

FMICS 2018 Programme

Monday, 3 September, Room 0.32, Iontas Building, North Campus

08:00 - 08:45	Registration in Iontas Building Foyer
08:45 - 09:00	FMICS Opening and Welcome
09:00 - 10:00	Invited Talk: Tiziana Margaria. <i>Generative model driven design for agile system design and evolution - a tale of two worlds.</i>
10:00 - 10:30	Coffee break in Iontas Building Foyer
Session 1	Safety of Distributed Systems
10:30 - 11:00	Martin Kölbl and Stefan Leue. <i>Automated Functional Safety Analysis of Automated Driving Systems</i>
11:00 - 11:30	Alessandro Fantechi and Anne E. Haxthausen. <i>Safety Interlocking as a Distributed Mutual Exclusion Problem</i>
11:30 - 12:00	Jan Toennemann, Andreas Rausch, Falk Howar and Benjamin Cool. <i>Checking Consistency of Real-Time Requirements on Distributed Automotive Control Software Early in the Development Process Using UPPAAL</i>
12:15 - 13:30	Lunch in Phoenix Restaurant (#38 on Campus Map)
Session 2	Formal Analysis of Designs
13:30 - 14:00	Panagiotis Kouvaros, Dimitrios Kouzapas and Anna Philippou. <i>Formal Verification of a Programmable Hypersurface - Work in progress</i>
14:00 - 14:30	Maarten Bartholomeus, Bas Luttik and Tim Willemse. <i>Modelling and Analysing ERTMS Hybrid Level 3 with the mCRL2 toolset</i>
14:30 - 15:00	Antti Valmari and Henri Hansen. <i>Progress Checking for Dummies</i>
15:00 - 15:30	Coffee break in Iontas Building Foyer
Session 3	Model Learning and Model Checking
15:30 - 16:00	Jan Steffen Becker. <i>Virtual Integration for Pattern-Based Contracts with the Kind2 Model Checker</i>
16:00 - 16:30	Markus Frohme and Bernhard Steffen. <i>Active Mining of Document Type Definitions</i>
16:30 - 17:00	David Huistra, Jeroen Meijer and Jaco van de Pol. <i>Adaptive Learning for Learn-based regression testing</i>
17:00 - 17:15	FMICS Best Paper Presentations
18:30	Departure from the Phoenix Restaurant for Dinner at Becketts Hotel

Tuesday, 4 September, Iontas Lecture Theatre and Room 1.33, North Campus

08:30 - 09:00	Registration in Iontas Building Foyer
09:00 - 10:10	Marc Daumas, Science Attaché, Embassy of France in Ireland
09:10 - 10:10	Parallel session with PhD-iFM (Invited speaker FMICS) Invited Talk: Susanne Graf, <i>Building correct Cyber-Physical Systems --- can we improve current practice?</i>
10:10 - 10:30	Coffee break in Iontas Building Foyer
Session 4	Complex Systems: Components, Procedures, and Concurrency
10:30 - 10:55	Hubert Garavel, Frédéric Lang, Laurent Mounier. <i>Compositional Verification in Action</i>
10:55 - 11:20	Gerald Lüttgen. <i>A Note on Refinement in Hierarchical Transition Systems</i>
11:20 - 11:45	Bernhard Steffen and Alnis Murtovi. <i>M3C: Modal Meta Model Checking</i>
11:45 - 12:10	Bengt Jonsson. <i>The Quest for Optimality in Stateless Model Checking of Concurrent Programs</i>
12:10 - 13:30	Lunch in Phoenix Restaurant (#38 on Campus Map)
Session 5	Formal Methods for IoT Systems
13:30 - 14:30	Invited Talk: Parallel session (Invited speaker PhD-iFM) (Room 1.33) Grant Olney Passmore, <i>Formal Verification of Financial Algorithms with Imandra</i>
13:30 - 14:00	Loic Gelle, Hassen Saidi, Ashish Gehani. <i>Wholly!: A Build System For The Modern Software Stack</i>
14:00 - 14:30	Axel Legay. <i>A Modeling Language for Security Threats of IoT Systems</i>
Session 6	Analysis of Timed Systems
14:30 - 14:55	Wang Yi. <i>The Cause-Effect Latency Problem in Real-Time Systems</i>
14:55 - 15:20	Iulian Ober. <i>Revisiting bounded reachability analysis of timed automata based on MILP</i>
15:20 - 15:45	Sophie Quinton. <i>Evaluation and Comparison of Real-Time Systems Analysis Methods and Tools</i>
15:45 - 16:15	Coffee break in Iontas Building Foyer
Panel	Next Generation Smart Systems
16:15 - 17:15	Prof. Dr. Anna Carbone - Politecnico di Torino (represented by Prof. Tiziana Margaria) Prof. Dr. Cathal Heavey - University of Limerick and Confirm Shane Loughlin - SL Controls Dr. Peter Höfner - DATA61, CSIRO and UNSW
17:15 - 17:30	FMICS Closing

PhD-iFM 2018 Programme

Tuesday, 4 September, Iontas Lecture Theatre and Room 1.33, North Campus

08:30 - 09:00	Registration in Iontas Building Foyer
Session 1	Parallel session with FMICS (Invited speaker FMICS)
09:00 - 10:10	Marc Daumas, Science Attaché, Embassy of France in Ireland (Iontas Lecture Theatre)
09:10 - 10:10	Invited Talk: Susanne Graf, <i>Building correct Cyber-Physical Systems --- can we improve current practice?</i> , (Iontas Lecture Theatre)
10:10 - 10:30	Coffee break in Iontas Building Foyer
Session 2	Chair: Erika Abraham (Room 1.33)
10:30 - 10:35	Opening and welcome
10:35 - 11:00	Faustin Ahishakiye and Felix Dino Lange. <i>Non-intrusive MC/DC Measurement based on Traces</i>
11:00 - 11:25	Fauzia Ehsan and Marieke Huisman. <i>A Compositional Abstraction Technique for Automated Verification of Concurrent Programs</i>
11:25 - 11:50	Eduard Kamburjan and Tzu-Chun Chen. <i>Stateful Behavioral Types for Active Objects</i>
11:50 - 12:15	Stefan Schupp and Erika Abraham. <i>The HyDRA Tool – A Playground for the Development of Hybrid Systems Reachability Analysis Methods</i>
12:15 - 13:30	Lunch in Phoenix Restaurant (#38 on Campus Map)
Session 3	Chair: Einar Broch Johnsen (Room 1.33)
13:30 - 14:30	Invited Talk:Parallel session with FMICS (Invited speaker PhD-iFM) Grant Olney Passmore, <i>Formal Verification of Financial Algorithms with Imandra</i>
14:30 - 14:55	Rui Wang. <i>Model-based Testing of Distributed Systems and Protocols with the Coloured Petri Nets</i>
14:55 - 15:20	Jannik Dunkelau. <i>Machine Learning and AI Techniques for Automated Tool Selection for Formal Methods</i>
15:20 - 15:45	Individual mentoring session
15:45 - 16:15	Coffee break in Iontas Building Foyer
Session 4	Chair: Luigia Petre (Room 1.33)
16:15 - 16:40	Einar Broch Johnsen, Martin Steffen, Johanna Beate Stumpf and Lars Tveito. <i>Resource-Aware Virtually Timed Ambients</i>
16:40 - 17:05	Francesco Leofante, Erika Abraham and Armando Tacchella. <i>Task Planning with OMT: an Application to Production Logistics</i>
17:05 - 17:30	Jagadeeswaran Thangaraj and Senthilkumaran Ulaganathan. <i>A Formal Framework to Unified Metamodel for Consistent Transformation</i>
17:30 - 17:45	Best presentation award

iFM 2018 Programme

Wednesday, 5 September, Iontas Lecture Theatre, North Campus

08:00 - 08:50	Registration in Iontas Building Foyer
08:50 - 09:00	iFM Opening and Welcome
Session 5	Chair: Kirsten Winter
09:00 - 10:00	Invited Talk: Viktor Vafeiadis. <i>Program Correctness under Weak Memory Consistency</i>
10:00 - 10:30	Coffee break in Iontas Building Foyer
Session 6	Chair: Einar Broch Johnsen
10:30 - 11:00	Johannes Eriksson, Masoumeh Parsa and Ralph-Johan Back. <i>A Precise Pictorial Language for Array Invariants</i>
11:00 - 11:30	Jan Boerman, Marieke Huisman and Sebastiaan Joosten. <i>Reasoning about JML: Differences between KeY and OpenJML</i>
11:30 - 12:00	Simon Doherty, John Derrick, Brijesh Dongol and Heike Wehrheim. <i>Causal Linearizability: Compositionality for Partially Ordered Executions</i>
12:00 - 13:30	Lunch in Phoenix Restaurant (#38 on Campus Map)
Session 7	Chair: Peter Hoefner
13:30 - 14:00	Philipp Koerner, Michael Leuschel and Jeroen Meijer. <i>State-of-the-Art Model Checking for B and Event-B Using ProB and LTSmin</i>
14:00 - 14:30	Huu Vu Nguyen and Tayssir Touili. <i>Branching Temporal Logic of Calls and Returns for Pushdown Systems</i>
14:30 - 15:00	Eun-Young Kang, Dongrui Mu and Li Huang. <i>Probabilistic Verification of Timing Constraints in Automotive Systems using UPPAAL-SMC</i>
15:00 - 15:30	Coffee break in Iontas Building Foyer
Session 8	Chair: Ferruccio Damiani
15:30 - 16:00	Eduard Kamburjan and Tzu-Chun Chen. <i>Stateful Behavioral Types for Active Objects</i>
16:00 - 16:30	Salwa Kobeissi, Adnan Utayim, Mohamad Jaber and Ylies Falcone. <i>Facilitating the implementation of distributed systems with heterogeneous interactions</i>
16:30 - 17:00	Tueno Fotso Steve Jeffrey, Marc Frappier, Regine Laleau, Amel Mammam and Leuschel Michael. <i>Formalisation of SysML/KAOS Goal Assignments with B System Component Decompositions</i>
18:00 - 19:30	Welcome Reception: Pugin Hall, Maynooth University and tours of the Russell Library

Thursday, 6 September, Iontas Lecture Theatre, North Campus

08:30 - 09:00	Registration in Iontas Building Foyer
Session 9	Chair: Carlo A. Furia
09:00 - 10:00	Invited Talk: Cristian Cadar. <i>Dynamic Symbolic Execution for Software Analysis</i>
10:00 - 10:30	Coffee break in Iontas Building Foyer
Session 10	Chair: Marieke Huisman
10:30 - 11:00	Joshua Schmidt, Sebastian Krings and Michael Leuschel. <i>Repair and Generation of Formal Models Using Synthesis</i>
11:00 - 11:30	Hendrik Simon and Stefan Kowalewski. <i>Mode-aware Concolic Testing for PLC Software</i>
11:30 - 12:00	Marko Dimjasevic, Falk Howar, Kasper Luckow and Zvonimir Rakamaric. <i>Study of Integrating Random and Symbolic Testing for Object-Oriented Software</i>
12:00 - 13:30	Lunch in Phoenix Restaurant (#38 on Campus Map)
Session 11	Chair: Erika Abraham
13:30 - 14:00	Daniel Dougherty, Joshua Guttman and John Ramsdell. <i>Security Protocol Analysis in Context: Computing Minimal Executions Using SMT and CPS</i>
14:00 - 14:30	Ruggero Lanotte, Massimo Merro and Simone Tini. <i>Towards a formal notion of impact metric for cyber-physical attacks</i>
14:30 - 15:00	Dimitri Bohlender and Stefan Kowalewski. <i>Design and Verification of Restart-robust Industrial Control Software</i>
15:00 - 15:30	Coffee break in Iontas Building Foyer
Session 12	Chair: John Derrick
15:30 - 16:00	Francesco Leofante, Erika Abraham and Armando Tacchella. <i>Task Planning with OMT: an Application to Production Logistics</i>
16:00 - 16:30	Davide Basile, Maurice Ter Beek, Alessandro Fantechi, Stefania Gnesi, Franco Mazzanti, Andrea Piattino, Daniele Trentini and Alessio Ferrari. <i>On the Industrial Uptake of Formal Methods and Tools in the Railway Domain: A Survey with Stakeholders</i>
16:30 - 17:00	Marie Farrell, Matt Luckcuck and Michael Fisher. <i>Robotics and Integrated Formal Methods: Necessity meets Opportunity</i>
18:30	Depart from Phoenix Restaurant for Dinner at Barberstown Castle

Friday, 7 September, Iontas Lecture Theatre, North Campus

08:30 - 09:00	Registration in Iontas Building Foyer
Session 13	Chair: Rosemary Monahan
09:00 - 10:00	Invited Talk: Ana Cavalcanti. <i>Integrating formal methods for modelling and simulation of swarm robotics</i>
10:00 - 10:30	Coffee break in Iontas Building Foyer
Session 14	Chair: Luigia Petre
10:30 - 11:00	Zheng Cheng, Jean-Claude Royer and Massimo Tisi. <i>Efficiently Characterizing the Undefined Requests of a Rule-Based System</i>
11:00 - 11:30	Einar Broch Johnsen, Martin Steffen, Johanna Beate Stumpf and Lars Tveito. <i>Resource-Aware Virtually Timed Ambients</i>
11:30 - 12:00	Vashti Galpin. <i>Formal modelling of software defined networking</i>
12:00 - 12:30	Rob van Glabbeek, Peter Höfner and Djurre van der Wal. <i>Analysing AWN-specifications using mCRL2</i>
12:30 - 12:45	iFM Closing Session
12:45 - 14:00	Lunch in Phoenix Restaurant (#38 on Campus Map)