open for information and registration:

Monday, June 9......................... 8.15 a.m. to 5.00 p.m. on the 2nd Floor of UPV
Tuesday, June 10..................... 8.15 a.m. to 5.00 p.m. on the 2nd Floor of UPV
Wednesday, June 11............... 8.30 a.m. to 9.00 on the 2nd Floor of UPV

5. Conference Proceedings
Each fully paid registrant will be provided with a copy of the Conference Proceedings (printed format) **This is NOT applicable to students who are not authors.** (Extra copies, are available on a cash and carry basis at special rates during ISC’2003)

<table>
<thead>
<tr>
<th>Conference Proceedings</th>
<th>50 EURO</th>
</tr>
</thead>
</table>

6. Meeting Rooms
The meeting rooms are on the 2nd floor of the UPV with the exception of the auditorium used for the Keynote, which will be at ETSI Telecommunication.
Internet Room: Room Nr. 2.14 (ROOM-E)
Room 2.9 (ROOM-A)
Room 2.10 (except Tuesday Morning) (ROOM-B)
Room 2.11 (ROOM-C)
Room 2.13 (ROOM-D)
Corridor Exhibition

7. Need Help?
Please see the conference desk for your questions

8. Social Events and Lunches
**All registrants are invited to**
The get-together party on Monday June 9th at 6.00 p.m. at UPV
All lunches are served at the restaurant of the Galileo Galilei next to UPV

**The Conference Dinner**
All participants are invited to the conference dinner on Tuesday the 10th of June. As we need to give an exact number of participants we would appreciate **your confirmation at the desk before Monday evening**. The conference dinner will be held at the Escuela de Hosteleria. Participants will meet on the main square in Valencia at 8.00 p.m. (an exact plan will be posted at the registration desk)
General Information

9. Company Visit

A company visit is envisaged to **GRES DE NULES-KERABEN** which, is a Company dedicated to the manufacture and sale of floor and wall ceramic tiles. A solid company established in 1975 and located in the Valencia Region, one of the most highly developed industrial areas in Spain and Europe, with a staff of 700 workers. The turnover is currently 13,000 million pesetas (78.131 euros) and our accumulated growth over the last five years has been 85%. Since its creation this Group has held a leading position within this industry, basically thanks to the strict application of certain principles, which constitute the base of all our activity.

The bus for Keraben will leave UPV at 3.00 p.m. on Tuesday afternoon. The visit will start at 4.00 p.m.

a. **Best Paper Award**

During the conference the papers, which were accepted as extended papers will be judged by the committee in order to choose the best paper of the ISC’2003 conference.

b. **Paper Legend:**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>Overhead</td>
</tr>
<tr>
<td>SL</td>
<td>Slide Projector</td>
</tr>
<tr>
<td>LCD</td>
<td>Projector</td>
</tr>
<tr>
<td>VCR</td>
<td>Video</td>
</tr>
<tr>
<td>PC</td>
<td>PC</td>
</tr>
</tbody>
</table>

ALL SESSION CHAIRPERSONS IN THIS PROGRAM ARE PROVISIONAL

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

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

CHECK OUT THE OTHER EUROSIS EVENTS ON OUR WEBSITE:

### SUNDAY, 8th JUNE 2003

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.15-17.00</td>
<td>REGISTRATION</td>
</tr>
</tbody>
</table>

### MONDAY, 9th JUNE 2003

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.15-17.00</td>
<td>REGISTRATION</td>
</tr>
<tr>
<td>09.00-10.00</td>
<td>OPENING SESSION AND KEYNOTE SPEECH IN THE MAIN HALL</td>
</tr>
<tr>
<td>10.00-10.30</td>
<td>COFFEE BREAK</td>
</tr>
<tr>
<td>10.30-13.00</td>
<td>PARALLEL SESSIONS</td>
</tr>
</tbody>
</table>

#### ROOM A
- SIMULATION LANGUAGES AND TOOLS I

#### ROOM B
- SIMULATION IN ENGINEERING

#### ROOM C
- LOGISTICS SIMULATION

#### ROOM D
- TEXTILE PROCESSES

#### ROOM E
- INTERNET ROOM

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.00-14.00</td>
<td>LUNCH BREAK</td>
</tr>
<tr>
<td>14.00-15.30</td>
<td>PARALLEL SESSIONS</td>
</tr>
</tbody>
</table>

#### ROOM A
- ANALYSIS IN MANAGEMENT

#### ROOM B
- SIMULATION IN ELECTRONICS

#### ROOM C
- LOGISTICS ON THE FACTORY FLOOR

#### ROOM D
- MATERIALS

#### ROOM E
- INTERNET ROOM

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.30-16.00</td>
<td>COFFEE BREAK</td>
</tr>
<tr>
<td>16.00-18.00</td>
<td>PARALLEL SESSIONS</td>
</tr>
</tbody>
</table>

#### ROOM A
- SIMULATION METHODOLOGY

#### ROOM B
- AUTOMOTIVE SIMULATION

#### ROOM C
- MULTIBODY APPLICATIONS

#### ROOM D
- VIRTUAL TEXTILES I

#### ROOM E
- INTERNET ROOM

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.00</td>
<td>Get-together-Party</td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>08.30-17.00</td>
<td>REGISTRATION</td>
</tr>
<tr>
<td>09.00-10.00</td>
<td>PARALLEL SESSIONS</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>10.00-10.30</td>
<td>COFFEE BREAK</td>
</tr>
<tr>
<td>10.30-13.00</td>
<td>PARALLEL SESSIONS</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>13.00-14.00</td>
<td>LUNCH BREAK</td>
</tr>
<tr>
<td>14.00-15.30</td>
<td>PARALLEL SESSIONS</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>15.30-16.00</td>
<td>COFFEE BREAK</td>
</tr>
<tr>
<td>16.00-18.00</td>
<td>PARALLEL SESSIONS</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>20.00</td>
<td>CONFERENCE DINNER</td>
</tr>
</tbody>
</table>
**WEDNESDAY 11th JUNE 2003**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.30-10.00</td>
<td>REGISTRATION</td>
</tr>
<tr>
<td>09.00-10.00</td>
<td>PARALLEL SESSIONS</td>
</tr>
<tr>
<td></td>
<td>ROOM A</td>
</tr>
<tr>
<td></td>
<td>VERIFICATION</td>
</tr>
</tbody>
</table>
| 10.00-10.30 | COFFEE BREAK
| 10.30-12.00 | PARALLEL SESSIONS                            |
|           | ROOM A | ROOM B | ROOM C | ROOM D | ROOM E |
|           | METHODOLOGY LANGUAGES AND TOOLS II | ANALYSIS IN ENGINEERING | WORKSHOP |        | INTERNET ROOM |
| 12.00-12.15 | CLOSING SESSION AND BEST PAPER AWARD ROOM A |
NOTES
Monday, 9th June 2003

HALLWAY
Registration
08.15 - 17.00

MAIN HALL
09.00 - 09.15
Opening ISC2003 and Welcome

Welcome Address

Drs. Juan Carlos Guerri and Carlos Palau
UPV
ISC’2003, General Conference and Program Chairs

Philippe Geril
EUROSIS, Ghent University
EUROSIS Coordinator
Monday, 9\textsuperscript{th} June 2003

MAIN AUDITORIUM

09.15 - 10.00

KEYNOTE SPEECH

Chair: Juan Carlos Guerri, UPV, Valencia, Spain
Knowledge Discovery in Databases and Modelling, How do they fit together?
Danny F. Van Welden ........................................................................................................... 5

10.00 - 10.30

COFFEE BREAK
Monday, 9th June 2003

10.30 – 13.00

ROOM A- 10.30-13.00

METH
SIMULATION LANGUAGES AND TOOLS I
Chair: Danny Van Welden, Ghent University, Ghent, Belgium

TOOLS-3-O
First Year Science and Engineering Students can Model
John Miller .........................................................................................................................21

TOOLS-1
Tape Performance Measures Implemented in an Incident Management Model
R. Van Loock, F. Van Utterbeeck and H. Pastijn ................................................................. 24

TOOLS-2
Adding instrumentation Tools to the SMPL Discrete-Event Simulation Language
X. Molero, V. Santonja, J.A. Alegre and I. Torregrosa ....................................................... 28

METH-13
XML- based Modelling Language for Technical Networks
Alexei Lisounkin, Gerhard Schreck, Pedro Pablo Alacórn Cavero, Juan Garbajosa Sopeña and Agustín Yagüe Panadero ................................................................. 539

METH-6
Hardware in the Loop Simulation using Real-Time CD++
Lidan Li, Gabriel A. Wainer and Trevor Pearce ..................................................................... 38

ROOM B- 10.30-13.00

ENGIN
SIMULATION IN ENGINEERING
Chair: Carlos Palau, UPV, Valencia, Spain

ENGIN-1-ROBOT-LCD
Virtual Prototyping of a Domestic Robot for Design and Navigation Optimization
Marcos Fernández, Sergio Casas, Ana Martínez, Laura Nuñez, Dorleta Guzmán, David Villaverde and Joseba Landaluze ................................................................. 167

ENGIN-2
Teaching Construction Steps using VR
Gerardo Silvia Ghandia ........................................................................................................ 175
Monday, 9th June 2003

ENGIN-3-MULTI-O
Comparison of Open-Loop Stiffness Control Methods to suppress Self-Excitation Vibrations
Kanjuro Makihara and Horst Ecker ................................................................. 180

ENGIN-5
Modeling of the Worm Gearing with Concave Shape Turn
Rasheed Abdulatif Abdullah ........................................................................... 188

ENGIN-8
Computer Simulation of Complex Ship System Gas Turbine –Synchronous Generator
Ante Munitic, Mario Orsulic and Josko Dvornik ............................................. 192

ROOM C- 10.30-12.30
LOGIS SIMULATION
Chair: Quasim Mehdi, University of Wolverhampton, United Kingdom

LOGIS-1-DISTR
A Parallel Procedure for a Distributed Logistics Scheduling
Wilhelm Dangelmaier, Hubertus Franke and Peter Scheideler.......................... 233

LOGIS-2-LCD
Simulation of a Container Transport System Between Port and Inland Terminal Depots
Leire Maruri, Laura Nuñez, Ana Vidarte, José Manuel Ezquerra and Ana Martinez .......... 238

LOGIS-3
Scheduling and Program Agents Algorithms For E-Logistics
Anatoly Levchenkovs and Nadezhda Kunicina ............................................. 243

AGENT-1-LOGIS
Algorithm for Program Agents in E-Learning for solving Logistics Supply Chain Problems
Anatoly Levchenkovs and Iliia Smyshlaev ....................................................... 247

ROOM D- 10.30-12.30
TEX
TEXTILE PROCESSES I
Chair: Pascal Bruniaux, ENSAIT, France

TEX-3
Simulation and Control of Package Dyeing Process Based on a Mathematical Description of Dye Transfer through the Package
Renzo Shamey, Xiaoming Zhao and Marcus Vosoughi ......................................... 451
Monday, 9th June 2003

TEX-5-LCD
Modeling Dye Liquor Flow in Fabric Beam Dyeing and Yarn Package Dyeing
David Karst, Yiqi Yang and W. Alex Rapp ................................................................. 457

TEX-6-LCD
Dyeing Process Modeling for Polyester Micro Fibers
Keun Ho Park and Vladan Koncar .................................................................................. 462

TEX-17
Use of Discrete Simulation to design and manage an Industrial Dyeing Laboratory
Giorgio Romanin-Jacur ................................................................................................. 467

ROOM E- 10.30-13.00
INTERNET ROOM

13.00 - 14.00
LUNCH BREAK

14.00 – 15.30

ROOM A- 14.00-15.00
VERIFICATION
ANALYSIS IN MANAGEMENT
Chair: Danny Van Welden, Ghent University, Ghent, Belgium

AN-3
Setting and Analysis of Multiproduct Supplier Links managed by Kanban Using a Learning + Evolutionary Optimization
Anne-Lise Huyet and Jean-Luc Paris ........................................................................ 113

AN-4
Simultaneous Perturbation Stochastic Approximation to optimize Drug Management in Hospital
M. Albanese, A. Matta and T. Tolio ............................................................................... 118
Monday, 9th June 2003

ROOM B- 14.00-15.30  
ELECTRONICS
SIMULATION IN ELECTRONICS
Chair: Juan Carlos Guerri, UPV, Valencia, Spain

ELEC-1  
Crosstalk Analysis on Printed Circuit Board by means of Wavelets  
A.Kacha, F.Grenez, P.Dedoncker and K. Bennahammed  

ELEC-2-LCD  
Three Dimensional Modeling of Thermal Oxidation of Silicon by Means of the Finite Element Methods  
Christian Hollauer, Hajdin Ceric and Siegfried Selberherr  

ELEC-3-LCD  
Statistical Analysis for the Three-Dimensional Monte Carlo Simulation of Ion Implantation  
Robert Wittmann, Andreas Hössinger and Siegfried Selberherr  

ROOM C- 14.00-15.30  
LOGIS
LOGISTICS ON THE FACTORY FLOOR
Chair: Anatoly Levchenkov, University of Riga, Riga, Latvia

LOGIS-4  
Optimizing the Spare Parts Provisioning Plan for Radar Systems: An Approach through Process Simulation  
Marco Bassanini, Francesco Constantino, Giulia di Gravio and Ludovice Honorati  

LOGIS-8-O  
Modeling Logic of Simulation Generators for Lean Manufacturing  
Yang-Hua Lian and Hendrik Van Landeghem  

LOGIS-7  
On the Way to Simulate the Computerized Technical Systems  
Eugene Kindler, Ivan Křivý and Alain Tanguy
Monday, 9th June 2003

ROOM D- 14.00-15.30  TEX

MATERIALS
Chair: Vladan Koncar, ENSAIT, France

TEX-1
Geometrical Modelling of Woven and Knitted Fabrics for Technical Applications
Xiaogang Chen and Xuegong Ai ................................................................. 473

TEX-4
Fracture Toughness of Flock Fiber Reinforced Layered Composites
Yong K. Kim and Sunil Hoskote ................................................................. 477

TEX-12
Analysis on Textile Composite Cellular Structures for Specific Impact Deflection
Xincai Tan and Xiaogang Chen ................................................................. 483

ROOM E- 14.00-15.30  INTERNET

INTERNET ROOM

15.30 - 16.00
COFFEE BREAK

16.00 - 18.30

ROOM A- 16.00-18.00  METH

SIMULATION METHODOLOGY
Chair: John Miller, Champlain Regional College, Sainte-Foy, Canada

METH-7-LCD
Direct Optimisation for Simulation Based System Design
Petter Krus and Johan Andersson............................................................... 59
Monday, 9th June 2003

METH-10  
Applying Formal Methods to Software Reuse  
Zina Houhamdi .......................................................... 62

METH-11-LCD  
On the Use of Control Variates in the Simulation of Queues with Heavy Tailed Service  
Pablo Jesus Argibay-Losada, Andres Suarez-Gonzalez, Candido Lopez-Garcia, Raul Fernando Rodriguez-Rubio, Jose Carlos Lopez-Ardao and Diego Teijeiro-Ruiz ................................. 68

METH-12  
Compensation for Synthetic Aperture Sonar Motion Errors Using Autofocusing Technique – Simulation Results  
Tahseen Rafik .............................................................. 73

ROOM B- 16.00-18.30  
AUTO  
AUTOMOTIVE SIMULATION  
Chair: Ed Williams, Production Modeling Corp., Dearborn, USA

AUTO-1-O-LCD  
Continuous Simulation of Acceleration Performance of a Car equipped with an automatic Gearbox  
Olivier Verlinden, Georges Kouroussis, Calogero Conti, Joel Crappe and David Vercouter ............................................................... 201

AUTO-3-SL  
Simulation Verification of Fault Tolerant Brake-by-Wire System  
Petr Grillinger ............................................................ 206

AUTO-5-POS  
Computer Simulation of Seat Vibration Test and Design Optimization of a Vehicle Suspension Seat Using an Equivalent 1-D.O.F. Mass-Spring Damper Model  
Hoon Seok Byun, Sung –Nam Heo, Young-Hyu Choi, Joong-Ho Shin and Soo-Tae Kim ................................................................. 211

AUTO-9-LCD  
CAD-Based Ergonomics analyses in Motorcycle Design  
Sandro Barone and Alessandro Curcio ..................................... 217

AUTO-2-LCD  
Non-Structured Environment for Collision Detection and Obstacle Avoidance Algorithm Testing  
Marta C. Mora and Josep Tornero ........................................... 223
Monday, 9th June 2003

ROOM C - 16.00-18.00  
MULTIBODY SIMULATION  
Chair: Josep Tornero, UPV, Valencia, Spain

ROBOTICS

ROBOT-5  
Identification of Dynamical Parameters of Robotic Manipulators using Singular Value Decomposition  
Nader Nariman-Zadeh, Ahmad Bagheri and Mina Khoshnejad

ROBOT-8-O  
Hybrid Control for a Snakelike Robot  
Viorel Stoian

MULTI-1-O-LCD  
Simulation Based Experiment Design to Diagnose Faults of Railroad Wheelsets  
Zofia Kowalska

MULTI-2-O  
New Models for Fast Contact Force Computation  
Ignacio García, Marta Pla-Castells and Rafael J. Martínez

ROOM D - 16.00-17.30  
VIRTUAL TEXTILES I  
Chair: Pascal Bruniaux, ENSAIT, France

TEX

TEX-7  
Exploring the Nature of the Air Drawing of Polymer in the Melt Blowing Nonwoven Process via Numerical Simulations  
Ting Chen and Xiubao Huang

TEX-8-O-SL  
A System for the Virtual Design and Simulation of Garments  
Marzia Fontana, Caterina Rizzi and Umberto Cugini

TEX-18  
Real-time Visualization of Woven Textiles  
Neeharika Adabala, Nadia Magnenat-Thalmann and Guangzheng Fei

ROOM E - 16.00-18.00  
INTERNET

INTERNET ROOM
Tuesday, 10th June 2003

HALLWAY
Registration
08.15 - 17.00

09.00 – 10.00

ROOM A- 09.00-10.00
MANUFACTURING INTEGRATION I
Chair: Tim Baines, Cranfield University, Cranfield, United Kingdom

MANUF-10
Interface Data Model supporting Distributed Simulation
Y. Tina Lee, Yan Luo and Chuck McLean................................................................. 307

MANUF-5-O-LCD
A Class Library Conception for Manufacturing Systems
Carlos Alberto Bertotto, Flávio Rech Wagner and Carlos Eduardo Pereira.............. 312

ROOM B- 09.00-10.00
CHEMICAL ENGINEERING MANAGEMENT
Chair: to be announced later

CHEM

PETROL-1-LCD
Simulation of Rubber Moulding Using Finite Element Modelling
Vahid Nassehi and Babar Ali................................................................................ 341

PETROL-3
Optimization of Transfer and Storage Operations in Refineries
Antonio Eduardo Matsuno Ramos, Lúcia Valéria Ramos de Arruda and Flávio Neves Jr.,............................................................................................................. 346

ROOM C- 09.00-10.00
LOGISTICS AND TRAFFIC SIMULATION
Chair: Ana Pajares, UPV, Valencia, Spain

LOGIS

LOGIS-5
The Use of Aggregate Approach for simulation of Logistics Systems
Henrikas Pranevicius.................................................................................................. 271
Tuesday, 10th June 2003

LOGIS-6-O
Simulation Method of the Public Logistics Center Localization in Poznan City
Eugenia Narbutowicz and Waldemar Walerjańczyk .......................................................... 276

ROOM D- 09.00-10.00
EUROSIS, MOSAIC AND EU-GAMESRESEARCH
Chair: Philippe Geril, Ghent University, Ghent, Belgium

This session will give the participants an introduction to EUROSIS and an overview of the MOSAIC and EU-GAMESRESERACH projects

ROOM E- 09.00-10.00
INTERNET ROOM

10.00 - 10.30
COFFEE BREAK

10.30 - 13.00

ROOM A- 10.30-13.00
MANUFACTURING INTEGRATION II
Chair: John Miller, Champlain Regional College, Sainte-Foy, Canada

MANUF-2
The Integration of Manufacturing Execution System and Product and Enterprise Resource Planning in the Logistic Chain
Mounir Benaissa, Abdelatif Benabdelhafid and Adel Alimi .................................................. 317

COMPLEX-3-LCD
Modeling and Simulation of a Pilot Scale Milk Pasteurization Unit
Ben Griffin and Tom O'Maloney ................................................................................................ 321

MANUF-4
Human Performance Modelling within Assembly Line Simulations
Tim Baines, Linda Hadfield, Steve Mason, John M Kay and John Ladbrook .................... 326
Tuesday, 10th June 2003

MANUF-8
Visual Simulation in Manufacturing Management: Some Observations
Peter Lawrence................................................................. 331

ENGIN-4-MANUF
System Dynamics Continuous Computer Simulation Model of Shipbuilding Process
Ante Munitic, Josko Dvornik and Slavko Simundic................................. 336

ROOM B- 10.30-13.00
SIMULATION IN ROBOTICS
Chair: Josep Tornero, UPV, Valencia, Spain

ROBOTICS

ROBOT-2-LCD
Geometric Parallel Parking Planner for Car-Like Vehicles
Luis Gracia and Josep Tornero.................................................... 357

ROBOT-3-LCD
Multi-Rate Line Tracking for Mobile Robots based on Artificial Vision and Odometry
Leopoldo Armesto, Luis Gracia and Josep Tornero............................ 362

ROBOT-4-LCD
Real-Time Application for Car Like Vehicles Based on Can Bus
Leopoldo Armesto, Santiago Fuster, Francisco Jiménez and Josep Tornero........ 367

ROBOT-6-STUDENT-LCD
Real-Time Simulation of an Inspection Robot with a Commercial Physics Engine
Jan Andries Neuhöfer....................................................................... 375

ROBOT-7-O-LCD
Ruling Robots by the Activity Patterns of Hierachical SOMs
Matthias Reuter........................................................................... 380

ROOM C- 10.30-12.30
AEROSPACE & TRAF
AEROSPACE APPLICATIONS AND TRAIN SIMULATION
Chair: Philippe Geril, Ghent University, Ghent, Belgium

AIR-1-SL-LCD
Bridges in HLA Distributed Simulations
Benoît Bréholée and Pierre Siron.................................................... 413
Tuesday, 10th June 2003

AIR-2
Genetic Algorithm for Scheduling Aircraft Landing
Mohamed Baccouche, Jaouad Boukachour and Abdellatif Benabdellahafid ......................... 418

TRAF-2
Simplifying Sensitivity Analysis in Subway Control
Felisa J. Vazquez-Abad and Lourdes Zubieta ........................................................................ 423

TRAF-4
More Punctuality in Regional Traffic: Introduction of Computer Aided Rescheduling with REGIDISP on a South German Regional Railway
Wilfried Koch .......................................................................................................................... 429

ROOM D- 10.30-12.30
COMPLEX SYSTEMS SIMULATION
Chair: Quasim Mehdi, University of Wolverhampton, United Kingdom

COMPLEX-1-O
Complex Selecting Criteria Modeling with Colored Petri Nets
Enrique Arjona and Graciela Bueno ....................................................................................... 125

COMPLEX-4
Simulation of Hybrid Systems Using Open Petri Nets
Stanislovas Bartkevicius, Vidmantas Macerauskas and Kastytis Sarkauskas ......................... 131

METH-4
Methods of Conceptual Synthesis of Dynamic Models for Complex Systems
Vladimir Putilov, Andrey Oleynik and Andrey Gorokhov ................................................... 136

COMPLEX-5-O
Visual Representation of Enhanced Sand Pile Models
Marta Pla-Castells, Ignacio Garcia and Rafael J. Martinez ..................................................... 141

ROOM E- 10.30-13.00
INTERNET

INTERNET ROOM

13.00 - 14.00
LUNCH BREAK
Tuesday, 10\textsuperscript{th} June 2003

14.00 - 15.30

ROOM A - 14.00-15.30
TUTORIAL
Modeling and Simulation of Complex Cell Spaces
Gabriel A. Wainer, Department of Systems and Computer Engineering, Carleton University, Ottawa, ON.

ROOM B - 14.00-16.00
COMPANY VISIT
A company visit is envisaged to Gres-de-Nules Keraben. This visit is limited to 50 participants

ROOM C - 14.00-15.00
ROAD TRAFFIC AND PORT SIMULATION
Chair: Carlos Palau, UPV, Valencia, Spain

AUTO-4-O
Numerical Simulation of the Aerodynamic Interference in Traffic Flow
Marek Maciejewski and Wojciech Osmólski

TRAF-5
An Approach to Mathematical Modelling the Port of Seville
Maria-José Aracil, José-Ignacio Castillo and Lourdes López-Valpuesta

ROOM D - 14.00-15.30
VIRTUAL TEXTILES II
Chair: Vladan Koncar, ENSAIT, France

TEX-9-LCD
Modeling New Product Development in the Textile and Apparel Industry
Balamurugan S Ramanan, Padmini S Hands and Samuel C. Winchester

TEX-11
CAD/CAM for Cellular Woven Fabrics with Trapezoid Cross-sectional Shapes
Xiaogang Chen, Hongxia Wang and Hongxia Zhang

TEX-14-LCD
Traction model - A Methodological Approach
Pascal Bruniaux and Jean-Marc. Castelain
Tuesday, 10th June 2003

ROOM E- 14.00-15.30
INTERNET ROOM

15.30 - 16.00
COFFEE BREAK

16.00 - 18.00

ROOM A- 16.00-18.00
MANUF
MANUFACTURING PERFORMANCE SIMULATION
Chair: Alexei Lisounkin, Fraunhofer Institute, Berlin, Germany

AUTO-6-O
Improvement of Throughput and Resource Utilization in an Automotive Stamping Plant
Edward J. Williams and Marcelo Zottolo ................................................................. 285

MANUF-3-O
Modular Design and Simulation Based Verification of the Logic Control Code for an Agile Shoe Manufacturing System
Emanuele Carpanzano and Andrea Cataldo................................................................. 290

MANUF-1-O
Production Based Profitability Simulations in Paper Mills
John Fogelholm ............................................................................................................. 295

MANUF-16
Performance Enhancement using an Expert Mechanism in a Manufacturing Simulator
Hablom Mebrahtu, Rob Walker and Tony Mileham .................................................. 299

ROOM C- 16.00-17.00
ROUNDTABLE
THE FUTURE OF INDUSTRIAL COMPUTER SIMULATION
Chair: Quasim Mehdi, University of Wolverhampton, United Kingdom

ROOM D- 16.00-17.00
EXHIBIT
Participants are invited to visit the ad-hoc exhibits
Tuesday, 10th June 2003

ROOM E- 14.00-15.30
INTERNET ROOM

INTERNET

CONFERENCE DINNER at 8.00 p.m.
All participants will meet at a designated point, which will be indicated at the conference desk.

The conference dinner itself is held at the Escuela de Hosteleria
Wednesday, 11th June 2003

HALLWAY
Registration
08.30 - 09.00

09.00 – 10.00

ROOM A- 09.00-10.00
VERIFICATION AND ANALYSIS
Chair: Jean-Luc Paris, INSEAD, Fontainebleau, France

VERIF-1-O-LCD
Towards Multi-Criteria Decision support for Modelling and Simulation
Eshan Rajabally, John Dalton, Pratyush Sen and Steve Whittle

VERIF-2
Logic and Hybrid Formal Verification Techniques for Process Plant Control: A Case Study
Luca Ferrarini, Claudio Maffezzoni and Francesco Schiavo

ROOM B- 09.00-10.00
BACK-UP SESSION
Chair: to be announced later

This session is set up for those authors who could not present their papers in the allocated time-slots.

ROOM C- 09.00-10.00
PROJECTS
Chair: Philippe Geril, Ghent University, Ghent, Belgium

This session is set up for those authors who have projects for which they are looking for partners or which they would like to see proposed as EU projects

ROOM E- 09.00-10.00
INTERNET ROOM
Wednesday, 11\textsuperscript{th} June 2003

10.00 - 10.30
COFFEE BREAK

10.30 - 12.00

ROOM A- 10.30-12.00
METH
METHODOLOGY LANGUAGES AND TOOLS II
Chair: Gabriel Wainer, Carleton University, Ottawa, Canada

METH-5-LCD
Distributed process Simulations Using OPC: A Case Study
Raúl Alves, Julio E. Normey-Rico, Alejandro Merino, Luis Felipe Acebes
and Cesar de Prada ........................................................................................................ 43

METH-15-O
Inducing Parameters of a Decision Tree for Expert System Shell McESE by Genetic
Algorithm
I. Bruha and F. Franek .................................................................................................. 48

METH-2-LCD
The Thermoptim Software Package
Nicolas Bus and Renaud Gicquel .................................................................................. 53

ROOM B- 10.30-12.00
ANALYSIS
ANALYSIS IN ENGINEERING
Chair: Jean-Luc Paris, INSEAD, Fontainebleau, France

AN-7
A Case Study on Comparative Eco-balances for Coating Materials with Epoxidised
Derivatives
Jorge Marx Gómez, Jana Görmer and Chaouki Khatib ............................................. 99

AN-6
Simultaneous Perturbation Stochastic Approximation for Real-time Optimization of
Model Predictive Control
Irina Baltcheva, Felisa J.Vazquez-Abad, Smaranda Cristea and Cesar De Prada .......... 533

AN-2-O-LCD
Analysis of new Proposals for Parallel Application based Discrete-Event Simulation
Angel Perles, Xavier Molero, Antonio Marti and Juan Jose Serrano .......................... 103
Wednesday, 11th June 2003

ROOM C- 10.30-12.00
WORKSHOP ON HUMAN PERFORMANCE MODELLING
Chair: Tim Baines, Cranfield University, Cranfield, United Kingdom

Manufacturing companies need an understanding of worker behaviour to design systems. System modelling can be an invaluable aid to improving organisational design. Current modelling tools however, do not properly represent people and variations in their performance. This is especially the case with manufacturing system design, where computer-based simulation tools are frequently used as aids within organisational improvement programmes. This ‘gap’ in modelling capability is a serious limitation, and one which the HPM-net [http://www.hpm-net.org] has been set up to research. Many opportunities exist for exploitation both inside and outside manufacturing, but many challenges remain. The workshop is designed to understand current thinking and stimulate strategic research directions surrounding the Human Performance Modelling. Our work on HPM and the network would be presented.

ROOM E- 10.30-12.00
INTERNET ROOM

ROOM A 12.00 - 12.15
BEST PAPER
CLOSING SESSION AND BEST PAPER AWARD
Chair: Juan Carlos Guerri and Philippe Geril

SEE YOU ALL
NEXT JUNE AT ISC’2004
IN MALAGA, SPAIN
Plan of the UPV
Valencia City Centre
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 the new Society will be 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, EU-GAMENET etc…

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

Philippe Geril
EUROSIS-SIM CENTRE
Ghent University
Coupure Links 653
B-9000 Ghent, Belgium
Tel: +32.9.233.77.90
Fax: +32.9.223.49.41
Email: Philippe.Geril@rug.ac.be

Please send me info on EUROSIS:
Name: ...........................................................................................................................
Address:......................................................................................................................
.......................................................................................................................................
......................................................................................................................................
Telephone....................................................................................................................
Fax:...............................................................................................................................
Email: ...........................................................................................................................