

gy (generic world building engine), portable code ; Using Math for Game programming by solving simultaneous Equations ; Using Modularity and isolation abstraction, data hiding, functional independence, cohesion and coupling ; Using Java as an embedded Game scripting engine ; Procedural content placement, level design, enemy and entity placement ; Using Databases in online Games ; Programming in Linux, C++ and Visual Basic ; Programming Web Games in Java Scalable 3D games ; Creating large 3D worlds ; Creating Multiplayer online Games ; Techniques for scaling game content, and approaches to scaling game content ; C++ optimization Strategies and Techniques ; 3D Engine optimization; Optimizing games for the MIPS RISC Architecture ; Game design: User set set according to hard limits, pre-runtime profiling and runtime profiling History of Game Design.

Rendering; Rendering Equations and architectures; Image Based Rendering (polygon counts (throughput) and overdraw (filtrate); Photorealistic rendering using Open GL and Direct 3D ; Multi texture tricks like gloss mapping, dynamic environment mapping, detail texturing and bump mapping Spatial aliasing and Anti-aliasing and accumulation buffers ; Setup, Rendering and Transforms ; Full floating point setup ; Perspective-corrected texture mapping, multiple filtering modes, sophisticated texture blending for special effects and effective looking transparency ; Classical local illumination equations and colour theory; Creating Reflections and shadows with stencil buffers and Z-Buffers ; Light maps and changing texture coordinates, shadow maps, projected shadow maps ; Methods for scaling lighting and shadows, lighting calculations ; Equation on a per pixel basis, pixel path and voxel animation ; Procedural Texture Methods and Theory and Real-Time ; Procedural Texture Implementation ; Parametric Surfaces, Deforming surfaces, Curved surfaces and tri-linear flip-flopping Using NURBS (non-uniform rational B-splines) and other parametric surfaces for representing 3D Geometry ; Matrix Manipulations ; Methods for scaling geometry using parametric curves and surfaces in relation to polygonal models ; Progressive meshes and subdivision surfaces

Voice Interaction ; Using Intelligent Speech Synthesis Algorithms, Speech Processing, Voice Interaction, Speech Synthesizer ; Interaction with AI-NPC's, Voice-Over Net Technology (one to one, and one to many)

Cognitive Psychology applied to games, based on player to game interactions and biometric data analysis.

Artistic input to game and character design

Wargaming methodology and techniques applied to strategic game design using Campaign managers, character generators, terrain generators . Multiplayer wargaming and Web Wargaming

Tutorials, "Aren't we great" presentations, Student Demos and European Projects (see **EU-GAMESRESEARCH** Network of Excellence)

Students are encouraged to show demos of their work to the companies present at the conference. The best demo will receive a prize from the organizers.

The selected best papers are published in the electronic web journal; **"International Journal of Intelligent Games and Simulation"**
<http://www.scit.wlv.ac.uk/~cm1822/ijigs.htm>

CONFERENCE SITE

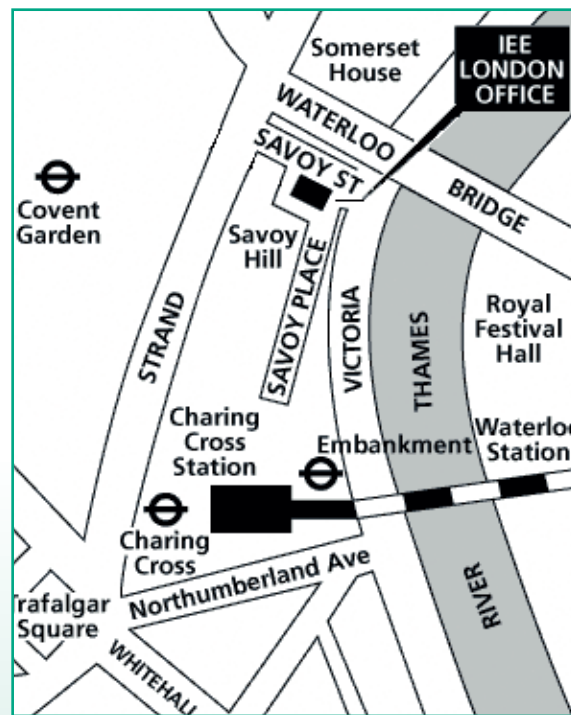
Combining grandeur with attention to detail, **Savoy Place** represents an unbeatable fusion of impressive facilities and high-quality service. It offers a prestigious and versatile venue for the

Game-On conference.

Savoy Place enjoys a unique central London location, next to the Savoy Hotel beside the Thames. Within easy walking distance of 4 underground stations, Savoy Place provides convenient access to London's mainline stations and international airports. The **Eurostar terminal** at Waterloo is directly across the river, a 5-minute taxi ride away. With the tranquil Embankment Gardens on our doorstep and lively Covent Garden to the rear, this is truly a location to charm your guests.



Contact information: Website: www.iee.org



CONFERENCE PRICES

Authors: € 475 , Students: € 300 EUROSIS Members: € 475 , All other: € 535 (prices include Proceedings, lunches, conference dinner, get-together party , coffee breaks and a boat tour on the River Thames to the Maritime Museum London and the Royal Observatory Greenwich)



Sponsored by



MESM 2003

December 2003
TBA

DEADLINES
EARLY BIRD SUBMISSION
DEADLINE AUGUSTUS 15, 2003

AUG 15 SEP 10 SEP 30 NOV 15 DEC

The full Call for papers can be downloaded from
<http://biomath.rug.ac.be/~eurosis/conf/mesm/mesm2003>
 in PDF format

CONFERENCE TOPICS

The **MESM'2003 conference** is the fifth conference after the successful start of the first MESM'99 held in Jordan and is organized by De Montfort University and the European Simulation Society. One of the major aims of this conference is to bring people from various parts of the Middle East in contact with colleagues working in modeling & simulation from around the world (e.g.. Europe, USA, Canada, Far East etc.). The other aim is to establish a local society in the Middle East. This conference, is sponsored by, De Montfort University (UK), as well as IEEE UKRI - SPC. This year, because of the political situation in the Middle East, it was decided to postpone the event to December. The exact conference site will be decided by the General Conference Chair Marwan Al-Akaidi of De Montfort University and myself, Philippe Geril before the end of June 2003. All updates about the event will be posted on the web, and if you are interested in taking part do not hesitate to contact me on Philippe.Geril@rug.ac.be

The conference covers the following subjects. Modelling and Simulation Methodology, Simulation of Networks and Communication Systems Simulation, Simulation of Signal and Image Processing, Energy Systems Simulation Multimedia and Virtual Reality Systems, Decision Processing in Management, Modelling and Simulation for Biomedical Applications, Modelling and Simulation for Industrial Applications, Web-based Simulation, Software Engineering, Simulation in Information Processing, Simulation in Fuzzy Systems Neural Networks and Genetic Algorithms, Simulation in Archeology and Simulation in the Arab World

CONFERENCE SITE



To be announced at a later date, from June onwards. This information will be available on the website.

CONFERENCE PRICES

Local Participants: € 200 , Other Middle Eastern Participants: € 250 , EUROSIS Members: € 475., All other: € 535 (prices include Proceedings, lunches, conference dinner, get-together party and coffee breaks)



WHO OR WHAT IS EUROSIS?

EUROSIS is the new European Simulation Society, which under the impulse of the European Community, will strive to stimulate research and international scientific cooperation through international projects, EU networks of excellence, (f. ex **EU-GAMESRESEARCH** and **MOSAIC**) workshops and conferences. The aim will be to act as a knowledge pool for EU projects and for future Networks of Excellence. The Society will be subdivided by TC's (Technical Committee's) covering specific simulation aspects and technologies which will interact with one another to exchange information on possible projects and which will also act as conduits for future EU projects. Each TC will be run by 4 people . A chair, a secretary, a EU liaison person and a TC Project liaison person. All four will alternately interact with others TC's and with the NoE's and EU in order to stimulate simulation research in Europe. So far, 250 people have signed on, for a Society which will start its project activities later this year. Don't be left out and send an email to Philippe.Geril@rug.ac.be for further information.

FOR FAST SERVICE FAX THIS FORM BACK TO EUROSIS ON +32.9.223.49.41

First Name:.....
 Surname:.....
 Occupation and/or Title:
 Affiliation:
 Mailing Address

 Zip code: City:
 Country:
 Telephone:.....
 Fax:
 E-Mail:.....

Presenting a paper, by submitting a full paper
 Presenting a short paper (by submitting an extended abstract)
 Participating in the industrial program
 Organizing a vendor session
 Proposing a panel discussion (please mention names of panelists)
 Contributing to the exhibition
 Without presenting a paper

Yes, I intend to attend the ESMc 2003 GAME-ON'2003 MESM'2003

The provisional title of my paper / exhibited software package is: With the following highlights:

The paper belongs in: TICK THE CATEGORY

MESM'2003

- Modelling and Simulation Methodology
- Simulation of Networks and Communication
- Systems Simulation
- Simulation of Signal & Image Processing
- Energy Systems Simulation
- Multimedia and Virtual Reality Systems
- Decision Processing in Management
- Modelling & Simulation in Biomedical Systems
- Modelling & Simulation for Industrial Applications
- Web Based Simulation
- Simulation in Information Processing
- Simulation in Fuzzy Systems
- Neural Networks and Genetic Algorithms
- Simulation in Archeology
- Simulation in the Arab World

GAME-ON'2003

- Artificial Intelligence
- Physics and Simulation
- 3D Scalability
- Facial Animation
- Skeletal Animation and Fully Scaled Rendering
- 3-D in Game Animation
- Tools
- Design
- Rendering
- Voice Interaction
- Cognitive Psychology
- Artistic Input
- Wargaming
- European Projects

ESMc'2003

METHODOLOGY

- Methodology
- Object Orientation and Re-Use
- Tools

SIMULATION AND AI

- AI and Expert Systems
- AI and Neural Networks
- High Performance Computing
- Simulation in Education
- Graphics Visualization Simulation
- Simulation in Environment
- Simulation in Ecology
- Simulation in Biology
- Simulation in Medicine
- Simulation in Health Care Management
- Hospital Logistics
- Analytical and Numerical Modelling
- Web Based Simulation
- Petri Nets
- Bond Graphs
- DEVS

ANMT

WEB

PETRI NETS WORKSHOP

BONDGRAPHS WORKSHOP

DEVS WORKSHOP

FLUID FLOW MODELLING WORKSHOP

- Conventional Fluid Dynamics
- Atomistic Methods
- Mesoscopic Methods
- Hybrid Methods
- Multidisciplinary and Industrial Applications

SIMULA WORKSHOP

DEVS WORKSHOP

-
-

Please send or fax this Card to Philippe Geril
EUROSIS
 Ghent University
 Coupure Links 653,
 B-9000 Ghent, Belgium

If you would like to receive more information about EUROSIS and its activities, please tick the following box:
 YES, I would like to know more about EUROSIS
 NO, please remove me from your database.

EUROSIS THE EUROPEAN SIMULATION SOCIETY CONFERENCE PROGRAMME JULY-DECEMBER 2003

THIS LEAFLET CAN ALSO BE DOWNLOADED FROM WWW.EUROSIS.ORG



DEADLINES LEGEND: ★ ABSTRACT SUBMISSION DATE ★ NOTIFICATION ★ PAPER SUBMISSION ★ CONF.

Dear Colleagues,

Welcome to the second **EUROSIS** newsletter. This is the newsletter of the new European Simulation Society, which under the impulse of the European Community, will strive to stimulate research and international scientific cooperation through international projects, EU networks of excellence, (f. ex **EU-GAMESRESEARCH** and **MOSAIC**) workshops and conferences. All of the aforementioned information is now online, and will be continuously updated on the **EUROSIS** web page. (www.eurosis.org). This booklet covers the last three **EUROSIS** conferences for 2003. The **GAME-ON** and **MESM** conferences, and last but not least the **European Simulation and Modelling Conference (ESM)**, our flagship fall event (**extended information on the conferences are available from our website**). Because of the present political situation in the Middle East, the MESM conference has been moved to December of this year. An exact conference location will be known by the end of June 2003.

Furthermore, I have listed, as complete as possible, all upcoming events after December 2003, so you can prepare your future conference schedules.

Best Regards
Philippe Geril

EUROSIS FUTURE CONFERENCE CALENDAR

January - June 2004	July- December 2004	January - June 2005
January STATS 2004, TBA	September MATN 2004, Spain	January STATS 2005, TBA
March 12-13 FUBUTEC 2004, Paris, France	September MESM'2004, TBA	March FUBUTEC 2005, TBA
April Euromedia-ECEC'2004, Hasselt, Belgium	October ESMc 2004, TBA	April Euromedia-ECEC'2005, Toulouse, France
May PBM 2003, Valencia, Spain	November Game-On 2004, London, UK	June: ISC'2005 TBA
June: ISC'2004 Malaga, Spain		June: Euro-SISO 2005, TBA
June: Euro-SISO 2004, TBA		
June FOODSIM 2004, TBA The Netherlands		

Would you like to get involved in one of our conferences, or would you like to host one of our events, or get involved in the European Simulation Society, send me an email. Philippe.Geril@rug.ac.be

THIS CONFERENCE BOOKLET IS SENT OUT TWICE A YEAR AND AS WE WANT TO DO OUR BIT FOR NATURE BY CUTTING DOWN ON PRINTED MATERIALS. WE WOULD THEREFORE APPRECIATE YOUR HELP TO BE KIND AND INFORM US IF YOU HAVE CHANGED ADDRESSES, YOUR EMAIL ADDRESS OR IF YOU WANT TO BE DELETED FROM OUR DATABASE. THIS CAN BE DONE BY USING THE FORM AT THE BACK OF THIS PROGRAMME.

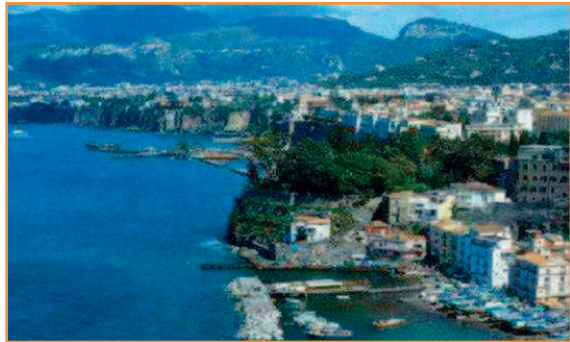
ESM2003[®] EUROPEAN SIMULATION AND MODELLING CONFERENCE 2003

October 27-29, 2003
Naples, Italy

DEADLINES
EARLY BIRD SUBMISSION JUNE 15, 2003

JUN 30 JUL 15-20 AUG 25 SEP OCT 1 OCT 27-29

The full Call for Papers can be downloaded from
<http://biomath.rug.ac.be/~eurosis/conf/esmc/esmc2003>
in PDF format



CONFERENCE AIM AND TOPICS

The **ESMc²⁰⁰³ (European Simulation and Modelling Conference)** is the new international conference concerned with state of the art technology in modelling and simulation. **ESMc²⁰⁰³** aims to provide an overview of academic research in the field of computer simulation. A number of major tracks of simulation research are presented next to specific workshops, which capture the art and science of present-day simulation research.

METHODOLOGY AND TOOLS

METHODOLOGY

Continuous, discrete and hybrid simulation methodology, Simulation environments, Multi-paradigm simulation, Simulation uncertainty, Simulation visualisation, Integration of simulation and geographical information systems, Object-oriented programming and Languages, Multi-paradigm Languages, Software comparisons. Numerical Methods for Simulation, Mathematical Analysis in Simulation, Parallel Simulation Methodology, Discrete Event Simulation, Simulation Fidelity and Performance Evaluation, Advanced Training and Simulation Concepts for Education, Multiparameter Sequential Optimization Methods in Simulation, Verification, Validation, and Control in Complex Systems Simulation, Distributed and Parallel Systems Simulation, Combined Continuous and Discrete Event Models, Symbol Analysis and Manipulation of Equation-Based Models, Simultaneous vs Modular Simulation Methods, Standardization Issues

Object orientation and Re-use

Object-Oriented Modelling Languages, Modularity, Model Structuring, Inheritance, Model Re-use, Organization of Model Libraries

TOOLS

Simulation Tools, Statistical Output Evaluation Tools, Optimization Tools, Special Purpose Simulation Languages and Tools, Simulator Development Environments, Interfaces for Coupling with External Tools

SIMULATION AND AI

AI Based Simulation Languages, Special Architectures, Graphical Simulation Environments and Simulation Software Tools, Intelligent Simulation Environments, Parallel Processing Environments for Simulation, User Friendly Software Tools, Advanced Man-Machine Interfaces, Graphical Model Editors, Browsing Facilities, Database Management of Models and Results, Architecture of Modelling and Simulation Environments

SIMULATION IN EDUCATION AND GRAPHICS VISUALIZATION SIMULATION

This track covers; Simulation and e-learning, - Role Strategies) Management Games, Simulation with "man in the loop", Virtual Reality Systems, Realistic Presentation of Simulation, Results, Simulation for Training and Education, Web-based Simulation, Multi-site Group Simulation, Special Purpose Simulation Languages and Tools, Simulation Environments, Simulator Development Environments, Visual Modelling Tools, Multimedia, Visualisation and Animation Tools, Interfaces for Coupling with External Tools

SIMULATION IN ENVIRONMENT, ECOLOGY, BIOLOGY AND MEDICINE

The main goal is to enhance the trans-disciplinarity and to facilitate contacts and dialogs between computer scientists and specialists of Environmental Sciences. Since 10 years the modelling process took benefits from recent (and less recent) techniques of computer science, Object-Oriented Languages, Discrete Event Simulation, Concepts of Agent and Actor, Fuzzy Logic, UML, model - GIS interface, Web-based simulation, environment management, predictive models of forest growth, fishing, climate and other biological processes. Papers dealing with ecological modelling (in a wider sense) are welcome in the areas of: Applications: Environment managing, Waste managing, Ecosystem dynamics (terrestrial and oceanographic ecology) Population dynamics (diseases & epidemics, changes in biodiversity, genome, predator-prey relationships, fishing...), Population behaviour, Individual behaviour, involving methodologies such as: Artificial Intelligence, Distributed Interactive Simulation, High-Performance Computing, Languages, Modelling Techniques, Simulation Methodologies & Tools, Synthetic Environment, Virtual Reality, Petri nets, DEVS and Bond Graphs. Modelling and simulation have an important role in structuring biological, medical and ecological systems. The intrinsic complexity and non-linearity of these types of systems need continuous and discrete simulation methodology, soft computing methodology in order to handle the different degrees of uncertainty, as well as virtual reality methodology describing the time and space dependent complexity.

Topics are biological systems, medical systems and ecosystems with the domain specific topics such as molecular modelling, genetic algorithms in biosystems, fuzzy sets and neural nets in biosystems, physiology, cardiology, anesthesia, cancer, circulatory system, respiratory system, renal system, biomechanics, agricultural production, simulation of global change, ecotechnology and eco-engineering, GIS, population dynamics, etc Simulation of Patient Care, Quality of Service, Hospital Logistics, Simulation of Disease Proliferation, Virtual Reality in Surgical Procedures, Simulating Biological Phenomena and Organs, Simulation as a Tool for Diagnosis, Simulation of Emergency Procedures (Disaster Gaming), General Medical Simulations, Pharmacometric Modelling, Physiological Simulations

Simulation in Biology, Medicine and Health Care Management

Health Care Management, Strategic Management & Resource Planning in Health Care, Operational Management in Health Care, Decision Support in Health Care, Disease, Management and Emergency and Disaster Organization, Case Studies, Success Stories and Failures

Hospital Logistics

Healthcare Networks, Modelling of Clinical Environments, Clinical Information Flows, Patient Flows in Hospitals, Wards Planning, Drugs Inventory Management, Logistics Flow, Long and Short Time Tables of Personnel, Utility and Case Analysis of Helicopter Usage, Information and Surveillance Systems

ANALYTICAL AND NUMERICAL MODELLING TECHNIQUES

Contributions based on exact and approximate methods as well as applications are encouraged but not restricted to the following topics: Techniques and Algorithms, Stochastic Petri Net Models, Queuing

Systems and Network Models, Markov Models, Performance Optimization, Stochastic Process Algebras, Stochastic Precedence Graphs, Bounds and Theoretical Properties, Interconnection Networks, Evaluation Studies of Analytical and Numerical Modelling, Computer Systems, Manufacturing Systems, Workflow Management Systems, Communication Systems (LANs and Distributed Systems, ATM Switches, Mobile Radio,...), Workload modelling and Characterisation, Operating Systems, Client-Server Systems, Multimedia Systems, Measurements and Hybrid Techniques, Software Performance and Software Tools for Analytical and Numerical Modelling

WEB BASED SIMULATION

Web-based Simulation Environments (WSE), Web-based Distributed Interactive Simulation (WDIS) Sharing and reuse of simulation models and tools in WSE, Techniques and Standards for model integration, Communication interoperability in WSE and WDIS, WSE and WDIS applications to education, training and learning, Simulation visualization/animation in WSE and WDIS, Web-based Distributed Simulation (distributed modelling via the Web, Java based, Federated, and so on)

WORKSHOP SIMULATION WITH PETRI NETS

Petri nets were introduced by C.A. Petri as a "finitary combinatorial model of event topology which, is in close correspondence with the models of modern physics, is capable of describing total information flow, and has proven superior to some conventional models both in construction and in analysis of systems of complex organization". Although many other models of concurrent and distributed systems have been developed, Petri nets are still considered "a central model for concurrent systems with respect to both the theory and the applications" due to the natural way they allow to represent reasoning on concurrent active objects which share resources and their changing states.

The huge amount of work invested in making the modelling power of Petri nets formalism more and more intensive, led to a continuous evolution of this area, such that "Petri nets" is currently a generic name for a whole class of models divided into three main layers (ranging from Elementary Net Systems and Place/Transition nets to traditional High Level nets and High Level nets with abstract data types). For the performance evaluation of the modelled system, time execution and/or stochastic processes have also been considered, leading to important extensions to the above general Petri nets classification: Timed and Stochastic Petri nets.

Petri nets are widely considered, as an operational (rather than denotational) formalism for Discrete Event Systems. They have proven to be useful in solving difficult discrete-event problems in a variety of application domains such as in software engineering, operating systems, databases, communication and co-operation protocols in distributed systems, manufacturing systems, defence command and control, business processes and telecommunications, etc.

As investigations in this area show, Petri nets also cover a large number of currently active research areas. Despite the great amount of work and achievements, much effort is still to be done to meet the applications requirements.

This workshop is intended to provide a forum for the presentation and discussion of original ideas, recent results and achievements by researchers, students and system developers on issues and challenges related to the above domain. We invite to submit original contributions addressing, but not limited to one of the following topics:

- Simulation using Petri Net Systems,
- Place/Transition nets,
- High-level Petri nets,
- Timed and Stochastic Petri nets,
- Temporal and real-time logics with respect to Petri nets,
- Analysis methods of High Level nets and their time extensions,
- Modular Petri nets,
- Object-oriented Petri nets (OOPNs),
- Computer tools based on OOPNs,
- Applications of OOPNs.

WORKSHOP MODELLING AND SIMULATION WITH BONDGRAPHS

The Bond Graph Workshop will bring experts together for the purpose of discussing new concepts, methods, techniques, tools and applications of this energy-based modelling methodology. Papers dealing with all aspects of the use of bond graphs in system design, analysis, and control are welcome. The workshop will provide a forum for the presentation and discussion of recent research and applications of the Bond Graph methodology. Research papers are welcome in the following categories of presentation: Tutorials, Panel Discussions, Software and Tools, Bond Graph Theory, Advanced Bond Graph Methodology, Bond Graphs and Block Diagrams, Computer Graphics and Bond Graph Modelling, Qualitative Modelling, Mechatronics Systems, Mechanical Systems and Robotics, Electrical and Power Systems, Control Systems, Thermal and Chemical Systems, Biomechanics and Prosthetics, Ecological Systems, Biological and Medical Systems, Social and Economic Systems, Industrial Applications, Large, Nonlinear Models

DEVS WORKSHOP

The DEVS Workshop will cover: Extensions to the DEVS formalism, DEVS and Distributed DEVS frameworks, DEVS-based next generation VHDL, DEVS standardization, DEVS applications

FLUID FLOW MODELLING AND SIMULATION WORKSHOP

Papers are solicited in:

Conventional fluid dynamics

New developments in boundary tracking, adaptive multiscale meshes, algorithm stability, turbulence

Atomistic methods

Ab-initio and classical molecular dynamics, direct simulation Monte Carlo.

Mesoscopic methods

Lattice gases, lattice-Boltzmann, smoothed particle dynamics, dissipative particle dynamics, discrete simulation automata, etc.

Hybrid methods

Atomistic-mesoscopic and mesoscopic-continuum: direct simulation Monte Carlo, adaptive-mesh dissipative-particle dynamics, etc.

Multidisciplinary and industrial applications

Chemical and biomedical engineering, automotive, oil extraction and aeronautic industry, flow in porous media, Fluid Dynamics Simulation, Fluid Dynamics Simulation in Turbomachinery Flow Analysis of Pump Turbines, Water, air, vibration analysis through fluid flow modelling, Electromagnetic Field Simulation, Virtual Wind Tunnels, Structural analysis Statics (Stress, Deformation), Dynamics (Vibration), Eigen value, Fatigue, Thermal load Electric power plants, General plant components Computational fluid dynamics Compressible flow, Incompressible flow, Heat transfer, Multi-phase/multi component flow, Combustion, Reaction, Noise (Flow-induced sound) Gas turbines/Steam turbines, Combustors, Nuclear plant components, Hydro turbines, Pumps, Heat exchangers, Piping systems Computational electro-magnetics Static electromagnetic, Eddy current, Electromagnetic wave, Electric circuit Nuclear fusion reactor, Transformers, Switch gear, Rotating machinery, Inverters/Converters Coupled problems Fluid-structure coupled analysis, (Flow-induced vibration), Fluid-electric field coupled analysis, (Insulation) Heat exchangers, Electric power transmission components

SIMULA Workshop: "SIMULA past, present and future"

SIMULA is the first OOP language and with the exception of Beta programming language, other broadly used OOP languages are conceptual subsets of SIMULA. The standard was defined in 1967, that's why the language used to be called **SIMULA 67**. The basic ideas were presented at the IFIP Working Conference "Simulation Programming Languages" in Oslo in 1967, the proceedings were published 35 years ago in 1968. **SIMULA** (SIMple Universal Language) as such is a general object-oriented language. Its system classes Simset and Simulation add the knowledge of linked lists and time processes making SIMULA a process-oriented simulation language.

The workshop would concentrate on the **SIMULA's** advanced OOP features that cannot be found in other OOP languages and on its simulation capabilities. The so-called main classes (nested classes that contain other local classes) that can be further specialized represent modularity achieved by using the OOP capabilities of the language. The system class Simulation will be enhanced to contain classes supporting transparent statistics and classes oriented to the simulation of queueing networks. **SIMULA** implementation for PC computers is now freely available, so the participants of the workshop will get tools and knowledge to create fast their own simulation models.

The **exhibition** is aimed at companies designing simulation products. The program provides specific time blocks designed to enhance vendor contact with attendees.

The **poster sessions** are devoted to Ph.D. Students who can come to present and discuss their thesis work with experts in the area of simulation. Ph.D. Students should submit overview articles, describing the area of their research

CONFERENCE SITE

The conference will be held in the beautiful city of Naples; the city which stands testimony to a civilization, which has inhabited these shores for centuries. This testimony to the ancient Greeks, Romans from Antiquity to dukes, barons, king and queens of the Middle Ages and later have Contributed to the wide scale of museums, old amphitheatres and ruins, churches and cloisters Royal palaces and monuments. Among those you can count, the Castel Nuovo,



the Santa Chiara, the Museo di Capodimmente, Certosa di San Martino, Castel dell'Oro, and the Museo Archeologico Nazionale. We are sure that the Bay of Naples and its surrounding areas of Pompeii, Sorrento Amalfi and Paestum will both charm and enthrall you during your stay at the ESMC2003.

The general conference chair for the 2003 ESMC is Professor Beniamino di Martino, 2nd University of Naples.

CONFERENCE PRICES

Authors: € 475, EUROISIS Members: € 475, Students: € 300
All other: € 535 (prices include Proceedings, lunches, conference dinner, get-together party and coffee breaks)



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GAME-ON 2003

November 19 -21, 2003

Savoy Place
London - United Kingdom

DEADLINES
EARLY BIRD SUBMISSION JUNE 30

JUN 30 AUG 30 -SEP 5 SEP 25 OCT 25 NOV 19-21

The full Call for papers can be downloaded from
<http://biomath.rug.ac.be/~eurosis/conf/gameon/gameon2003>
in PDF format

CONFERENCE TOPICS

The aim of the 4th annual European Game-On Conference on simulation and AI in Computer Games, is to bring together researchers and games people in order to exchange ideas on programming and programming techniques, which will be beneficial to the gaming industry and academia. Secondly it aims to steer young people into this industry by providing how-to tutorials and giving them the opportunity to show their ideas and demos to the gaming industry. The conference will concentrate mostly on the programming of games, with special emphasis on simulation, AI and fuzzy sets, and physics related computer graphics. Next to that, all of this will be fused in the topic of computer game design in stand-alone and networked games. Software providers will be able to show their latest packages and give hand-on tutorials for the participants. Companies will also have the opportunity to seek new talent at this event.

The conference will cover two core tracks

Artificial Intelligence, Designing (Extensible) AI Engines with Built-in Machine Learning Technologies, Using Adaptive Markov Models, Using Decision Trees, Production Rules and Learning, Using Fuzzy Logic for membership functions and inference procedures, Using Rule Based AI or a Finite State Machine (FSM), Using Fuzzy State Machines (FuSM) or Cascaded FuSMs, Using Artificial Life and layered AI Techniques, Level-of-Detail AI, Using scripting languages to govern NPC Bots, synthetic characters, or believable agents, Controlling simulated characters (Group Behaviour control) using f.e.x. flocking algorithms based on extensible scripting systems, Cognitive Modeling (combining geometric models and inverse kinematics to simplify key-framing, physical models for animating particles. Bio-mechanical modeling, behavioral modeling), Domain knowledge specification and character instruction, Creating AI Networks using supervised learning and genetic algorithms, and pathfinding, Using Databases using the winnowing algorithm, Using Multi-user Data Management

Physics and Simulation: Collision detection, contact resolution and manifold generation (methods Lin-Canny, OBB Trees, I-Collide and Ray Tracing); Calculation optimization between objects; The closest point algorithm by Gilbert Johnson and Keerthi (GJK) between convex and union-of convex objects; Contact equation formulation (point-plane, edge-edge and sphere-plane); LCP (Linear Complementary problems) Based contact resolution; Iterative constraints and penalty methods for contact resolution, Micro-Collisions

And a number of peripheral tracks

3-D Scalability; MRM (Multi-Resolution Mesh) Technology and the Messiah and Lith Tech Engines; Scalable level of detail-oriented rendering; Methods for scaling animation quality; Scaling animation quality, new animation steps, on interpolated key-frame animation or key-frame morphing; Bump mapping: emboss-dot product and environment mapped bump map (EMBM).

Facial Animation; Facial animation for Real-Time, Model Behaviour of 3D Modeling; Modelling the bone structure of Faces

Skeletal animation and fully scaled rendering; Physical Simulation, 3D Character Animation and physical controllers; Simulation performance; Rigid body physical animation and rigid body dynamics; Polygon Character Design and level of Detail under Technical Constraints; Particle systems, full polygonal models or sprites; Smooth rendered skins, soft skinning, head animations and full body animation (Skin, extrude and boolean, Design, composition and anatomy); Skeletal, skinning, single skin meshes; Creating Character Animation Assets; Real-Time motion Synthesis, Kinematics and Dynamics, Animating the real-time run cycle; T-Buffers and motion blur; Motion Capture Techniques

3D in Game Animation; Creating and scaling special effects in Real-Time 3D: environmental weapon effects and general pyrotechnics, software used to produce single frame and animated textures, booth looping and linear, and the pivotal role of alpha channels. Modeling an animation of the geometry needed and the system used to encode additional engine-specific timing and trigger data into the files. The use of the engine particle system and scripting capabilities, Weighted vertices, Streaming SIMD Extension Overview (floating point instruction); Pre-rendered cinematics; Scaling of special effects and texture tricks: particle systems for generating smoke and fire, texture tricks, for volumes, lens flares and onscreen pyrotechnics, Animation Blending

Tools; Silicon Graphics (MAYA, as a game prototyping environment), 3D Programming for Rage Programmable Shaders (Renderman)
Design; Game Engine Design and game environment creation; Using rapid prototyping (NEMO-DEV) and generic technolo-