Saturday, June 26

**Aula Prodi**
- 9:00: Workshop
  - WISP2004
    - 2nd International Workshop on Security Issues with Petri Nets and other Computational Models
- 18:00

**Aula Gualandi**
- 9:00: Workshop
  - Workshop on the Definition, Implementation and Application of a Standard Interchange Format for Petri Nets
- 13:15

10:30-11:00 Coffee Break
12:30-14:00 Lunch
15:30-16:00 Coffee Break
Opening

A Formal Component-Oriented Design Language for Building Distributed System
Mathieu Buffo and Didier Buchs

Workflow as Composition of Domain-Specific Languages
F. Corradini, E. Merelli, and A. Pierantonio

A Colored Petri Net for Regional Synchronization in Situated Multi-Agent Systems
Danny Weyns and Tom Holvoet

Coordination of Mobile Agents: The Bucket Chain-Example
Michael Kohler and Heiko Rolke

Describing Coordination Mechanism of Autonomous Distributed Systems by using Multi Agent Nets
Toshiyuki Miyamato and Sadatoshi Kumagai

Coffee Break

A Process Algebra View of Coordination Models with a Case Study in Computational System Biology
Roberta Amici, Flavio Corradini, and Emanuela Merelli

Discovering Coordination Patterns using Process Mining
W.M.P. van der Aalst

Brainstorming

Exploiting Petri Nets in the Analysis of the Expressiveness of Publish/Subscribe Coordination
Nadia Busi and Gianluigi Zavattaro

Verifying Workflow Nets by Model Checking and Abstraction
Dan Cristian Marinescu, Freucio Laurentiu Tiplea, and Chuang Lin

Closure

Organizers:
Laura Bocchi, University of Bologna, Italy
Paolo Ciancarini, University of Bologna, Italy
Opening 9:20-9:30
Invited Talk: Token-based computing on nanometer scales
Dr. Ferdinand Peper 9:30-10:30
Modelling and Analysis of Self-Timed Cellular Automata Using High-Level Petri Nets
O. Penttinen 10:30-11:00
Coffee Break
Interactive Behaviours of Multi-Component Systems
J. Carmona and H.C.M. Kleijn 11:00-11:30
A Software Power Cost Analysis based on Colored Petri Net
M. Oliveira Júnior, P. Marciel, F. Carvalho and R. Barreto 11:00-11:30
A Standard Cell Implementation of a Phased Logic CPU
R.B. Reese, M.A. Thornton and C. Traver 11:30-12:00
Reduction in synchronization in bundled data systems
C.F. Brej and J.D. Garside 11:30-12:00
Decomposition-based Calculation of Petri net Invariants
D.A. Zaitsev 12:00-12:30
Lunch
From Hardware Processes to Asynchronous Circuits via Petri nets: an Application to Arbiter Design
M. Renaudin and A. Yakovlev 12:30-16:00
Coffee Break
Gate Transfer Level Synthesis as an Automated Approach to Fine-Grain Pipelining
A. Smirnov, A. Taubin, M. Karpovsky and L. Rozenblyum 16:00-16:30
Closure
Welcome and Opening

Invited talk - Embedded Software: Better Models, Better Code
Thomas A. Henzinger

Time Petri Nets with Inhibitor Hyperarcs. Formal Semantics and State Space Computation
Olivier H. Roux and Didier Lime

Coffee Break

New Canonical Representative Marking Algorithms for Place/Transition-Nets
Tommi A. Junttila

Finit Unfoldings of Unbounded Petri Nets
Joerg Desel, Gabriel Juhas and Christian Neumair

Operation Net System: A Formal Design Representation Model for High-Level Synthesis of Asynchronous Systems based on Transformations
Dong-Hoon Yoo, Dong-Ik Lee and Jeong-A Lee

Lunch

Invited talk - Stochastic Methods for Dependability, Performability, and Security Evaluation
William H. Sanders

Tool presentation - An Extensible Editor and Simulation Engine for Petri Nets: Renew
Olaf Kummer, Frank Wienberg, Michael Duvigneau, Jörn Schumacher, Michael Köhler, Daniel Moldt, Heiko Rölke and Rüdiger Valk

Tool presentation - EMiT: A process mining tool
Boudewijn Van Dongen and Wil Van der Aalst

Tool presentation - Web Supported Enactment of Petri-Net Based Workflows with XRL/flower
Alexander Norta

Tool presentation - 3D-Visualization of Petri Net Models: A concept
Ekkart Kindler

Tool presentation - An Approach to Distributed State Space Exploration for Coloured Petri Nets
Lars Kristensen and Laure Petrucci

Coffee Break
25th INTERNATIONAL CONFERENCE ON APPLICATION AND THEORY OF PETRI NETS

June 21-25, Bologna, Italy

Aula Prodi
June 24

Program

9:00-10:00 Invited talk - Reachability Set Generation for Petri Nets: Can Brute Force Be SMART? Gianfranco Ciardo
10:00-10:30 Synthesis of Controlled Behavior with Modules of Signal Nets Gabriel Juhas, Robert Lorenz and Christian Neumair
12:30-14:00 Lunch
14:00-15:00 Invited talk - Formal tools for modular system development Lucia Pomello
15:00-15:30 Edward Ochmański Covering Fairness against Conspiracies
15:30-16:00 Coffee Break
16:00-16:30 Transit case study Eric Verbeek and Robert van der Toorn
10:30-11:00 Coffee Break
11:00-11:30 Petri Net Based Model Validation in Systems Biology Monika Heiner and Ina Koch
11:30-12:00 Qualitative Modelling of Genetic Networks: From Logical Regulatory Graphs to Standard Petri Nets Claudine Chaouiya, Elisabeth Remy, Paul Ruet and Denis Thieffry
12:00-12:30 Modeling and Analysis of Margolus Quantum Cellular Automata Using Net-Theoretical Methods Leo Ojala, Olli-Matti Penttinen and Elina Parviainen
16:30-17:00 Infinity of Intermediate States is Decidable for Petri Nets Harro Wimmel
17:00-17:30 Generalised Soundness of Workflow Nets is Decidable Kees van Hee, Natalia Sidorova and Marc Voorhoeve
17:30-18:00 Properties of Object Petri Nets Michael Köhler and Heiko Rölke

20:30 Banquet
The banquet will take place at the Cantina Bentivoglio which is situated in via Mascarella 4/B
Invited talk - Specification and Model Checking of Temporal Properties in Time Petri Nets and Timed Automata
Wojciech Penczek

10:00-10:30
LTL Model Checking for Modular Petri Nets
Timo Latvala and Marko Mäkelä

12:30-14:00
Lunch

14:00-15:00
Invited talk - Information Flow Security in Petri Nets
Roberto Gorrieri

15:00-15:30
A Framework for the Modelling and Simulation of Distributed Transaction Processing Systems using Coloured Petri Nets
M.Jose Polo Martin, Luis A. Miguel Quintales and Maria N. Moreno Garcia

10:30-11:00
Coffee Break

11:00-11:30
Composition of temporal logic specifications
Adrianna Alexander

11:30-12:00
Compositional modeling of complex systems: contact center scenarios in OsMoSys
Giuliana Franceschinis, Marco Gribaudo, Mauro Iacono, Stefano Marrone, Nicola Mazzocca and Valeria Vittorini

12:00-12:30
Eliminating Internal Behaviour in Petri Nets
Harro Wimmel

15:30-16:00
On the use of Coloured Petri Nets for Object Oriented Design
Joao Paulo Barros and Luis Gomes

16:00-18:00
Business meeting
Welcome

Invited Talk: *Events in security protocols*
Glynn Winskel

Coffee Break

Panel: Security Research in the NIS Countries and Opportunities for joint Cooperation with EU
I. Kotenko, F. Massacci, E. Pogossian, A. Procopio

Lunch

Invited Talk: TBA
Pierpaolo Degano

A formal approach for the evaluation of network security mechanisms based on RBAC policies
Romain Laborde, Frederic Grasset, Bassem Nasser, Francois Barrere, Abdelmalek Benzekri

Coffee Break

Analysing Password Protocol Security Against Off-line Dictionary Attacks (Extended Abstract)
Ricardo Corin, Jeroen Doumen, Sandro Etalle

A Coordination-based Methodology for Security Protocol Verification
Giacomo Baldi, Andrea Bracciiali, Gianluigi Ferrari, Emilio Tuosto

Process Mining and Security: Detecting Anomalous Process Executions and Checking Process Conformance
Wil van der Aalst, Ana Karla Alves de Medeiros

Hybrid Workflow and Bayesian Networks to Correlate Information in the Protection of Large Scale Critical Infrastructures
John Bigham, Xuan Jin, David Gamez
Opening

An Interchange Format for Stochastic Activity Networks Based on the PNML
M. Abdollahi Azgomi and A. Movaghar

Applying Petri Nets to Systems Biology using XML Technologies
O. Shaw, A. Koelmans, J. Steggles and A. Wipat

From PNML to counter systems for accelerating Petri Nets with FAST
S. Bardin and L. Petrucci

Coffee Break

Operational PNML: Towards a PNML Support for Model Construction and Modification
J. P. Barros and L. Gomes

Process model repositories and PNML
K.M. van Hee, R.D.J. Post, L.J.A.M. Somers and J.M.E.M van der Werf

Towards a High-level Petri Net Type Definition
M. Westergaard

Discussion
# Tutorials

## Aula 2
**June 21**

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>9:00-9:30</td>
<td>Informal Introduction to Petri Nets</td>
<td>W. Reisig</td>
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<tr>
<td>9:30-10:30</td>
<td>Elementary Net Systems I</td>
<td>J. Kleijn</td>
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<td>10:30-11:00</td>
<td>Coffee break</td>
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<tr>
<td>11:00-11:30</td>
<td>Elementary Net Systems I (cont.)</td>
<td>G. Rozenberg</td>
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<tr>
<td>11:30-12:30</td>
<td>Place/Transition Nets I</td>
<td>J. Desel, K. Schmidt</td>
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<td>Lunch</td>
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<td>14:00-14:30</td>
<td>Place/Transition Nets I (cont.)</td>
<td>J. Desel, K. Schmidt</td>
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<tr>
<td>14:30-15:30</td>
<td>Timed and Stochastic Nets</td>
<td>S. Donatelli</td>
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<td>15:30-16:00</td>
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<tr>
<td>16:00-17:30</td>
<td>High Level Nets</td>
<td>K. Jensen</td>
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## Aula 2
**June 22**

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<tbody>
<tr>
<td>9:00-10:30</td>
<td>Elementary Net Systems II</td>
<td>J. Kleijn</td>
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<tr>
<td>11:00-12:30</td>
<td>Place/Transition Nets II</td>
<td>M. Silva</td>
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<td>12:30-14:00</td>
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<tr>
<td>14:00-15:00</td>
<td>Introduction to GSPNs</td>
<td>S. Donatelli</td>
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<td>15:00-15:30</td>
<td>High Level Nets</td>
<td>K. Jensen</td>
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<td>16:00-17:30</td>
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## Aula Gualandi
**June 22**

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<tbody>
<tr>
<td>09:00 - 10:00</td>
<td>Discrete Event System (DES), Formal Languages, Automata and Petri Nets</td>
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<td>10:00 - 10:30</td>
<td>Monitoring Problems for DES Modeled by Automata and Petri Nets</td>
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<td>Supervisory Control of DES</td>
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<td>15:30 - 16:00</td>
<td>Coffee break</td>
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<td>16:00 - 17:00</td>
<td>Supervisory Control of DES</td>
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<tr>
<td>17:00 - 17:30</td>
<td>Summary and Current Research Directions</td>
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