



## *Call for Papers*

### **11<sup>th</sup> IFAC SYMPOSIUM ON INFORMATION CONTROL PROBLEMS IN MANUFACTURING**



## **INCOM'2004**



**SALVADOR/BA BRAZIL APRIL 5-7 2004**  
**[www.eleto.ufrgs.br/incom2004](http://www.eleto.ufrgs.br/incom2004)**

### **CONFERENCE SCOPE**

INCOM is a tri-annual symposium organized by IFAC and mainly sponsored by the IFAC Technical Committee 5.1 on Manufacturing Plant Control and co-sponsored by 9 IFAC Technical Committees. Previous editions of the symposium were held in Vienna (2001), Nancy (1998), and in Beijing (1995). Its main purpose is to point up international researches and developments dealing with all the applications of automation, information and communication technologies in order to control and to manage the manufacturing plant within the e-enterprise, involving all methodological and technological aspects to embed a technical "intelligence" within the components. This symposium will address the automation scientific challenges and issues raised by the IMS paradigm in order to apply MEMS, MECHATRONICS, MES, MAS, HMS and e-technologies to digitally control with more agility the entire manufacturing chain, from supply and design through manufacturing, to maintenance and service, over the whole product and processes life cycle. Information issues at the interface of the technical and business processes will be discussed as well as societal and human impact (safety, dependability, usability, knowledge, and experience) of these emerging e-manufacturing technologies.

## SPONSORSHIP



### Technical Committee on Manufacturing Plant Control (TC 5.1)

#### IFAC International Federation on Automatic Control

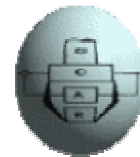
(Chair : G. Morel, FR)

## CO-SPONSORSHIP

- IFAC TC 1.3 Discrete Event Dynamic Systems (C.G. Cassandras, USA)
- IFAC TC 3.1 Computers for Control (R. Sanz, ES)
- IFAC TC 4.1 Components and Instruments (S. Boverie, FR)
- IFAC TC 4.4 Cost-Oriented Automation (H.H. Erbe, DE)
- IFAC TC 4.5 Human Machine Systems (D. Zuehlke, DE)
- IFAC TC 5.2 Manufacturing Modeling for Management and Control (L. Monostori, HU)
- IFAC TC 5.3 Enterprise Integration and Networking (A. Molina, MX)
- IFAC TC 5.4 Large Scale Complex Systems (F.G. Filip, RO)
- IFAC TC 9.2 Social Impact of Automation (J. Stahre, SE)

## ORGANIZATION:

- SBA : Brazilian Society of Automation
- MANET: Brazilian Research Network on Manufacturing and Automation
- GCAR/UFRGS: Control, Robotics, and Automation Group - UFRGS
- SENAI/CIMATEC: Center for Manufacturing Integration and Technology (local organization chair)
- UFBA : Federal University of Bahia
- UNIFACS: University of Salvador
- FTC: College of Science and Technology
- CEFET-Ba: Federal Technology Education Center at Bahia
- AINST : Association for the Instrumentation Professionals of Bahia



**GCAR**

## IMPORTANT DATES

<b>Regular Papers and Special Sessions</b>	<b>November 1st 2003</b>
<b>Communication on paper acceptance</b>	<b>December 15th 2003</b>
<b>Work-in-Progress papers</b>	<b>January 15th 2004</b>

**Regular papers (6 pages) can be directly submitted on conference Webpage. Special sessions submissions should be sent to technical tracks chairs.**

## SPECIAL SESSIONS

Special sessions can be organized under the chair of the technical tracks.

## IFAC PUBLICATIONS & SPECIAL ISSUES

Extended papers will be asked to the authors of the best reviewed papers before the conference in order to be quickly published or selected for special issues of IFAC publications or affiliated ones.

## PUBLICATION

### Copyright conditions:

The material submitted for presentation at an IFAC meeting (congress, symposium, conference, workshop) must be original, not published or being considered elsewhere. All papers accepted for presentation will appear in the Preprints of the meeting and will be distributed to the participants. Papers duly presented will be archived and offered for sale, in the form of Proceedings, by Elsevier Science Ltd, Oxford, UK. The presented papers will be further screened for possible publication in the IFAC Journals (*Automatica*, *Control Engineering Practice*, *Annual Reviews in Control*, *Journal of Process Control* and *Engineering Applications of Artificial Intelligence*), or in IFAC affiliated journals. All papers presented will be recorded on the IFAC Publications website (<http://www.elsevier.com/locate/ifac> ).

Copyright of material presented at an IFAC meeting is held by IFAC. Authors will be sent a copyright transfer form. The IFAC Journals and, after these, IFAC affiliated journals have priority access to all contributions presented. However, if the author is not contacted by an editor of these journals, within three months after the meeting, he/she is free to re-submit the material for publication elsewhere. In this case, the paper must carry a reference to the IFAC meeting where it was originally presented.

# Technical Program Structure

INCOM 2004 Technical Program will be organized around 6 technical tracks. Each track will be extensively discussed during one half-day with invited talks and roundtable discussions. **Special sessions can be organized under the chair of the technical tracks.** Technical tracks and major technical topics to be discussed are:

## **Production & Logistics over Manufacturing Networking**

**Chairs: Morel (FR) & D. McFarlane (UK)**

**Contact email: [Gerard.Morel@cran.uhp-nancy.fr](mailto:Gerard.Morel@cran.uhp-nancy.fr)**

- Enterprise-control system integration
- Business to Manufacturing
- Manufacturing Plant Control & Management
- Control & Management of networked Manufacturing Systems
- Auto-ID Systems and Product Traceability
- Manufacturing Execution Systems
- Unified Manufacturing Modeling Language
- Manufacturing Processes Modeling
- Control of lean manufacturing and interaction with JIT supplies
- Design for manufacturing.

## **Manufacturing Automation over Networks**

**Chairs: C. Pereira (BR) & R. Sanz (ES)**

**Contact email: [cpereira@eletro.ufrgs.br](mailto:cpereira@eletro.ufrgs.br)**

- CORBA manufacturing and middleware for manufacturing automation
- real-time distributed object computing applied to automation
- control over networks
- network-centric embedded systems
- real-time artificial intelligence
- Engineering Applications of Artificial Intelligence
- case studies and performance evaluation
- Java technology (Java, RT-Java, DRT-Java) for manufacturing automation
- Network technology in automation
- New data collection and control devices and related protocols for rapid data transfer and storage
- sensors networks, wireless devices, embedded sensors
- Intranet impact on production flow and material handling, etc. etc.

## **Dependable Manufacturing Systems Control**

**Chairs: J.M. Faure (FR) & C. Diedrich (DE)**

**Contact email : [jean-marc.faure@lurpa.ens-cachan.fr](mailto:jean-marc.faure@lurpa.ens-cachan.fr)**

- Formal or formalised description techniques for the design, implementation and validation of system components and the communication systems
- Manufacturing Systems Formal Design Techniques
- Safe and secure middle ware based on COTS components
- Dependability in networked automation
- Safety and security algorithms

### **Discrete Event Systems in Manufacturing**

**Chairs: J.R. Silva (BR) & J. Zaytoon (FR)**

**Contact email: [reinaldo@usp.br](mailto:reinaldo@usp.br)**

- Product-driven Discrete Event Observability and Controllability
- Object-Oriented modeling techniques
- Graph-oriented modeling approaches: coloured and conventional Petri Nets
- Supervisory systems and supervisory control
- Information Systems approach to discrete control
- Hybrid systems

### **e-Manufacturing Technologies and Facilities**

**Chairs: H. Erbe (DE) & J. Stahre (SW)**

**Contact email: [heinz.erbe@tu-berlin.de](mailto:heinz.erbe@tu-berlin.de)**

**Confirmed plenary lectures: ‘Recent Advances on Web-enabled E-Manufacturing and E-Maintenance Systems’. J. Lee (USA)**

- Realistic Virtual Manufacturing and Virtual Machining
- Quality-Management in E-Manufacturing
- Web based Service for Maintenance and Process Supervision
- Remote health monitoring and predictive maintenance
- Learning in an Agent - Human co-operation
- I&C - Technology for cross-boundary tasks
- Cultural attributes of a global E-Manufacturing
- Education & Training aspects
- Cost reduction through a web-based IPPD (Integrated Product- and Process-Development)
- Green manufacturing, rapid prototyping

### **IMS Modeling and Experiments**

**Chairs: P. Valckenaers (BE) & C. R. Boer (IT)**

**Contact email: [Paul.Valckenaers@mech.kuleuven.ac.be](mailto:Paul.Valckenaers@mech.kuleuven.ac.be)**

- Evaluation of flexibility in manufacturing systems
- Performance criteria for intelligent/flexible/modular manufacturing systems
- Design of a testing campaign or test suite for IMS
- Modeling of Intelligent Manufacturing Systems
- Modeling of flexibility in manufacturing systems
- Modular manufacturing systems
- Holonic Manufacturing Systems
- Multi-agent manufacturing control
- Self-organizing, emergent manufacturing control
- Design and development of experimental platforms for IMS
- Emulation of Manufacturing Systems
- Scalability of Intelligent Manufacturing systems to multi-site and multi-organization (supply chain, virtual manufacturing chain)
- Integration of Human operators and operations managers in IMS
- Industrial case studies

## CONFERENCE CHAIRS

<b>General Chair:</b>	Carlos E. Pereira UFRGS/Brazil
<b>IPC Chair:</b>	Gerard Morel UHP-CRAN, France
<b>Local Organization Chair:</b>	José Reinaldo Silva MANET/USP Brazil
<b>Industrial Chair:</b>	R. Bernhardt IPK/Germany

## INTERNATIONAL PROGRAMM COMMITTEE

P. Albertos, ES	Z. Banaszak, PL	U. S. Bititci, UK
C. R. Boer, IT	S. Boverie, FR	C. Dietrich, DE
A. Dolgui, FR	H. Erbe DE	J.M. Faure, FR
F.G.Filip, RO	G. Frey, DE	M. Garetti, IT
B. Grabot, FR	T. Johnson, USA	P. Kopacek, AT
J. Lee, USA	D. Mc Farlane, AUS	A. Molina, MX
L. Monostori, HU	G. Morel FR J.	G. Neagu, RO
S. Nof, USA	C. Pereira. BR	R. Sanz, ES
J. R. Silva, BR	J. Stahre, SE	P. Valckenaers, BE
Zaytoon, FR	M. Zaremba, CAN	D. Zühlke DE

## LOCATION

The State of Bahia is located in eastern Brazil, bathed by the Atlantic Ocean along the state's 932 kilometers of coastline, two bays, more than 100 islands and innumerable coves and river deltas. The climate is mild, with an average annual temperature of 27°C, and the land is caressed by a soft breeze, especially near the seashore. The sun shines almost year-round, which livens the spirit and darkens the skin of a hospitable and friendly people who favor brightly-colored clothes, believe in many gods and make life a never-ending festival. Salvador is a friendly and hospitable city with a lot to see and do. The historic, mystical and enchanted capital of Bahia, once known as São Salvador, was the main port in the southern hemisphere until the 18th century and the capital of colonial Brazil, which is why it has such a rich historic and architectural heritage. The people are a mix of Africans, Europeans and Native Brazilians and are carefree, creative and musical with deep-rooted traditions and an incredible variety of cultural manifestations. The region's natural beauty is truly spectacular, from All Saints' Bay and the 50 kilometers of beaches in the city to the area's several ecological parks. Additionally, the state government has given tourism top priority, paying special attention to public safety, telecommunications, the training of workers in tourism related industries, the construction of roads and the provision of basic services in tourism development zones. Visitors have an incredible range of options to choose from, so come and experience firsthand the attractions of Salvador. For further information on Salvador and Bahia visit <http://www.bahiatursa.ba.gov.br/index-i.html>

