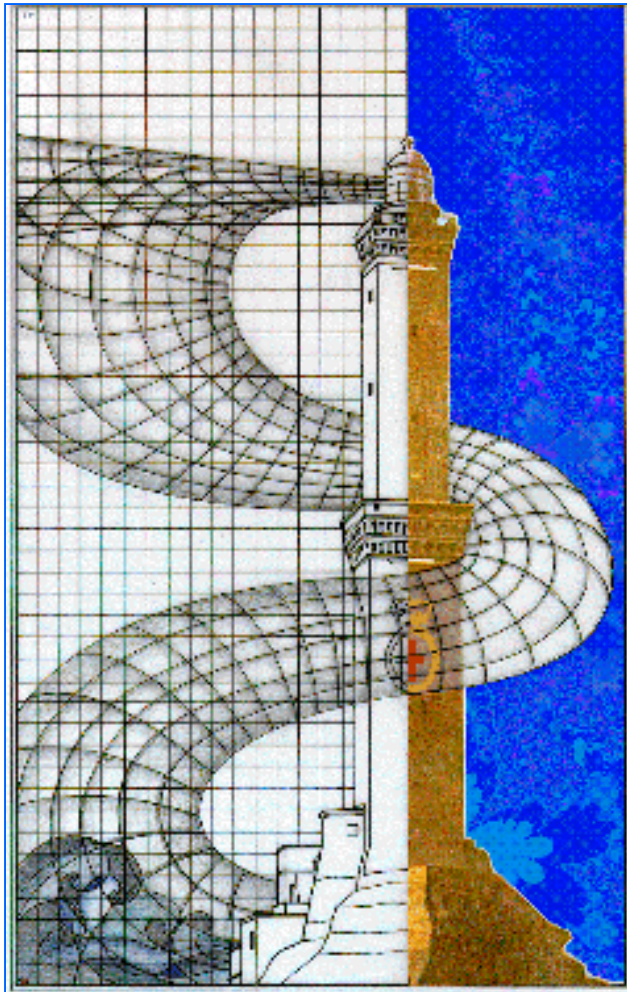


McLeod Institute of Simulation Science Genoa Center - Report 2005



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EMAIL agostino@itim.unige.it





MISS - Genoa DIP University of Genoa

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The research group of MISS-DIP of *Genoa University* is active from '60 in Simulation applied to Industrial Engineering.

The activities involve modeling, simulation, VV&A and analysis of Industrial Applications and Services (design, re-engineering, management, training etc.) as:

Chemical Facilities

Harbor Terminals

Manufacturing

Public Transportation

Power Plants

Public Services

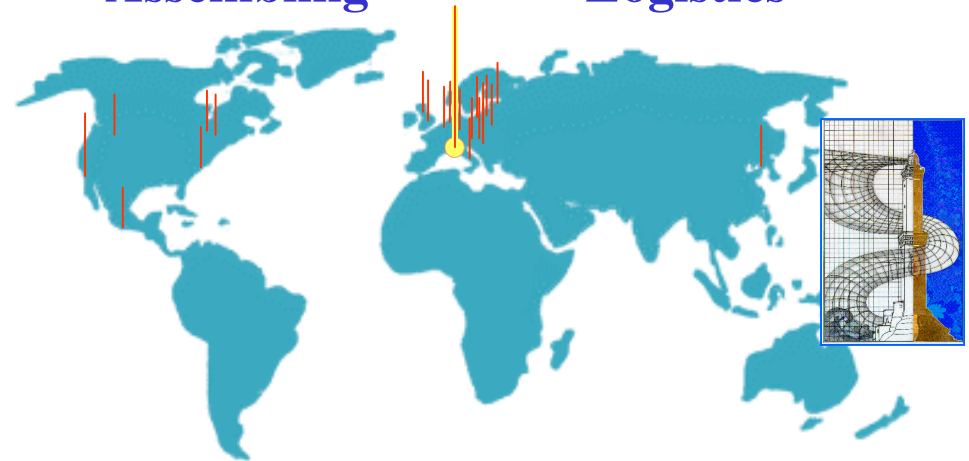
Assembling

PM

Environment

Logistics

The Department staff is in touch world-wide with the simulation community and is present actively to conferences, exhibitions and working meetings with the major Associations, Agencies and Companies.



**20 MISS Centers World-Wide
& 5 Satellite Centers**

DIP - University of Genoa

DIP was founded in 1997 as evolution of the Institute of Technology and Industrial Management (ITIM) that was operative from '60. DIP is composed by about 40 faculty members, 15 technicians and administrative, plus several PhD Students, external Researchers and Consultants. DIP teachers are involved in Undergraduate, Postgraduate and Professional activities in Engineering, Management. DIP active in R&D Projects for major Institutions, Companies and Governmental Organisations. DIP co-operates actively with major Excellence Centers World-Wide. Currently DIP is changing name to DIPTM.



University of Genoa: an Overview

The University of Genoa is one of the oldest in Italy and in the World (founded in 1471 AD), it is located in middle of Italian Riviera.

The students are about 40,000 (about 8,000 new entries), and the engineering departments has about 7,500 students (12% in Savona Branch Departments); in effect the Savona Campus Savona holds about 1,000 Engineering Students.

That campus is located about 2 km from Savona Downtown, in an old complex of barracks recently converted into new University Buildings (over an area of 200,000 m²).

For further Information about the University of Genoa:

<http://st.itim.unige.it>

<http://www.unige.it>



Savona Campus & Facilities

The University of Genoa includes a new campus in Savona about 2 km outside Downtown; bus services and large parking areas guarantee easy access.

That structure has been obtained transforming Army barracks; today the campus includes a big park with facilities such as tennis courts and sport grounds.

The campus holds Dept. on Engineering and also Economical courses; new laboratories have been realised in Simulation, Logistics & Industrial Eng. (SAMS Project), Ecology and Chemical. Facilities for Professional Congress Centres are available in the surroundings



Savona Campus



Congress Centre



MISS - DIP University of Genoa

The MISS-DIP of *Genoa University* carries out many industrial simulation projects in cooperation with the large corporations and small and medium sized Enterprises; some example of recent industrial simulation project are following:



ADtranz

ABB Daimler-Benz



Ansaldo



**Cetena
Fincantieri**



COOP



**On-Line Simulation for Distributed
Production Management of Locomotives**



ADtranz



**Distributed Synthetic Environment
for Power Plant Design**



**Simulation & Virtual Project Management
of Car Deck Construction for Fast Ferry**



**Simulation for Re-Engineering Supply Chain
in a National Chain of Grocery Stores**



Members of MISS are appointed in several positions in simulation community such as:

- Italian Point of Contact of ISAG (International Simulation Advisory Group)
- Associate Vice President of SCS and Chairman of Industrial Relations for Europe
- Member of NATO Industrial Advisory Group for Simulation & VV&A for Design



MISS - Genoa Projects in 2005



Production & Assembling

BR (BAXTER/SIEMENS/AP/Riwal/OIS/Italiana Coke/MkM/Martini), Expert Planning (Atomos); Production Re-eng (TEMIS/VMPress/Datasiel)

Logistics Networks & Supply Chain Management

ORTOFRUTTA: New Logistics Platform for Vegetable Distribution to Supermarkets (COOP Liguria)

NOL: New Logistics Organization over a Geographic Region (COOP CNO)

SITRANET: Training Simulator for Crane, Truck and Contstacker (CFLI, Regione Piemonte)

Business & Services

POA NG: Automated Reordering System for Store (COOP) DICOSAP: ERP Supervision (COOP Liguria)

CARNI&PESCE: Meat Distribution Processes (COOP CNO)

MASC: Modelling & Analysis for Satisfaction of Customers (COOP Liguria) PROMIT: Project Management in IT Initiatives (COOP Liguria)

MASC New Generation: New DSS including Simulation & Forecasts (COOP Liguria)

PARCO: Business Survey (PSTL/RIALTO/AYMIB); Health Care (Gaslini); Transportation (ACTS) Power Control (Telecom)

Service for the Society

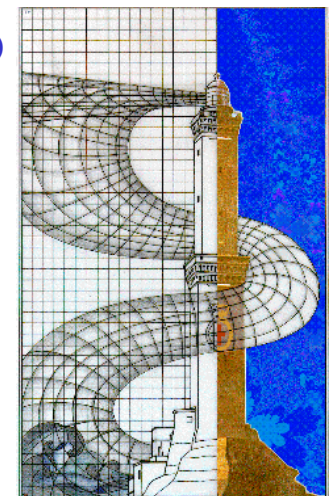
6EFFE: Parental Support for Work Scheduling (COOP Liguria)

Military Applications

SIREN Initiatives (Sindel, Korean Navyetc.)

VISION: Ship Federation (Fincantieri, Cetena, IDS, SOGIS)

PIOVRA: Intelligent Agent for CGF (Italian MoD, LSIS, DGA France)





MISS - Genoa

International Cooperations in 2005



LESMEX

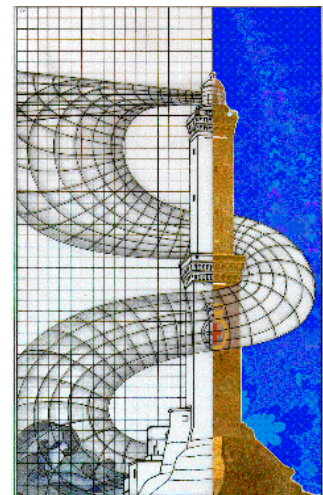
- UNAM Mexico

I_M_CS Common Activities

- Arcavacata University
- LSIS, Marseille, France
- Liophant Simulation

Logistics & Erasmus

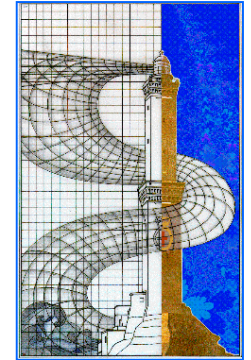
- Riga TU, Latvia, Rutgers Univ.
- IFMA, Clermont Ferrand, France
- LSIS, Marseille, Sofia TU, Bogazici Univ.





MISS - Genoa

Scientific Activities in 2005



The MISS organized the following events during 2005:

WORKSHOP HMS2005, Marseille, in Co-operation with LSIS MISS Marseille and Liophant

WORKSHOP MAS2005, Bergeggi, Italy in Co-operation with Liophant

WORKSHOP I-PIRATES, Bequia, in Co-operation with Liophant,

Publications 59: Journal Papers (2), Conference Papers (27), Technical Reports (24), Tutorial & Invited Speechs (3), Books (3)

ACTIVE PARTICIPATION AT CONFERENCES IN 2005: 18 Conferences

GAMES2005 Orlando - TESI2005 Maastrich - IFOR2005 Honolulu -

ICAMES2005, Istanbul - ITEC2005, London - ASTC2005 San Diego- SIW2005

Spring - ESM2005, Riga- SCSC2005, Philadelphia- SCI2005 Orlando - ANIMP2005

- HMS2005 Marseille - I3M2005 Marseille - MAS2004, Bergeggi - ESS2005,

Marseille - Wintersim2005 Orlando - I/ITSEC2005 Orlando - IPIRATES2005

Bequia



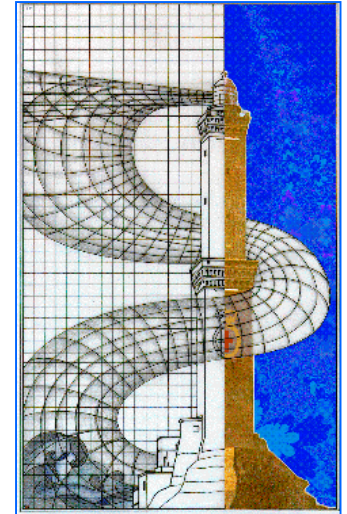
MISS - Genoa Exchanges in 2005

MISS Genoa Guests

C.Frydman, N.Giambiasi, Visiting Professor from LSIS France (July 2005)
Francesco Londo PhD Student from Arcavacata University (October 2005)
Armand Contin Soufiane Boukaftane, Students from LSIS(May-July 2005)
Violeta Simeonova, Snejana Yordanova from TU Sofia
Sergui Saavedra Student from Balam/Universidad Panamericana (July -sept 2005)

MISS Genoa Visitors

Enrico Bocca, Guest in KSC Nasa(July 2005) A.Bruzzone, Visiting NCS Orlando (July 2005)
A.Bruzzone M.Massei, Guest in Bogazici University Istanbul (May 2005)
Simonluca Poggi, Katia Scarso, Guests in ENSO Istanbul (May 2005)
P.Salmoiraghi, Francesco Longo Guest in Rutgers University, Munchen (July-August 2005)
P.Salmoiraghi Guest in Dartmouth University (August 2005)
A.Bruzzone and M.Massei Visiting Honolulu Univeristy (July 2005)



Project: PIOVRA

Polyfunctional Intelligent Operational Virtual Reality Agents



PIOVRA is developed for Italian and French MoDs in the frame of the EUCLID Program CEPA11. Project aims are:

- To develop a new Generation of CGF able to simulate “Intelligent” behaviour, filling up the gap between user requirements and current available CGF performances
- To create PIOVRA intelligent CGF as effective models to be integrated in HLA Simulation for:
 - Training
 - Operation Planning
 - Operation Support
- To guarantee the possibility to Define/Configure PIOVRA CGF using Libraries and Effective Paradigms in order to guarantee Accreditation, Effectiveness and Usability of PIOVRA developments



Project: SIREN

Professional Courses



The professional courses have been organized since 2000 for WorldWide professionals, in Italian, French and English, focusing on the following subjects:

- PM: Project Management in M&S Projects
- M&S: Modeling & Simulation
- HLA: High Level Architecture
- VV&A: Verification, Validation and Accreditation

The courses include lecturing and exercises; teachers are world-wide experts from major excellence centers (i.e. Boston College, Genoa University, NASA, DMSO, National Center for Simulation, SAIC, Aegis Technologies, California State University, Riga TU, UCF, McLeod Institute of Simulation Science).



Simulation Technology Transfer

Since 2000 MISS-DIP organises Simulation Professional Courses:

- Project Management
- Modelling & Simulation
- High Level Architecture
- Verification, Validation & Accreditation

The Lecturers included experts from major excellence centres (i.e. Boston College, University of Genoa, NASA, DMSO, National Center for Simulation, SAIC, Aegis , California State University., Riga TU, UCF , McLeod Institute of Simulation Science).

The course attendance (PM ~60, M&S 15, HLA 20, VV&A 10) included Companies (i.e. Piaggio Aero Industries, Alenia Aeronautica, Alenia Marconi, SIA, Fincantieri, COOP) and Academia (Pol.Torino, TU Delft, Univ.Marseille, Pol.Milano, Univ.Firenze, Univ.Bari, Univ.L'Aquila, etc.).



Course Location



Lecturing



Team Working & Exercises



Meeting
Sim-Serv
Siren
MIMOS

Meeting Sim-Serv/SIREN/MIMOS

July 7, 2004
Bergeggi, Italy



42 People including major
Italian Company
Representatives



in Cooperation with:





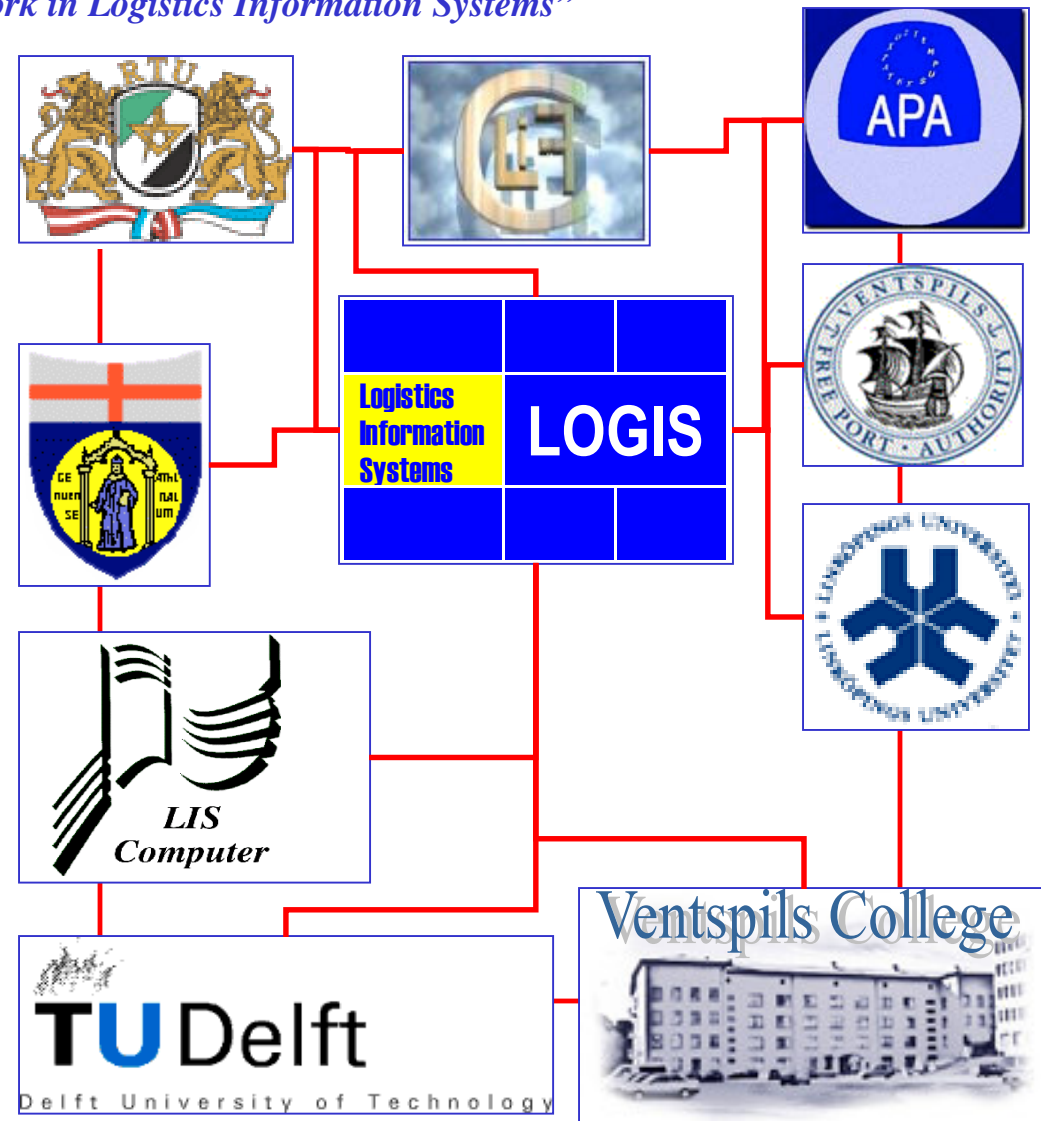
Sponsored by

European Community

Project: LOGIS

“Long-distance tutorial network in Logistics Information Systems”

LOGIS is a *Leonardo* project sponsored by European Community in order to develop Long Distance Tutorial Network in "Logistics Information System", Based on WEB Technologies. Besides the training, an interesting exploitation of the results of the research is related to the transfer of these techniques to Small - Medium size Enterprises.





Sponsored by:



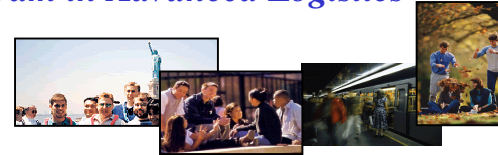
[FIPSE, US Department of Education](#)

[European Community, DGEAC](#)

Project: IEPAL



Intensive Educational Program in Advanced Logistics



IEPAL is a Co-funded project sponsored by European Community and US Department of Education, to live an academic & industrial training, to compare European and US way of living and working. A goal of this project will be the integration & exchange of different culture, the application of Web instrument and mobility to learn to cooperate. It is a Great Opportunity for engineering students and their curriculum to experiment in the new millennium Transatlantic Experiences in Enterprises and Universities working on Projects in **World-Wide Distributed Teams** focusing on the **Advances in Modeling & Simulation for Logistics and Supply Chain Management.**



[University of Central Florida](#)



[Boston College](#)



[Stevens Institute](#)



[Dip-Unige](#)



[LSIS - Marseille University](#)



[Magdeburg University](#)



[Consorzio di Formazione Logistica Intermodale](#)



[National Center for Simulation](#)



MISS - DIP University of Genoa



Liophant Simulation Club



Conclusions

The MISS DIP is acting, with major partners, as a reference point between users and providers in simulation area.

The integration of experts, technicians is providing very good results on real case studies and complex projects.

A new active area of development is related to distributed simulation and web-based modeling for extending the impact and exploitation of these proposed systems.

Every year MISS promotes Conferences and International Workshops focusing on application of Modelling & Simulation; for instance, this year: Summer Simulation in East Coast I3M/HMS2005 in Marseille, MAS in the Italian Riviera and I-Pirates in Caribbean Sea.

There is a constant interest in fostering joint cooperation and exchanges with international Excellence Centers working on simulation.

Philadelphia

SCSC 2005

