

# QEST+FORMATS 2024

**Edgemont Room**, Best Western Plus Village Park Inn, Calgary



**Workshops, Mon, Sep 9**

**Day 1, Tue, Sep 10**

**Day 2, Wed, Sep 11**

**Day 3, Thu, Sep 12**

**Fri, Sep 13**

08:50-09:00

Opening Talk

09:00-10:00

EXPRESS/SOS 2024  
TRENDS 2024

Invited talk by Mor Harchol-  
Balter

Invited talk by Corina  
Pasareanu (**Foothills Room**)

Invited talk by Thomas Wies

10:00-10:30

Break

10:30-12:00

EXPRESS/SOS 2024  
TRENDS 2024

Understanding Systems

Timed Systems

Program Controller  
Synthesis

12:00-13:30

Lunch

13:30-15:00

EXPRESS/SOS 2024  
TRENDS 2024

Input Modeling and  
Parametrisation

Temporal Logic + Work In  
Progress

MDP Graded Automata

15:00-15:30

Break

15:30-17:00

EXPRESS/SOS 2024  
TRENDS 2024

Rare Events+Work in Prog.  
**\* Group Photo @ 17:00 \***

Tool Demo Session  
**(Lounge Space)**

17:00-17:30

17:30-18:00

18:00-19:00

Reception  
**(Foothills Room)**

Indigenous Performance  
and Dinner  
**(Foothills Room)**

Women  
Networking  
Night  
**(Foothills  
Room)**

09:00-19:30

19:30-20:00

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## Understanding Systems

1. Certificates and Witnesses for Multi-Objective Queries in Markov Decision Processes (Sascha Klüppelholz et al.)
2. Diagnosis of Stochastic Systems: Optimising Costs and Delays (Isaline Plaid et al.)
3. A framework for optimisation based stochastic process discovery (Pascale Le Gall et al.)

## Input Modelling and Parameterisation

1. QuADTool: Attack-Defense-Tree Synthesis, Analysis and Bridge to Verification (Jan Kretinsky et al.)
2. Adaption of Stochastic Models (ASMo) - A Tool for Input Modeling (Alina Timmermann et al.)
3. Approximation of Cumulative Distribution Functions by Bernstein Phase Type Distributions (Illes Horvath et al.)

## Timed Systems

1. On Parametric DBMs and their applications to time Petri nets (Olivier H. Roux et al.)
2. Dissimilarity for Linear Dynamical Systems (Andrea Vandin et al.)
3. MMLT/ik: Efficiently Learning Mealy Machines with Local Timers by using Imprecise Symbol Filters (S. Glesner et al.)

## Temporal Logic + Work in Progress

1. An Expressive Timed Modal Mu-Calculus for Timed Automata (Peter Fontana et al.)
2. Efficiently Computable Distance-Based Robustness for a Practical Fragment of STL (Eugene Asarin et al.)
3. REDUCTO: A novel approach to the reduction of Boolean Networks (Andrea Vandin)
4. Hyperproperties for Privacy, Fairness, and Legal Requirements (Ashutosh Trivedi)

## Rare Events + Work in Progress

1. Rare-Event Guided Analysis of Infinite-State Chemical Reaction Networks (Hao Zheng et al.)
2. Transient Evaluation of Non-Markovian Models by Stochastic State Classes and Simulation (Enrico Vicario et al.)
3. PRoTECT: Parallelized Construction of Safety Barrier Certificates for Nonlinear Polynomial Systems (Ben Wooding)

## Program and Controller Synthesis

1. Probabilistic Loop Synthesis from Sequences of Moments (Ezio Bartocci et al.)
2. IMPaCT: Interval MDP Parallel Construction for Controller Synthesis of Large-Scale Stochastic Systems (A. Lavaei et al.)
3. Controller Synthesis in Timed Büchi Automata: Robustness and Punctual Guards (Youssef Oualhadj et al.)

## MDP and Weighted Automata

1. A Floyd-Warshall Approach to Value Computation in Markov Decision Processes (Loic Helouet et al.)
2. Multi Agent Pathfinding for Timed Tasks using Evolutionary Techniques (Jyotirmoy Deshmukh et al.)
3. What is your discount factor? (Ashutosh Trivedi et al.)

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## EXPRESS/SOS 2024 (Foothills Room)

## TRENDS 2024 (Edgemont Room)

08:50-9:00	Opening	Opening
09:00-10:00	Elli Anastasia	Elli Anastasia
10:00-10:30	Break	Break
10:30-11:00	Functional Array Programming in an Extended Pi-Calculus	
11:00-12:00	Simone Tini	Simone Tini
12:00-12:30	Linear Temporal Monitors for Session Types	
12:30-14:00	Lunch	
14:00-15:00	Clément Aubert	Clément Aubert
15:00-15:30	Synchronisability in Mailbox Communication	
15:30-16:00	Break	Break
16:00-16:30	Semantics for Linear-time Temporal Logic with Finite Observations	
16:30-17:00	Expansion Laws for Forward-Reverse, Forward, and Reverse Bisimilarities via Proved Encodings	
17:00-17:30	Game for the Spectrum between Branching Bisimilarity and Weak Trace Semantics	