

ITP 2017 Programme

Tuesday, 26th September

Session 01

08:30 *Whitebox automation*
Leonardo de Moura

09:30 T01 *Effect polymorphism in higher-order logic (proof pearl)*
Andreas Lochbihler

10:00 T02 *Typing Total Recursive Functions in Coq*
Dominique Larchey-Wendling

10:30 **Coffee Break**

Session 02

11:00 T03 *How to Simulate It in Isabelle: Towards Formal Proof for Secure Multi-Party Computation*
David Butler, David Aspinall and Adrià Gascón

11:30 T04 *Schulze Voting as Evidence Carrying Computation*
Dirk Pattinson and Mukesh Tiwari

12:00 T05 *Certifying Standard and Stratified Datalog Inference Engines in SSReflect*
Stefania Dumbrava, Véronique Benzaken and Évelyne Contejean

12:30 **Lunch**

Session 03

14:00 *Tableau Calculus for Hybrid Xpath with Data*
Carlos Areces

15:00 T06 *Formal Verification of a Floating-Point Expansion Renormalization Algorithm*
Sylvie Boldo, Mioara Joldes, Jean-Michel Muller and Valentina Popescu

15:30 **Coffee Break**

Session 04

16:00 T07 *Verifying a Concurrent Garbage Collector using a Rely-Guarantee Methodology*
Yannick Zakowski, David Cachera, Delphine Demange, Gustavo Petri, David Pichardie, Suresh Jagannathan and Jan Vitek

16:30 T08 *A Verified Generational Garbage Collector for CakeML*
Adam Sandberg Ericsson, Magnus O. Myreen and Johannes Åman Pohjola

17:00 T09 *CompCertS: A Memory-Aware Verified C Compiler using Pointer as Integer Semantics*
Frédéric Besson, Sandrine Blazy and Pierre Wilke

17:30 T10 *Verified Spilling and Translation Validation with Repair*
Julian Rosemann, Sigurd Schneider and Sebastian Hack

Wednesday, 27th September

Session 05

08:30 *The perimeter of decidability (with sequent calculi on the inside)*
Katalin Bimbó

09:30 T11 *Formalizing Basic Quaternionic Analysis*
Andrea Gabrielli and Marco Maggesi

10:00 T12 *A Formalization of Convex Polyhedra based on the Simplex Method*
Xavier Allamigeon and Ricardo D. Katz

Chair NN

ITP Invited Talk

HO Logic and Type Theory

Chair NN

Security

Tableaux Invited Talk

Chair NN

Programming Languages

Chair NN

Programming Languages

Joint Tableaux/Frocos/ITP Invited Talk

Chair NN

Formalization of Mathematics

10:30 **Coffee Break**

Session 06

Chair NN

Tactics

11:00 T13 *A Formal Proof of the Expressiveness of Deep Learning*
Alexander Bentkamp, Jasmin Christian Blanchette and Dietrich Klakow

11:30 T14 *A Formalisation of Consistent Consequence for Boolean Equation Systems*
Myrthe van Delft, Herman Geuvers and Tim Willemse

12:00 T15 *Proof Tactics for Assertions in Separation Logic*
Zhe Hou, David Sanan, Alwen Tiu and Yang Liu

12:30 **Lunch**

Session 07

Chair NN

14:00 Automating Formalization by Statistical and Semantic Parsing of Mathematics
Cezary Kaliszyk

Joint Tableaux/Frocos/ITP Inv. Talk

Tactics

15:00 T16 *Efficient Verified Checking of Propositional Proofs*
Marijn Heule, Warren Hunt, Matt Kaufmann and Nathan Wetzler

15:30 **Short Coffee Break**

15:45 Excursion

18:00 Dinner

Thursday, 28th September

Session 08

08:30 Revising System Specifications in Temporal Logic
Renata Wassermann

Frocos Invited Talk

09:30

Poster's Presentation

10:30 **Coffee Break**

Poster's Display

Session 09

Chair NN

Theorem Proving Interoperability

11:20 T17 *FoCaLiZe and Dedukti to the Rescue for Proof Interoperability*
Raphaël Cauderlier and Catherine Dubois

11:50 T18 *Proof certificates in PVS (Rough Diamond)*
Frédéric Gilbert

12:10 T19 *How to Get More Out of Your Oracles (Rough Diamond)*
Luís Cruz-Filipe, Kim S. Larsen and Peter Schneider-Kamp

12:30 **Lunch**

Session 10

14:00 Foundational (Co)datatypes and (Co)recursion for Higher-Order Logic
Jasmin Blanchette

Joint Tableaux/Frocos/ITP Invited Talk

Chair NN

Theorem Proving Interoperability

15:00 T20 *Making PVS Accessible to Generic Services by Interpretation in a Universal Format*
Michael Kohlhase, Dennis Müller, Sam Owre and Florian Rabe

15:30 **Coffee Break**

Session 11

Chair NN

HO Logic and Type Theory

16:00 T21 *A Formalized General Theory of Syntax with Bindings*
Lorenzo Gheri and Andrei Popescu

16:30 T22 *Categoricity Results for Second-Order ZF in Dependent Type Theory*
Dominik Kirst and Gert Smolka

17:00 Business Meeting

Friday, 29th September

Session 12

Chair NN

08:30 *Automated Theory Exploration for Interactive Theorem Proving: An introduction to the Hipster system* ITP Invited Talk
Moa Johansson (Sponsored by the European Association for AI - EurAI)

HO Logic and Type Theory

09:30 T23 *Homotopy Type Theory in Lean*
Floris van Doorn, Jakob von Raumer and Ulrik Buchholtz

10:00 T24 *Weak Call-by-Value Lambda Calculus as a Model of Computation in Coq*
Yannick Forster and Gert Smolka

10:30 **Coffee Break**

Session 13

Chair NN

Engineering Applications

11:00 T25 *Formally Verified Safe Vertical Maneuvers for Non-Deterministic, Accelerating Aircraft Dynamics*
Yanni Kouskoulas, Daniel Genin, Aurora Schmidt and Jean-Baptiste Jeannin

11:30 T26 *Bellerophon: Tactical Theorem Proving for Hybrid Systems*
Nathan Fulton, Stefan Mitsch, Brandon Bohrer and André Platzer

12:00 T27 *A Formal Proof in Coq of LaSalle's Invariance Principle*
Cyril Cohen and Damien Rouhling

12:30 **Lunch**

Session 14

14:00 *Designing Extensible Theory Solvers*
Cesare Tinelli

Frocos Invited Talk

Chair NN

Formalization of Mathematics

15:00 T28 *Using Abstract Stobjs in ACL2 to Compute Matrix Normal Forms*
Laureano Lambán, Francisco-Jesus Martín-Mateos, Julio Rubio and José-Luis Ruiz-Reina

15:30 **Coffee Break**

Session 15

Chair NN

Formalization of Mathematics

16:00 T29 *Formalization of the Lindemann-Weierstrass theorem*
Sophie Bernard

16:30 T30 *Formalization of the fundamental group in untyped set theory using auto2*
Bohua Zhan

17:00 **Closing**

	Tuesday	Wednesday	Thursday	Friday
08:30	Inv.Talk ITP	Join Inv.Talk	Inv.Talk FroCoS	Inv.Talk ITP
09:00	L. de Moura	K. Bimbó	R. Wassermann	M. Johansson
09:30	Talk01	Talk11	Poster's	Talk23
10:00	Talk02	Talk12	Presentation	Talk24
10:30	Coffee Break			
11:00	Talk03	Talk13	Poster's	Talk17
11:30	Talk04	Talk14	Display	Talk18
12:00	Talk05	Talk15	Talk19	Talk27
12:30	Lunch			
14:00	Inv.Talk Tableaux	Join Inv.Talk	Joint Inv.Talk	Inv.Talk FroCoS
14:30	C. Areces	C. Kalizsky	J. Blanchette	C. Tinelli
15:00	Talk06	Talk16	Talk20	Talk 28
15:30	Coffee Break			
16:00	Talk07		Talk21	Talk 29
16:30	Talk08		Talk22	Talk 30
17:00	Talk09	Excursion	Business Meeting	Closing
17:30	Talk10			
18:00		Dinner		