Final Program

ESS'2001

18-20. October 2001
Hotel Mercure Marseille Centre, Marseille

Organized by

EUROPE

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General Information

1. Conference Location

The Conference is being held at the Hotel Mercure Marseille Euro-Centre, Rue Neuve Saint Martin, Marseille, France. Tel: +33.4.96.17.22.22 Fax: +33.4.96.17.22.33
The registration desk will be placed in the hallway on the ground floor on the Wednesday afternoon and will be on the first floor from Thursday morning onwards.. Registration will start on Wednesday, October 17, at 3.30 p.m. and on Thursday and Friday from 8.15 a.m. - 5.00 p.m. with Saturday registration only from 8.30 a.m.-10.00. a.m.

ALL MAPS ARE AT THE BACK OF THIS PROGRAMME

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:	**30 EURO**	

4.Registration

The ESS'2001 Registration Desk will be open for information and registration:

Wednesday, October 17 ..... 3.00 p.m. to 5.30 p. m. on the Ground Floor
Thursday, October 18 ..... 8.15 a.m. to 5.00 p. m. on the 1st Floor
Friday, October 19..... 8.15 a.m. to 5.00 p. m. on the 1st Floor
Saturday, October 20 ..... 8.30 a.m. to 10.00 on the 1st Floor

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 ESS'2001)

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

ESS'2001 Proceedings	**100 EURO**	**675 FF**
Other books & CD's	see desk	see desk

6. Meeting Rooms

The meeting rooms are on the 1st floor of the hotel.
Presentations in Room A are Methodology papers
Presentations in Room B are Application Papers
Presnetations in Room C are on Transport, Bondgraphs and Neural Networks
Presentations in Room D are on Ecology
Presentations in Room E are on DEVS
Presentations in Room F feature presentations on Agents and on Saturday presentations on Transport and on Methodology

Rooms A and B will be available after the keynotes. They are the main hall split in two.

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 Wednesday October 17th at 5.30 p.m. at the hotel
All **lunches** are served at the restaurant of the Hotel Mercure
The Conference Dinner
All participants are invited to the conference dinner on Thursday the 18th of October. As we need to give an exact number of participants we would appreciate **your confirmation at the desk before Wednesday evening**. The address can be found in the programme

General Information

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 ESS'2001 conference.

b. Paper Legend:

O= Overhead
SL= Slide Projector
LCD= Projector
VCR= Video
PC= PC

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 SCS EVENTS ON OUR WEBSITE:

http://hobbes.rug.ac.be/~scs

And

http://www.scs-europe.org

WEDNESDAY, 17th OCTOBER 2001

15.00-17.30	REGISTRATION
17.45-19.00	WELCOME PARTY

THURSDAY, 18th OCTOBER 2001

08.15-17.30	REGISTRATION					
09.00-10.00	OPENING SESSION AND KEYNOTE SPEECHES IN THE MAIN HALL					
10.45-11.15	COFFEE BREAK					
11.15-12.45	PARALLEL SESSIONS					
	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E	ROOM F
	SIMULATION METHODOLOGY I	SIMULATION AND CONTROL I	SUPPLY CHAIN AND LOGISTICS SIMULATION I	VEGETATION AND ENVIRONMENT SIMULATION	TUTORIAL I INTRO TO DEVS	BOND GRAPH SIMULATION METHODOLOGY
12.45-14.00	LUNCH BREAK					
14.00-15.30	PARALLEL SESSIONS					
	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E	ROOM F
	SIMULATION METHODOLOGY II	EVALUATION FORECAST-ING AND MONITORING SIMULATION I	SUPPLY CHAIN AND LOGISTICS SIMULATION II	ECOLOGY AND MULTIAGENT SYSTEMS I	TUTORIAL II MODELLING AND SIMULATION OF HYBRID SYSTEMS	MULTI-ELEMENT MODELLING
15.30-16.00	COFFEE BREAK					
16.00-18.30	PARALLEL SESSIONS					
	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E	ROOM F
	SIMULATION TOOLS	PRODUCTION PROCESS PLANNING	TRANSPORT EVALUATION AND OPTIMIZATION SIMULATION	DISEASE AND INFECTION SIMULATION	MODELLING METHODOLOGY I	INDUSTRIAL MODELLING I

20.00 CONFERENCE DINNER

FRIDAY, 20th OCTOBER 2001

08.15-17.00	REGISTRATION					
08.30-10.00	PARALLEL SESSIONS					
	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E	ROOM F
	DISCRETE EVENT SIMULATION I	SIMULATION AND CONTROL II	BACK-UP SESSION	VEGETATION AND ENVIRONMENT SIMULATION	TUTORIAL III DEVS IN SIMULATION AND CONTROL	MODELLING AND SIMULATION OF SOCIO-TECHNICAL SYSTEMS
10.00-10.30	COFFEE BREAK					
10.30-12.30	PARALLEL SESSIONS					
	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E	ROOM F
	DISCRETE EVENT SIMULATION II	SIMULATION ON THE FACTORY FLOOR	INDUSTRIAL MODELLING WITH BOND GRAPHS	MATHEMATI-CAL MODELLING	DEVS MODELLING ENVIRON-MENTS I	SOCIAL MODELLING AND SIMULATION
12.30-14.00	LUNCH BREAK					
13.30-15.30	PARALLEL SESSIONS					
	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E	ROOM F
	PARALLEL AND DISTRIBUTED SIMULATION I	SIMULATION IN ELECTRONICS	NEURAL NETWORKS METHODO-LOGY	VR FOR ECOLOGY	DEVS APPLICATIONS	MODELLING AND SIMULATION OF TRANSPORT AND SUPPLY CHAINS
15.30-16.00	COFFEE BREAK					
16.00-19.00	PARALLEL SESSIONS					
	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E	ROOM F
	PARALLEL AND DISTRIBUTED SIMULATION II	MECHANICAL SIMULATION	NEURAL NETWORKS APPLICATIONS	SIMULATION AND VR	URBAN MULTI-MODAL TRANSPORT SIMULATION	MODELLING AND SIMULATION OF MANUFACTU-RING SYSTEMS
	FREE EVENING					

SATURDAY 20th OCTOBER 2001						
08.30-10.00	REGISTRATION					
08.30 10.00	PARALLEL SESSIONS					
	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E	ROOM F
	FAULT DETECTION	BACK-UP SESSION	EVALUATION, FORECASTING AND MONITORING SIMULATION II	ECOLOGY AND POLUTION SIMULATION	DEVS MODELLING ENVIRON-MENTS II	URBAN MULTIMODAL TRANSPORT SIMULATION II
10.00-10.30	COFFEE BREAK					
10.30 13.00	PARALLEL SESSIONS					
	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E	ROOM F
	APPLIED SIMULATION TECHNIQUES	SIMULATION CASE STUDIES	EVALUATION, FORECASTING AND MONITORING SIMULATION III	ECOSYSTEM MANAGEMENT MODELLING AND SIMULATION	DEVS MODELLING METHODOLOGY II	MULTIBODY SIMULATION
13.15-13.30	CLOSING SESSION AND BEST PAPER AWARD ROOM E					
13.30- 14.30	LUNCH BREAK					
14.30 - 18.00	ROOM A	ROOM B	ROOM C	ROOM D	ROOM E	ROOM F
			SCS MEETING			DEVS STANDARDIZATION MEETING

Get-Together-Party Wednesday

Wednesday, 17th October 2001

HALLWAY

Registration

15.00 - 17.30

17.45 - 19.00

ESS'2001 GET-TOGETHER-PARTY

Thursday, 18th October 2001

HALLWAY

Registration

08.15 - 17.30

MAIN HALL

09.00 - 09.15

Opening ESS2001 and Welcome

Welcome Address

Dr. Norbert Giambiasi
DIAM-IUSPIM
ESS'2001, General Conference Chair

Dr. Claudia Frydman
DIAM-IUSPIM
ESS'2001 General Program Chair

Dr. Alexander Verbraeck
Delft University of Technology
SCS ESS Conference Coordinator

Thursday, 18th October 2001

MAIN HALL

09.15 - 10.00

KEYNOTE SPEECH

Chair: Norbert Giambiasi, DIAM-IUSPIM, Marseille, France

A New Era in Complex Information Technology System Design: Bootstrapping Modelling and Simulation with FPGA-Based Hardware Synthesis

Sumit Ghosh

10.00 - 10.45

KEYNOTE SPEECH

Chair: Norbert Giambiasi, DIAM-IUSPIM, Marseille, France

Simulating Autonomous Agents with Augmented Reality

Erol Gelenbe, Khaled Hussain and Varol Kaptan

10.45 - 11.15
COFFEE BREAK

Thursday, 18th October 2001

11.15 – 12.45

ROOM A- 11.15-12.45 METH
SIMULATION METHODOLOGY I
Chair: Claudia Frydman, DIAM-IUSPIM, Marseille Cedex, France

METH-3-O
Genetic Identification of Structured Systems (GISS)
César Zamilpa, Claude Baron, Jean-Claude Geffroy **7**

METH-14-O
A Conceptual Approach to Non-Linear Identification and Modeling Based on Expert Systems
Kirill Chernyshov **12**

METH-16
Reuse Oriented Prototyping Methodologies for Systems on Chips
M.Robert, L.Torres G.Sassatelli and G.Cambon **17**

ROOM B- 11.15-12.45 APP
SIMULATION AND CONTROL I
Chair: to be announced later

APP-6
Application of the B-BAC methodology to the LabView-Based Virtual Controller
Jacek Czeczot **197**

APP-9
Simulation Based Evaluation of PI, PFC and GMC Control for Electric Heater
Piotr Laszczyk **202**

APP-28-O
Modular Testing of Logic Control Functions with Matlab
Emanuele Carpanzano, Luca Ferrarini and Claudio Maffezzoni **206**

Thursday, 18th October 2001

ROOM C- 11.15-12.45 TRANS

SUPPLY CHAIN AND LOGISTICS SIMULATION I

Chair: Agostino Bruzzone, Univ.of Genoa, Genoa, Italy

TRANS-6-O
Belt-Conveyor-Systems Motion Control Simulation
Ingo Biermann, Volkmar Müller, Rolf Schönfeld, Uwe Heuer and Boris Rathmann **407**

TRANS-2
Supply Chain Management in Connection with Simulation and Optimization
W.Krug, J. Liebelt and B.Baumbach **412**

TRANS-17-O
Modeling and Performance Evaluation of Supply Chain with Batch Deterministic and Stochastic/Petri Nets
H.Chen, L.Amodeo and F.Chu **415**

ROOM D- 11.15-12.45 ECO

VEGETATION AND ENVIRONMENT SIMULATION I

Chair: Philippe Laval, CNRS, Villefranche sur Me, France

ECO-16-LCD
Towards a Coupling of Continuous and Discrete Formalisms in Ecological Modelling Influences of the Choice of Algorithms on Results
Raphael Duboz, Eric Ramat and Philippe Preux **481**

ECO-22-O
Simulation of Routines of Power System Manager's Decision effecting the Natural Environment
Eugeniusz M.Sroczan and Andrzej Urbaniak **488**

STUDENT-1-ECO-O-LCD
The Use of a Case-Based Reasoning Method for Designing Estuarine Models
Sara Passone **493**

Thursday, 18th October 2001

ROOM E- 11.15-12.45 DEVS
DEVS TUTORIAL I

DEVS-TUT-I
An Introduction to the DEVS Formalism
Tag Gon Kim

ROOM F- 11.15-12.45 BOND
BONDGRAPH METHODOLOGY
Chair: Jacques LeFevre, Ecole Centrale Lille, Villeneuve d'Ascq, France

BOND-6
Sensitivity Function Determination on a Bond Graph Model
Casimir Sié Kam and Geneviève Dauphin-Tanguy **735**

BOND-12
Determination of Flat Output of Linear Bond Graph Model
M. Maligorne, C. Sueur and G. Dauphin-Tanguy **740**

BOND-9-O
Bond Graphs in a Behavioral Context
Peter J. Gawthrop **745**

12.45 - 14.00
LUNCH BREAK

14.00 – 15.30

ROOM A- 14.00-15.30 METH
SIMULATION METHODOLOGY II
Chair: Bernard Espinasse, DIAM-IUSPIM, Marseille, France

METH-31-O
Oscillation Analysis in Winding Mechanisms actuated by Rotating Frictional Drum
Mohammed A. Alnawafleh **20**

Thursday, 18th October 2001

AGENT-25-METH-O
Real-Time Simulation of PH-Process for Comparative Evaluation of PI, GMC and FPC Algorithms
Krzysztof Stebel 25

METH-26
Variables and Equations in Hybrid Systems with Structural Changes
D.A. van Beek 30

ROOM B- 14.00-15.30 APP
EVALUATION, FORECASTING AND MONITORING SIMULATION I
Chair: Richard Zobel, Manchester University, Manchester, UK

APP-23
Simulation of an Harvester Production System
Wolfgang Kuhn 247

APP-10-O
An Optimal Policy for Supply Planning of Assembly Systems with Service Level Constraint
Mohamed Aly Ould-Louly and Alexandre Dolgui 250

APP-3-TRANS
Evaluation of Machine Shop Logistic Alternatives using Simulation
Edward J.Williams, Dean Darwactor and Lisa Shorkey 255

ROOM C- 14.00-15.30 TRANS
SUPPLY CHAIN AND LOGISTICS SIMULATION II
Chair: Agostino Bruzzone, University of Genoa, Genoa, Italy

TRANS-18-O
An Instructive Example for Pitfalls in Simulation of Logistic Networks
Markus Arns and Falko Bause 420

TRANS-21-O
Model Based Training Methodology in Logistics Information Systems
Leonid Novitski, Egils Ginters and Yuri Merkuryev 424

TRANS-1-APP
An Integer Linear Model for General Arc Routing Problems
Philippe Lacomme, Christian Prins and Wahiba Ramdane-Cherif 427

Thursday, 18th October 2001

ROOM D- 14.00-15.30 ECO
ECOLOGY AND MULTI-AGENT SYSTEMS
Chair: Patrick Coquillard, Univ.de Clermont Ferrand, France

ECO-5
A dedicated Soft Real-Time Simulation of a SALP Swarm in Ada 95
Philippe Laval **499**

ECO-9
Suspended Matter Transport in Fluvial Flow for Estuaries Simulation with Mixed Formulation Based on Eulerien, Lagrangien and Multiagent Models
C. Olivier and C. Bertelle **504**

ECO-11-LCD
Design of a Spatial Multi-Agent Model of a Perennial Grassland Ecosystem grazed by a Herd of Ruminants
Laurent Pérochon, René Baumont, Bertrand Dumont, Pascal D'Hour, Sophie Prache, Michel Petit, Pasxal Carrère, Fredéric Louault, Jean-François Soussana, Claude Mazel, Christine Force and David Hill **509**

ROOM E- 14.00-15.30 DEVS
DEVS TUTORIAL II

DEVS TUTORIAL II
Modeling and Simulation of Hybrid Dynamic Structure Systems in the HFSS Formalism
Fernando Barros

ROOM F- 14.00-15.30 BOND
MULTI-ELEMENT MODELLING
Chair: Genevieve Dauphin-Tanguy, ECL, Villeneuve, France

BOND-15
Modelling the Complex Non-Linear Dynamics of Bacterial Population with Kinetic Process Graphs
Marc Baguelin and Jacques LeFèvre **753**

Thursday, 18th October 2001

BOND-16
Modeling Multi-Element Systems Using Bond Graphs
Jürgen Greifeneder and François E. Cellier **758**

BOND-7
3D Kite Modeling with Vector Bond Graphs
Benjamin Decotte, Nicolas Venuti and Barthelemy Boy..... **767**

15.30 - 16.00
COFFEE BREAK

16.00 - 18.30

ROOM A- 16.00-18.00 **METH**
SIMULATION TOOLS
Chair: Wilfried Krug, Dualis, Dresden, Germany

METH-4-BOND-O-LCD
Kinetic Process Graphs: Improving the Stock Flow Method of System Dynamics with Quasi-Bond Graphs and Fuzzy Rules, Applications in Managing Industrial and Business Systems
Jacques LeFevre **37**

METH-18-BOND
Linearization of the Bond Graph Model of a Robot RTX
Abderrahmen Gargouri and Moncef Tagina **46**

METH-32
Simulation and Knowledge Management: The Role of Groupware
Martin Boulger, Vlatka Hlupic and Simon J.E. Taylor..... **52**

METH-43-LCD
The Use of Building Blocks to enhance Flexibility and Maintainability of Simulation Models and Simulation Libraries
Alexander Verbraeck and Edwin Valentin..... **973**

Thursday, 18th October 2001

ROOM B- 16.00-18.00 APP
PRODUCTION PROCESS PLANNING
Chair: Claudia Frydman, DIAM-IUSPIM, Marseille Cedex, France

APP-8
Modelling and Simulation of Time-Optimal Clearing Process in Sequencing Batch Reactors
Witold Nocon and Mieczyslaw Metzger **313**

APP-17-LCD
Modelling and Simulation of the Diffusion Section of a Beet Sugar Process for a Plant Operator Training Simulator
Luis Felipe Acebes and Alejandro Merino and Raúl Alves **317**

APP-24
Industrial Rice Dryer Simulation Model
J. Martinez Garreiro, R.Canetti, A.Fonseca de Oliveira and M.Hakas **320**

APP-29
DAPS: Dynamic Adaptation of Complex Production Systems
Pierre Massotte, Yingjiu Liu and Jihad Reaidy **965**

ROOM C- 16.00-18.30 TRANS
TRANSPORT EVALUATION AND OPTIMIZATION SIMULATION
Chair: Agostino Bruzzone, Univ.of Genoa, Genoa, Italy

TRANS-5-O
Simulation and Optimization of the Public Transportation Connection System
A.Abbas-Turki, O.Grunder and A.El-Moudni **435**

TRANS-19-LCD
Punctuality Evaluation of Airline Networks with Simulation
J.Martens and J.Adem **440**

TRANS-16
An IPA-Based Optimization Algorithm to Solve the Multi-Location Transshipment Problem
Yale T. Herer, Michael Tzur and Enver Yucesan **448**

TRANS-4-O
Using Simulation to Optimize the Operations of an Emergency Room
Robert Signorile **457**

Thursday, 18th October 2001

TRANS-15
Implementation and Evaluation for GA-Based Pipe Route Planning Method
Teruaki Ito **462**

ROOM D- 16.00-17.30 ECO
DISEASE AND INFECTION SIMULATION
Chair: M.A.Dubois, SPEC Saclay, Gif sur Yvette, France

ECO-6-O
Simulation of Stochastic Infection Transmission Models designed to inform Water Treatment Decisions
Sada Soorapanth, Stephen E. Chick, and James S. Koopman **517**

ECO-17
Computer Simulations for an SEIRS Epidemic Model with Different Types of Seasonal Contact Rate
David Greenhalgh and Islam A. Abdel- Moneim **522**

ECO-20-O-LCD
Mathematical Modeling of Rift Valley Fever in Senegal
Marc A.Dubois, Charly Favier and Philippe Sabatier..... **530**

ROOM E- 16.00-17.30 DEVS
MODELLING METHODOLOGY I
Chair: Tag Gon Kim, KAIST, Taejon, South Korea

DEVS-13-BOND
GDEVS-Bond Graph Variable Structure Models
Aziz Naamane and Norbert Giambiasi..... **601**

DEVS-19-LCD
Modelling and Simulation of Mobile Software Agents in *Caos*
Fernando J.Barros..... **605**

DEVS-12-LCD
DHMIF: DEVS-based Hardware Model Interchange Format
Jun-Kyoung Kim, Young Geol Kim and Tag Gon Kim **622**

Thursday, 18th October 2001

ROOM F- 16.00-18.00 **BOND**

INDUSTRIAL MODELLING I

Chair: Yuri Merkuryev, Riga Technical University, Riga, Latvia

BOND-2
Modelling Gas Turbine Systems for Transient Performance using Bond Graphs
Eilif Pedersen **785**

BOND-4-SL
Virtual Reality Full Simulator for Electrical Sub-Stations using Word Bond Graphs
Jesus Félez, Jose M.Cabanellas, Maria I. Martinez, Antonio Carretero, Gregorio Romero, Joaquin Maroto and Carlos Vera..... **792**

BOND-14-LCD
Trajectory Tracking on Bond Graphs: Procedures and Applications to DC Electrical Drives
Sergio Junco **799**

BOND-11-LCD
Modeling In Order to Size An Automotive Powertrain[1]
J. Laffite, J. Bideaux, S. Scavarda, F. Guillemard, M. Ébalard and C. Moutou **806**

19.30
assembly in the lobby of the hotel

20.00 (dinner starts)
ESS 2001 Conference Dinner
At
Les Arcenaux
25, Cours d'Estienne D'Orves
Marseille
Tel: +33.(0)4.91.59.80.30

Friday, 19th October 2001

HALLWAY

Registration

08.15 - 17.00

08.30 – 10.00

ROOM A- 09.00-10.00 **METH**

DISCRETE EVENT SIMULATION I

Chair: Eugene Kerckhoffs, TU Delft, Delft, The Netherlands

METH-5
An Enhanced Methodology for reducing Time Consumption in Discrete Event Simulation Projects
Björn Johansson and Thomas Grünberg **61**

METH-23
JavaSim – A Discrete Event Simulation Library
Wolfgang Kühn **65**

ROOM B- 09.00-10.00 **APP**

SIMULATION AND CONTROL II

Chair: Norbert Giambiasi, DIAM-ISUPIM, Marseille, France

APP-44-O
Automatic Voltage Control for Power Transformers
Abdallah R. Al-Thaimer and Jalal Abdallah **211**

APP-50-LCD
Emulator for the Digital Control System "Symphony"
Herbert Krause **215**

Friday, 19th October 2001

ROOM C- 08.30-10.00 AGENT
MODELLING AND SIMULATION OF SOCIOTECHNICAL SYSTEMS WITH AGENTS
Chair: Bernard Espinasse, DIAM-IUSPIM, Marseille Cedex, France

AGENT-2-O-LCD
Enhancing the Interaction between a Photovoltaic System and Its Users with a Sociotechnical Simulation Approach
Wernher M. Brucks, Hans-Joachim Mosler and Antonio Joyce **875**

AGENT-9
MAGMAS: a Multi-Agents System based on a Dynamical Models coupling; Application to Animal Wastes Management
Manuel Martin, Eric Piquet, François Guerrin and Christophe LePage **881**

AGENT-14
MUFINS : A MultiAgent Toolkit for Simulating Pelagic Fish Behavior in Distributed Multiple Environments
Jean-Cristophe Soulié, David Guyomard and Martin Desruisseaux **885**

ROOM D- 09.00-10.00 ECO
VEGETATION AND ENVIRONMENT SIMULATION II
Chair: David Hill, Universite Blaise Pascal, Aubiere Cedex, France

ECO-1-LCD
SISTAL: A Spatial Simulation Model of the Tiller Density in Monospecific Stands of a Perennial Grass
Claude Mazel, David Hill and Michel Lafarge **471**

ECO-2
Virtual Plant Models for studying Interactions between Crops and Environment
Christian Fournier, Bruno Andrieu and Yassine Sohbi **476**

ROOM E- 08.30-10.00 DEVS
DEVS TUTORIAL III

DEVS-TUT-I
DEVS in Simulation and Control of Continuous Systems
Ernesto Kofman

Friday, 19th October 2001

ROOM F- 09.00-10.00 **BACK-UP**

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.

10.00 - 10.30
COFFEE BREAK

10.30 – 12.30

ROOM A- 10.30-12.30 **METH**

DISCRETE EVENT SIMULATION II

Chair: Eugene Kerckhoffs, TU Delft, Delft, The Netherlands

METH-25-O
Speeding Up Stochastic Discrete-Event Simulation
Krzystof Pawlikowski and Donald McNickle **68**

METH-22
An Extension of Discrete Event High Level Specification DECM Formal Language
Norbert Giambiasi, Jean-Luc Paillet and Watcharee Jumpamule **73**

METH-41
Systematic Structural Modelling of Discrete Event Systems Using Petri Nets
Eugene J.H.Kerckhoffs and Carmen Veronica Bobeanu **949**

METH-42
An Algebraic Approach to Petri Nets Based Representation of Complex Discrete Systems
Carmen Veronica Bobeanu and Eugene J.H.Kerckhoffs **959**

ROOM B- 10.30-12.30 **APP**

SIMULATION ON THE FACTORY FLOOR

Chair: Alexander Verbraeck, TU Delft, Delft, The Netherlands

APP-20
Distributed VR-Based Simulation for Manufacturing
Li.Jin, Ilias A. Oraifige, Frank R.Hall and Paul M. Lister **289**

Friday, 19th October 2001

APP-48-LCD
Physically Based Cables for Assembly Simulation in Virtual Reality
Achim Loock and Elmar Schömer **294**

APP-47-LCD
A New Algorithm to Compute the Workspace of Mechanisms and its Implementation
Artur Fuhrmann and Elmar Schömer **298**

APP-2-LCD
Industrial Design using Simulation and Design of Experiments
Mohamad Masudy **304**

ROOM C- 10.30-12.00 BOND
INDUSTRIAL MODELLING II
Chair: Sergio Junco, National University of Rosario, Argentina

BOND-13
Bond Graph based Control with Virtual Actuators
Peter J. Gawthrop, Donald J. Ballance and Dustin Vink **813**

BOND-5
Effect of Roll Speed on Temperatures in Hot Metal Rolling A Bond Graph Modelling Approach
Surjya K. Pal and Derek A. Linkens **818**

BOND-8-LCD
Model Builder for Thermo-Fluid Systems using Bond Graphs and Functional Modeling Model
Belkacem Ould Bouamama **822**

ROOM D- 10.30-12.30 ECO
MATHEMATICAL MODELLING
Chair: M.K.Traore, Universite Blaise Pascal, Aubiere Cedex, France

METH-38-O-SL
What does a Computer Simulation Prove? The Case of Plant Modeling at CIRAD (France)
Franck Varenne **549**

Friday, 19th October 2001

ECO-15-LCD
The Use of Random Number Generation for Stochastic Distributed Simulation: Application to Ecological Modeling
Mamadou K. Traore and David R.C. Hill **555**

ECO-19-O
Optimal Stochastic Design of Anaerobic Digester for Citrus Residuals
Alessandra Frigato Bonello, Pietro Giribone, Roberto Mosca and Sergio Pozzi Cotto..... **560**

ECO-20
Mathematical Modelling of the Dynamics of Forest Savanna-Ecotone in Africa
Charly Favier and Marc A. Dubois **568**

ROOM D- 10.30-12.00 DEVS
MODELLING ENVIRONMENTS I
Chair: Norbert Giambiasi, IADM-IUSPIM, Marseille, France

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Chair: Jacob Bahren, Oak Ridge National Lab, TN, USA

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Chair: Carlos Luiz dos Santos, UFR, Riode Janeiro, Brazil

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Chair: Claudia Frydman, DIAM-IUSPIM, Marseille Cedex, France

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HALLWAY

Registration

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08.30 – 10.00

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Chair: François Cellier, University of Arizona, Tucson, USA

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

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Chair: William Conley, Univ.of Wisconsin at Green Bay, USA

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Chair: Norbert Giambiasi, DIAM-IUSPIM, Marseille Cedex, France

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LUNCH BREAK

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ROOM F- 14.30-16.00 **DEVS**
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Chair:

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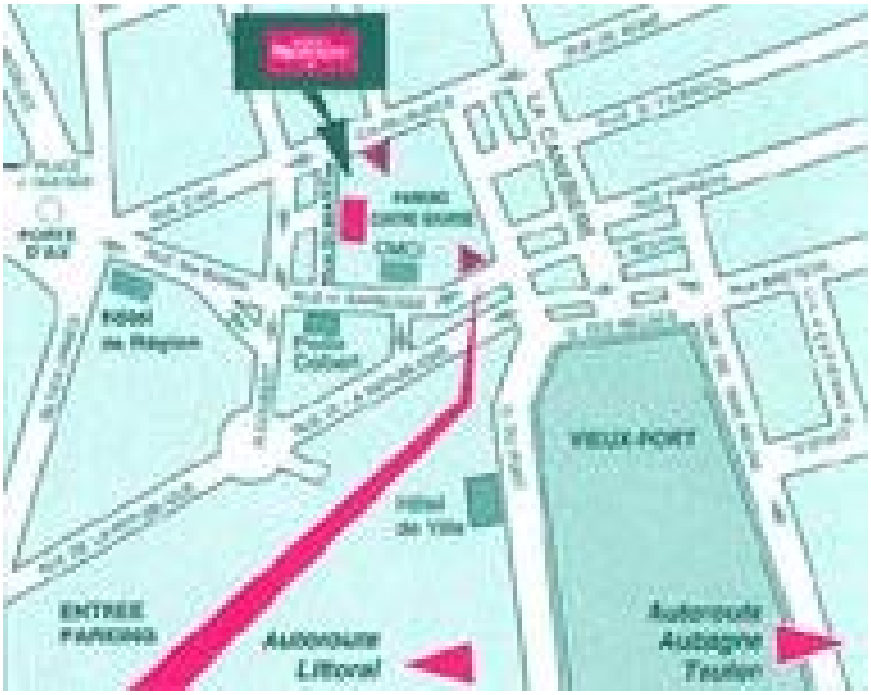

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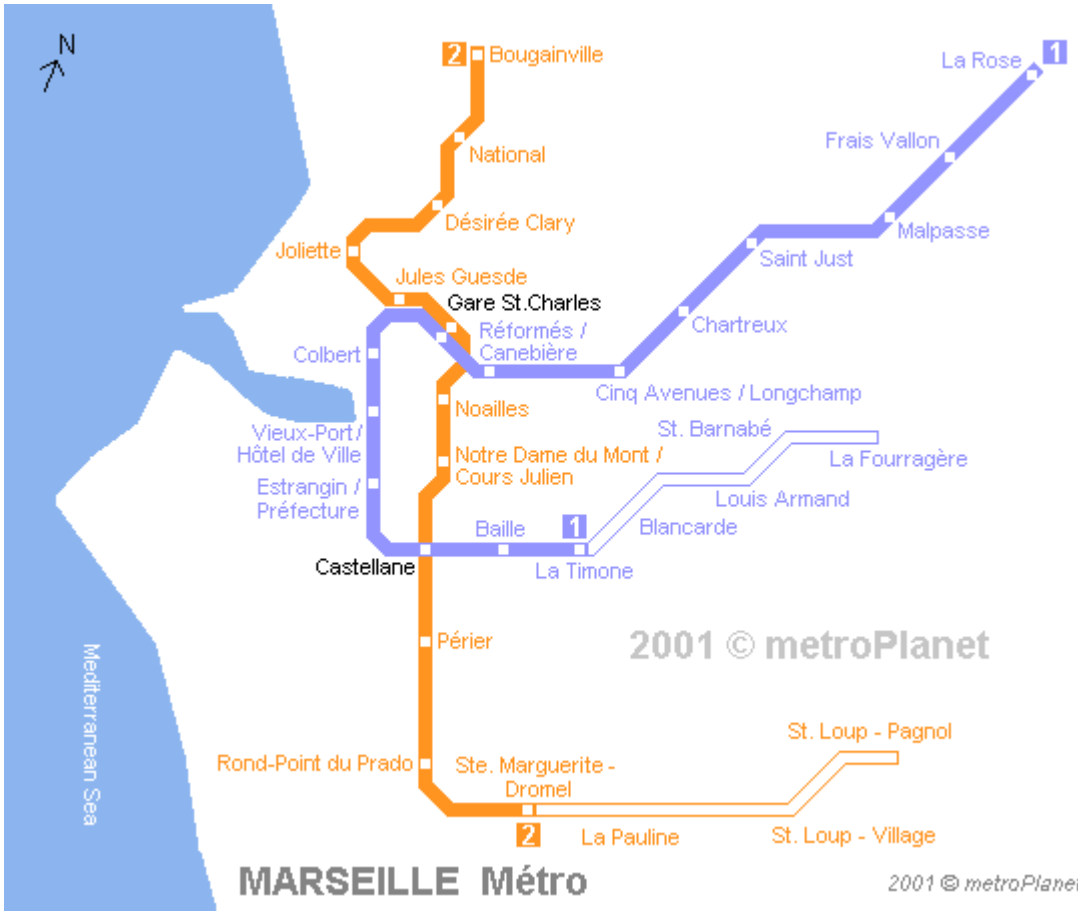

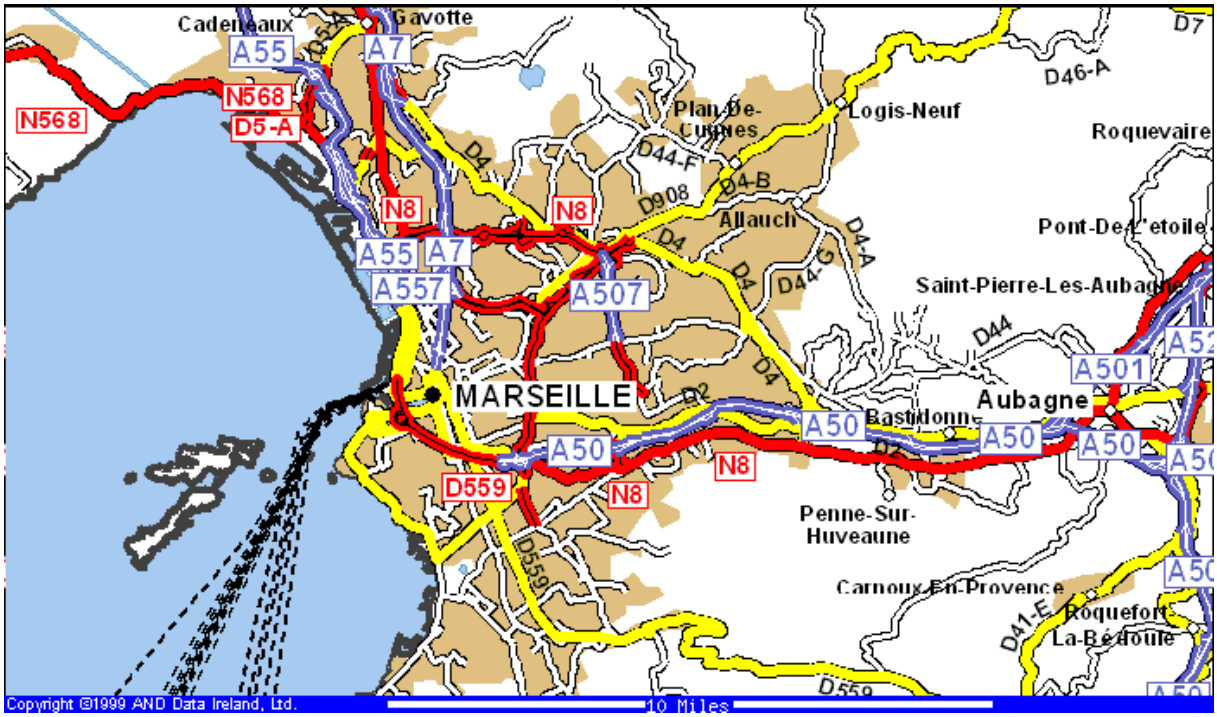

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