Petri Nets 2014 & ACSD 2014

Tunis, Tunisia

23rd - 27th June

INDEX

Preface

Salam and Welcome to Tunis!

It is our great pleasure to welcome you to Tunis for the thirty-fifth International Conference on Application and Theory of Petri Nets and Concurrency and the fourteenth International Conference on Application of Concurrency to System Design together with their satellite events. It is a distinct honour to host these two flagship conferences on the design of concurrent systems for the first time in Tunisia and also for the very first time in Africa and the Middle East.

The events will start on Sunday, June 22th, with the Petri Net Course which will run for three days.

On Monday, June 23rd, the Petri Nets and Software Engineering (PNSE 2014), Biological processes and Petri Nets (BioPPN 2014) and Formal methods for Security (FMS 2014) workshops will take place.

On Tuesday, June 24th, the PNSE 2014 workshop will be continued, together with the Petri Nets for Adaptive Discrete-Event Control Systems (ADECS 2014) workshop, the Model Cheking Contest (MCC 2014) and the two Petri Net Course related Advanced Tutorials: Petri nets for Multiscale Systems Biology, and From Symmetric Nets to Symmetric Nets with Bags.

The two main conferences will take place from Wednesday, June 25th, to Friday, June 27th. The Welcome Reception (on Wednesday) and the conference dinner (on Thursday) will be held in selected, typical locations around Tunis City.

This year the invited talks will be given by W. Murray Wonham (Distinguished Carl Adam Petri Lecture), Christel Baier, Stephen A. Edwards, Matthieu Latapy and Kurt Lautenbach.

I wish to express my gratitude to the members of the two steering committees. Thank you for placing your trust in us and supporting our ambition to hold this event in Tunis. I'd like to thank the chairs and members of both program committees for their dedication and their commitment in reviewing the papers and selecting high-quality ones among them. I'd also like to thank the satellite event organisers. Thank you for proposing interesting topics and collecting related papers.

Finally, special thanks are due to our academic sponsors: The Universities of Tunis El Manar, Manouba, Carthage and the Central University.

This program booklet contains information about the events of the week, as well as the talks and session schedule details. The entire local organisation crew will be happy to answer any questions and provide any type of information you may request.

I'm looking forward to an exciting week of sharing scientific and technical ideas and visions with colleagues from around the world. I am extremely grateful to all of you for attending the conference and for being a part of this important event. On behalf of the local organisation, I do hope you enjoy this program and that you make the most of your stay in Tunisia.

Kamel Barkaoui
General and Organizing Chair

General Information

Arrival
Two registration desks will be open . One at Regency Tunis Hotel and the other in Tunis Science City. If you have any questions feel free to ask any of the crew or organisers.

On-Site Registration
Upon first arrival we would like to ask you to check-in at our registration desks. Here, you will receive the conference bag containing proceedings, course material and further information. The registration desk is also the main contact point for any question regarding invoices and payment of fees. It is open from around 8.30am to 5pm during the entire event and our crew members are happy to help you in any way they can.

Internet Access
A free wireless lnternet connection is available to all participants during the entire event.

Locations

Main Conferences
Petri Nets 2014 and ACSD 2014 Conferences will take place in The Regency Tunis Hotel, Gammarth.
Téléphone : +216 71 910 900

Co-Located Events
The Co-Located Events « Petri Net Course, Tutorials and Workshops » will take place in Tunis Science City. Boulevard Mohamed Bouazizi Tunis 1004. / Téléphone: +216 71 766 000

A transport from Regency Tunis Hotel to Tunis Science City will be provided Monday 23rd and Tuesday 24th June.

Social Events

The social programme offers a Reception on Wednesday 25th June evening, a Conference Banquet on Thursday 26th June evening and a Cultural Day on Saturday 28th June.

Welcome Reception
A reception for all attendants will be given at the Beit al-Hikma - The Tunisian Academy of Sciences, Letters and Arts - in Carthage on Wednesday evening starting at 19:00.
Buses will depart from the Regency Tunis Hotel at 18:30

Conference Dinner
The Conference Dinner will be held at the Dar Zarrouk Restaurant on Thursday evening starting at 20:30
The restaurant is located in the city of Sidi Bou Saïd.
The dinner will be preceded by a visit to the famous Ennejma Ezzahra, - Arabic and Mediterranean Music Center.
Buses will depart from the Regency Tunis Hotel at 18:30

Cultural Saturday
Morning: visit of Bardo Museum
Lunch in Tunis Medina
Afternoon: Visit of Carthaginian and Roman historic sites
Buses will depart from the Regency Tunis Hotel at 9:30 (return at the Hotel at 8:00 pm)

From Sunday, 22th to Tuesday 24th June, all sessions are held in the in Tunis Science City

Sunday, 22th June
Petri Net Course

Monday, 23th June
Petri Net Course
PNSE 2014: Petri Nets and Software Engineering
BioPPN 2014: Biological Processes and Petri Nets
FMS 2014: Formal Methods for Security

Tuesday, 24th June
Petri Net Course Tutorial 1: Petri nets for Multiscale Systems Biology
Petri Net Course Tutorial 2: From Symmetric Nets to Symmetric Nets with Bags
PNSE 2014: Petri Nets and Software Engineering
ADECS 2014: Petri Nets for Adaptive Discrete-Event Control Systems

From Wednesday, 25th June to Friday, 27th June, all sessions are held in the The Regency Tunis Hotel, Gammarth.

Wednesday, 25th June
Petri Nets 2014
ACSD 2014

Thursday, 26th June
Petri Nets 2014
ACSD 2014
Tools Exhibition

Friday, 27th June
Petri Nets 2014
ACSD 2014

Petri Nets 2014 Program Committee Co-chairs : *Ekkart Kindler and Gianfranco Ciardo*
ACSD 2014 Program Committee Co-chairs : *Luca Bernardinello and Andrey Mokhov*

Wednesday, June 25th

08:15 Registration
09:00 Opening Session
09:30 Invited Talk by *Kurt Lautenbach* - Propagation Nets (session chair: *Ekkart Kindler*)

10:30 Break

11:00 Petri Nets Talks (Workflow) (session chair: Piotr *Chrzastowski-Wachtel*)
Jose Antonio Mateo, Jiri Srba and Mathias Grund Sørensen : Soundness of Timed-Arc Workflow Nets
Anna A. Kalenkova, Irina A. Lomazova and Wil van der Aalst : Process Model Discovery: A Method Based on Transition System Decomposition
Sander J.J. Leemans, Dirk Fahland and Wil M.P. van der Aalst : Discovering Block-Structured Process Models from Incomplete Event Logs

11:00 ACSD Talks (Logic and model-checking)
Michał Knapik, Artur Meski and Wojciech Penczek : Action Synthesis for Branching Time Logic: Theory and Applications
Yves-Stan Le Cornec and Franck Pommereau : Modular mu-calculus model-checking with formula-dependent hierarchical abstractions

12:30 Lunch

14:30 Invited Talk by *Christel Baier*-Energy-utility analysis using probabilistic model checking (session chair: *Gianfranco Ciardo*)

15:30 Break

16:00 Petri Nets Talks (Tool papers) (session chair: *Mohamed Khalgui*)
Elvio Gilberto Amparore, Marco Beccuti and Susanna Donatelli : (Stochastic) Model Checking in GreatSPN
Edmundo López Bóbeda, Maximilien Colange and Didier Buchs : StrataGEM: A Generic Petri Net Verification Framework
Mostafa Herajy and Monika Heiner : A Steering Server for Collaborative Simulation of Quantitative Petri Nets
Stanislav Böhm, Marek Běhálek, Ondrej Meca and Martin Surkovsky : Kaira: Development Environment for MPI Applications

16:00 ACSD Talks (Automata)

Arpit Sharma and Joost-Pieter Katoen: Layered Reduction for Abstract Probabilistic Automata

Alexandre David, Kim Guldstrand Larsen, Axel Legay, Guangyuan Li and Danny Bøgsted Poulse : Quantified Dynamic Metric Temporal Logic for Dynamic Networks of Stochastic Hybrid Automata

Ferenc Bujtor and Walter Vogler: Failure Semantics for Modal Transition Systems

Nicolas D'Ippolito, Victor Braberman, Nir Piterman and Sebastian Uchitel : Controllability in Partial and Uncertain Environments

18:00 End of talks

Thursday, June 26th

09:00 Distinguished Carl Adam Petri Lecture by *W. Murray Wonham :* Supervisory Control Synthesis for Discrete-Event Systems (session chair : *Maciej Koutny*)

10:00 Break

10:30 Petri Nets Talks (Synthesis and new formalisms) (session chair : *Jörg Desel*)

Eike Best and Raymond Devillers : Synthesis of Persistent Systems

Normann Decker, Peter Habermehl, Martin Leucker and Daniel Thoma : Learning Transparent Data Automata

Pawel Sobocinski and Owen Stephens : A Programming Language for Spatial Distribution of Net Systems

10:30 ACSD Talks (Dataflow)

Robert de Groote, Philip Hölzenspies, Jan Kuper and Gerard Smit : Multi-Rate Equivalents of Cyclo-Static Synchronous Dataflow Graphs

Waheed Ahmad, Robert De Groote, Philip K.F. Hölzenspies, Mariëlle Stoelinga and Jaco van de Pol : Resource-Constrained Optimal Scheduling of Synchronous Dataflow Graphs via Timed Automata

Alok Lele, Orlando Moreira, Kaushal Butala, Pieter J. L. Cuijpers and Kees van Berkel : Cyclo-Static Data Flow Model for TDM

12:00 Lunch

13:30 Tools exhibition

14:30 Invited Talk by *Stephen A. Edwards :* Functioning Hardware from Functional Languages

15:30 Break

16:00 Petri Nets Talks (Partial order semantics) (session chair : *Kaïs Klaï*)

Giovanni Casu and G. Michele Pinna : Flow Unfolding of Multi-clock Nets

Paolo Baldan and Alberto Carraro : Non-interference by Unfolding

Artem Polyvyanyy, Matthias Weidlich, Raffaele Conforti, Marcello La Rosa and Arthur H.M. Ter Hofstede:
The 4C Spectrum of Fundamental Behavioral Relations for Concurrent Systems

Robert Lorenz, Markus Huber and Günther Wirsching : On Weighted Petri Net Transducers

16:00 ACSD Talks (Programming and runtime support)

Florian Furbach, Roland Meyer, Klaus Schneider and Maximilian Senftleben :
Memory Model-aware Testing - a Unified Complexity Analysis

Aurelien Deharbe and Frederic Peschanski : The Omniscient Garbage Collector: a Resource Analysis
Framework

Thomas Carle, Manel Djemal, Dumitru Potop Butucaru, Robert De Simone and Zhen Zhang :
Static mapping of real-time applications onto massively parallel processor arrays

Ashur Rafiev, Alexei Iliasov, Alexander Romanovsky, Andrey Mokhov, Fei Xia and Alex Yakovlev :
Studying the Interplay of Concurrency, Performance, Energy and Reliability with ArchOn –
an Architecture-open Resource-driven Cross-layer Modelling Framework

18:00 End of talks

Friday, June 27th

09:00 Invited Talk by *Matthieu Latapy :* Complex Networks and Link Streams for the Empirical Analysis of
Large Software (session chair : *Kamel Barkaoui*)

10:00 Break

10:30 Petri Nets Talks (Analysis) (session chair : *Raymond Devillers*)

Florent Avellaneda and Rémi Morin : Exhibition of a Structural Bug with Wings

Marco Beccuti, Enrico Bibbona, Andras Horvath, Roberta Sirovich, Alessio Angius, and Gianfranco Balbo:
Analysis of Petri Net Models through Stochastic Differential Equations

María Martos-Salgado and Fernando Rosa-Velardo : Dynamic Networks of Timed Petri Nets

Petri Nets and ACSD Session Schedule

10:30 ACSD Talks (Unfolding and Tools)

Vasileios Germanos, Stefan Haar, Victor Khomenko and Stefan Schwoon : Diagnosability under Weak Fairness
Kari Kähkönen and Keijo Heljanko :
Testing Multithreaded Programs with Contextual Unfoldings and Dynamic Symbolic Execution
Imen Khemaissia, Olfa Mosbahi and Mohamed Khalgui :
New Automatic Agent-based Solutions for Feasible Reconfigurable MP-SoC Architectures
Fabrice Kordon and Francis Hulin-Hubard : BenchKit, a Tool for Massive Concurrent Benchmarking

12:00 Lunch

14:00 Petri Nets Talks (Net properties) (session chair : *Didier Buchs*)
Ernst W. Mayr and Jeremias Weihmann :
A Framework for Classical Petri Net Problems : Conservative Petri Nets as an Application
Thomas Hujsa, Jean-Marc Delosme and Alix Munier-Kordon :
On the Reversibility of Well-behaved Weighted Choice-Free Systems

14:00 ACSD Talks (Interaction)

Loic Helouet, S. Akshay and Madhavan Mukund : Sessions with an unbounded number of agents
Antti Siirtola: Parametrised Interface Automata
Jaime Arias, Myriam Desainte-Catherine and Camilo Rueda :
Modelling Data Processing for Interactive Scores Using Coloured Petri Nets

15:30 Break

16:15 Closing session

17:00 End of conference

FMS 2014
Organized by *Veronique Cortier and Riadh Robbana*

Monday, June 23rd

08:30 - Registration
09:30 – Session 1: Electronic voting
Invited Talk by *Mark Ryan* - Du-Vote : Remote Electronic Voting with Untrusted Computers.

11:00 Break

11:30- Session 2: Information Systems Security
A.Radhouani, A.Idani, Y.Ledru and N.Ben Rajeb :
Extraction of insider attack scenarios from a formal information system modeling.
S.Zhioua and M.Langar : Traffic Analysis of Web Browser.

13:00- Lunch

14:30- Session 3: Security Protocol
M.Mejri, J.Fattahi and H.Houmani : Secrecy by Witness-Functions.
M.Langar and K.Dahmani : Formal Enforcement of Security Policies on Choreographed Services.
A.Ben Shil and K.Blibech Sinaoui : A Timestamping Scheme with Eternal Security in the Bounded Storage Model.

16:00 Break

16:30- On-going Work
Y.Souheib and S.Safa : Enhancement of E-passport Authentication Protocol.
M.Naceur and L.Sfaxi :
Robustness Testing of the Non-interference Property in Component-based Distributed Systems.

17:30 Closing of FMS *(Veronique Cortier and Riadh Robbana)*

18:00- End of Workshop

BioPPN 2014
Organized by *Alia Benkahla and Monika Heiner*

Monday – June, 23rd

08:30 - Registration

9:30 - Session 1 (Chair : *Monika Heiner*)
BioPPN Opening
Invited Talk by *Marco Beccuti :* Mathematical models on cancer progression

11:00 - Break

11:30 - Session 2
Rafael V. Carvalho, Jetty Kleijn and Fons Verbeek :
A multi-scale extensive Petri net model of the bacterial–macrophage interaction
Jure Bordon, Miha Moškon and Miha Mraz : Overcoming unknown kinetic data for quantitative model-
ling of biological systems using fuzzy
logic and Petri nets
Mostafa Herajy, Fei Liu and Christian Rohr : Coloured Hybrid Petri Nets for Systems Biology

13:00 - Lunch

14:30 - Session 3
Marie C.F. Favre, Wolfgang Marwan and Annegret Wagler :
Integrating a priori knowledge in automatic network reconstruction
Cinzia Di Giusto, Hanna Klaudel and Franck Delaplace :
Systemic approach for toxicity analysis :
Closing Remarks and Discussion, *Monika Heiner*

16:00 - Break

PNSE 2014

Organized by ***Daniel Moldt and Heiko Rölke***

Monday – June, 23rd

08:30 Registration

09:30 Session 1 PNSE Opening and Short Presentations (Chair : *Heiko Rölke*)

IkhlefLyes, LekadirOuiza and DjamilAissani :

Performance Analysis of M/G/1 Retrial Queue with Finite Source Population
Using Markov Regenerative Stochastic Petri Nets

Kamila Barylska :

Persistency and Nonviolence Decision Problems in p/t-nets with step semantics

Kerstin Irgang and Thomas Irgang :

Visual Language Plans - Formalization of a Pedagogical Learnflow Modeling Language

11:00 Break

11:30 Session 2 Long Presentations

RobinBergenthum and Joachim Schick : Verification of Logs - Revealing Faulty Processes of a Medical Laboratory

Mihai LicaPura and Didier Buchs :

Using Symbolic Techniques and Algebraic Petri Nets to Model Check Security Protocols for Ad Hoc Networks

13:00- Lunch

14:30 Session 3 Short Presentations

Fernando Tricas, José Manuel Colom, and Juan JuliánMerelo :

Computing minimal siphons in Petri net models of Resource Allocation Systems: an evolutionary approach

DjaouidaDahmani, MohandCherifBoukala, and Hassan Mountassir :

Reusing and Adapting Components using atomic and non-atomic Strong Synchronisations

Zohra Sbaï, Kamel Barkaoui, and Hanifa Boucheneb :

Compatibility Analysis of Time Open Workflow Nets

16:00 Break

16h30 Session 4 Short Presentations

Yasir Imtiaz Khan and Nicolas Guelfi :

Slicing High-level Petri nets

Dennis Schunselaar, Eric Verbeek, Wil van der Aalst, and Hajo A. Reijers : Petra: A Tool for Analysing a Process Family

Ning Ge and Marc Pantel : Real-Time Property Specific Reduction for Time Petri Net

Tuesday – June, 24th
09:00 Session 5 Long Presentations
ArturNiewiadomski and Wojciech Penczek :
SMT-based Abstract Temporal Planning
Kais Klai : On-The-Fly Model Checking of Timed Properties on Time Petri Nets

11:00 Coffee Break & Poster Presentation

12:00 Session 6
Invited Talk by *Lars Michael Kristensen :*
An Approach for the Engineering of Protocol Software from Coloured Petri Net Models:
A Case Study of the IETF WebSocket Protocol

13:00 Lunch

14:30 Session 7 Long Presentation and Short Presentations
Ramchandra Phawade and Kamal Lodaya : Kleene theorems for labelled free choice nets
Messaoud Rahim,MalikaBoukala-Ioualalen, and Ahmed Hammad :
Petri Nets Based Approach for Modular Verification of SysML Requirements on Activity Diagrams
Kent Inge Fagerland Simonsen : An Evaluation of Automated Code Generation with the PetriCode Approach

16:00 Break

16:30 Session 8 Short Presentation
Luca Bernardinello, Lucia Pomello, and Stefano Scaccabarozzi : Morphisms on Marked Graphs
Jörg Desel and GörkemKılınç : Liveness Implies Observable Liveness if Uncontrollable Behavior is Determi-
nistic

17:30 Closing of PNSE (Daniel Moldt, Heiko Rölke)

18:00- End of Workshop

ADECS 2014
Organized by *Mohamed Khalgui and Zhiwu Li*

Tuesday, June 24th,
08:00 - Registration
09:30 – Session 1 ADECS Opening and Long Presentations
Laid Kahloul, Chaoui Allaoua, Karim Djouani, Samir Bourekkache and Okba Kazar :
Using High Level Nets for the Design of Reconfigurable Manufacturing Systems.
Baisi Liu, Mohamed Ghazel and Armand Toguyéni :
OF-PENDA : A Software Tool for Fault Diagnosis of Discrete Event Systems Modeled by Labeled Petri Nets.

11:00 - Break

11:30- Session 2 Long Presentations
Ahmed Kheldoun, Jiafeng Zhang, Kamel Barkaoui and Malika Ioualalen :
A High-Level Nets based Approach for Reconfigurations of Distributed Control Systems.
Mohamed Oussama Ben Salem, Olfa Mosbahi and Mohamed Khalgui :
PCP-based Solution for Resource Sharing in Reconfigurable Timed Net Condition/Event Systems.

13:00- Lunch

14:30- Session 3 Long Presentations
Murat Uzam, Zhiwu Li and Umar Suleiman Abubakar :
A General Approach for the Computation of a Liveness Enforcing Supervisor for the Petri Net Model of an FMS.
Radhia Gaddouri, Leonardo Brenner and Isabel Demongodin :
Extension of Batches Petri Nets by Bi-parts Batch Places.

16:00 - Break

16:30 Closing of ADECS (*Mohamed Khalgui and Zhiwu Li*)

17:00- End of Workshop

Petri Net Course
Organized by *Jörg Desel and Jetty Kleijn*

Sunday, June 22

Module 1: Basic net classes
Lecturers: *Joerg Desel and Jetty Kleijn*

09:30 - Part 1
11:00 - Break
11:30 - Part 2

Abstract : This is the introductory module to the Petri Net Course and as such provides key concepts and definitions underlying almost every Petri net model. Guided by a motivating example, principles of net theory are discussed highlighting local dynamics and concurrency. Two basic net classes are introduced and investigated: Place/Transition Systems and Elementary Net (EN) Systems. We consider the occurrence rule (token game), reachability, state graph, behavioural properties like deadlock and boundedness, behavioural equivalence and normal forms. The fundamental situations causality, conflict, concurrency, and confusion are explained in the context of EN Systems. We discuss EN system behaviour in terms of sequential and non-sequential observations. Finally, basic analysis techniques are presented to establish structural properties of nets.

13:00 Lunch

Module 2: Coloured Petri Nets 1 (Modelling)
Lecturer : *Lars Kristensen*

14:30- Part 1
16:00 - Break
16:30 - Part 2

Abstract : This module focuses on the constructs and definition of the Coloured Petri Nets (CPN) modelling language. CPNs belong to the class of high-level Petri nets and combines Petri Nets with the functional programming language Standard ML (SML). Petri nets provides the primitives for modelling concurrency, communication, and synchronisation while SML provides the primitives for modelling data manipulation and for creating compact and parameterised models. CPNs and the supporting computer tool CPN Tools have been widely used in practice for modelling and validating a wide range of concurrent software systems.
Having completed this module the participants will be able to: explain and use the basic constructs of the CPN modelling language explain the syntax and semantics of CPNs apply CPN Tools for construction and simulation of medium-sized CPN models The module includes hands-on experiments with CPN Tools.

Monday, June 23

Module 3: Coloured Petri Nets 2 (Analysis)
Lecturer : *Lars Kristensen*

09:30 - Part 1
11:00 - Break
11:30 - Part 2

Abstract : Explicit state space exploration is one of the main approaches to computer-aided verification of concurrent systems, and it is one of the main analysis methods for Coloured Petri Nets (CPNs). This module provides an introduction to state space methods in the context of CPNs, and explains how standard behavioural properties of CPNs can be verified fully automatically using state spaces and the support for state space analysis provided by CPN Tools.
Having completed this module the participants will be able to:define standard behavioural properties of CPNs explain the basic concepts of state spaces and how they are computed explain how basic behavioural properties can be verified from state spaces apply state spaces for verification of medium-sized CPN models. The module includes hands-on experience with CPN Tools and examples of industrial applications of state space methods.

13:00 Lunch

Module 4 : Timed and Stochastic Petri Nets
Lecturer: *Serge Haddad*

14:30- Part 1
16:00 - Break
16:30 - Part 2

Abstract : This module presents different ways to introduce time in Petri nets. The focus will be on two models, where time is associated with the firing delay of transitions. In time Petri nets (TPN), the delay is non-deterministically chosen within an interval. We describe the class graph construction, which is the main analysis tool of TPNs. In generalized stochastic Petri nets (GSPN) the delay is obtained by sampling a random variable. For particular kinds of distributions, we describe the construction of a continuous time Markov chain on which the main performance indices can be computed.

Tutorials

On **Tuesday June 24th**, participants can choose between the following full-day tutorial modules :

Time : 09:30 - 18:00

Tutorial 1 : Petri nets for Multiscale Systems Biology (related to BioPPN 2014)
Organized by *David Gilbert, Monica Heiner and Wolfgang Marwan*

Abstract : The use of models of biochemical networks is a central component for both Systems and Synthetic Biology. Constructing, analysing and applying these models for prediction (Systems Biology) or design (Synthetic Biology) is a major challenge that can benefit from the application of methods originating in computer science and software engineering. This tutorial gives an introduction to a general modelling framework and shows how it can be applied to analysing existing biological systems and designing novel systems. A particularly challenging aspect is modeling biological systems which are characterized by important features at multiple spatial and/or temporal scales. We introduce a biomodel engineering framework to address some of these issues within the context of multiscale Systems Biology. Our methodology is based on a structured family of Petri net classes which enables the investigation of a given system using various modelling abstractions: qualitative, stochastic, continuous and hybrid, optionally in a spatial context. We illustrate our approach with case studies demonstrating hierarchical flattening, treatment of space, and hierarchical organisation of space. Finally, we discuss two approaches of a systematic network construction - design modules first and then construct the networks by module composition, or automatically reconstruct the networks from time series data.

Tutorial 2 : From Symmetric Nets to Symmetric Nets with Bags
Organized by *Fabrice Kordon, Laure Petrucci and Souheib Baarir*

Abstract : Depending on the system to model and analyse, using place/transition nets may easily be cumbersome and error-prone. Hence, it might be convenient to use some class of high-level nets. Coloured Petri nets enjoy the use of a high-level language to describe data while the net structure captures the flow of information. Although they provide very nice means for modelling, their generality has the drawback of the difficulty to apply efficient analysis techniques. In this tutorial, we focus on symmetric nets which are high-level nets with a limited set of allowed data types, allowing for efficient state space analysis. We also tackle their extension to symmetric nets with bags for which analysis can still be applied. The tutorial will present the underlying theory, the verification approaches, typical applications, and will put these into practice through hands-on sessions using the CosyVerif verification environment.

Model Checking Contest and Tools Exhibition

Model Checking Contest @ Petri Nets 2014
Organized by *Fabrice Kordon and Didier Buchs*

The Model Checking Contest is a yearly scientific event dedicated to the assessment of formal verification tools for concurrent systems.

The objective of the Model Checking Contest is to compare the efficiency of techniques according to characteristics of models. To do so, the Model Checking Contest compares tools on several classes of models with scaling capabilities (e.g. values that set up the «size» of its associated state space). Through the feedback on tools efficiency according to the selected benchmarks, we aim at identifying the techniques that can tackle a given type of problem identified in a «typical mode», for a given class of problem (e.g. state space generation, deadlock detection, reachability analysis, causal analysis).

Announcement of results: Tuesday 24 June 2014 at 16:30 in Tunis Science City

Tools Exhibition

The exhibition of Petri net tools consists of informal demonstrations for small groups/individuals, and there are no scheduled talks.
This event will take place in Regency Tunis Hotel Thursday June 24th.

Organising Committee

General and Organising Chair : Kamel Barkaoui, Cedric, Cnam, Paris

Local Organising Chair : Khaled Ghedira, Science City, ATIA, Tunis

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Serge Haddad, LSV, ENS Cachan

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