FroCoS/ITP/TABLEAUX 2025 programme

All times are Reykjavik time (=UTC). All sessions take place at Reykjavik University (Menntavegur 1, 102 Reykjavik)

Sat 27 Sept	Rocq - room M209	TABLEAUX - room M208
9-10:30	Rocq 1 (9:00-10:40) Chair: Pierre Boutry	TABLEAUX 1 Chair: Reiner Hähnle
	Reynald Affeldt. An Overview of MathComp-Analysis and Its Applications (50 mins)	Jens Claßen and Torben Braüner. A Tableau System for First-Order Logic with Standard Names
	Pierre-Emmanuel Wulfman. An Engineer's Self-Taught Journey with the Rocq Proof Assistant (25 mins) [online]	Tadeusz Litak and Katsuhiko Sano. Bounded Inquisitive Logics: Sequent Calculi and Schematic Validity
	Alexandre Jean. A Library for the Automated Transformation of Rocq AST (25 mins) [online]	Vitor Rodrigues Greati, Sérgio Marcelino, Miguel Muñoz Pérez and Umberto Rivieccio. Analytic Calculi for Logics of Indicative Conditionals
11-12:30	Rocq 2 (11:05-12:30) Chair: Loïc Pujet	TABLEAUX 2 Chair: Lutz Straßburger
	Thibaut Benjamin. Generating Higher Identity Proofs in Homotopy Type Theory (25 mins) [online]	Agata Ciabattoni, Timo Lang and Revantha Ramanayake. Analytic Proofs for Tense Logic
	Takafumi Saikawa, Kazunori Matsuda and Yosuke Tsuji. Formalization of Matching Numbers with finmap and mathcomp-classical	Rajeev Goré and Cormac Kikkert. Improved Decision Procedures for Multimodal Tense Logic Using CEGAR-Tableaux [online]
	Paolo Torrini and Benjamin Gregoire. Interaction Trees and Verified Compilation	Johannes Kloibhofer, Valentina Trucco Dalmas and Yde Venema. Interpolation for Converse PDL
14-15:30	Rocq 3 (14:05-15:25) Chair: Alessandro Bruni	TABLEAUX 3 Chair: Revantha Ramanayake
	Antoine Gontard. Automating Alignments of HOL Light Inductive Types and Recursive Functions in Rocq (25 mins) [online]	Julia Butte and André Platzer. Semi-competitive Differential Game Logic
	Pierre Corbineau, Basile Gros and Jean-François Monin. Certified Programming with Dependent Types Made Simple with Proxy-Based Small Inversions	Yll Buzoku and David Pym. Base-Extension Semantics for Intuitionistic Modal Logics
	Tomás Díaz, Kenji Maillard, Johann Rosain, Matthieu Sozeau, Nicolas Tabareau, Éric Tanter and Théo Winterhalter. Extending Sort Polymorphism with Elimination Constraints in Rocq (25 mins) [online]	Niels Voorneveld. Forward Proof Search for Intuitionistic Multimodal K Logics
16-17:30	Rocq 4 (16-17:45) Chair: Yannick Forster	TABLEAUX 4 Chair: Matteo Acclavio
	Théo Stoskopf, Jules Viennot and Cyril Cohen. LLM4Docq: Bootstrapping Documentation for MathComp with LLMs and Expert Feedback (25 mins) [online]	Tiziano Dalmonte and Marianna Girlando. A Proof-Theoretic View of Basic Intuitionistic Conditional Logic
	Max Ole Elliger and Tadeusz Litak. Can States Be Decidable in Inquisitive Mechanizations?	Lide Grotenhuis and Bahareh Afshari. Intuitionistic mu-Calculus with the Lewis Arrow
	Jules Viennot, Guillaume Baudart, Emilio Jesus Gallego Arias and Marc Lelarge. MiniF2F in Rocq: Automatic Translation Between Proof Assistants: A Case Study (25 mins) [online]	Sonia Marin and Paaras Padhiar. Justification Logic for Intuitionistic Modal Logic
	Christopher Mary. HotdocX & jsCoq: A Platform for Interactive, AI-Augmented and Monetizable Coq Experiences (25 mins) [online]	

Sun 28 Sept	ITP - room M209	TABLEAUX - room M208
11-12:30	ITP 1 Chair: Julie Cailler	TABLEAUX 5 Chair: Tarmo Uustalu
	Hanna Lachnitt, Mathias Fleury, Haniel Barbosa, Andrew Reynolds, Jibiana Jakpor, Bruno Andreotti, Clark Barrett, Hans-Jörg Schurr, Cesare Tinelli. Improving the SMT Proof Reconstruction Pipeline in Isabelle/HOL	Raheleh Jalali. Skolemization Beyond Intuitionistic Logic: The Role of Quantifier Shifts [online]
	Ghilain Bergeron, Florent Krasnopol, Sophie Tourret. Formalizing Splitting in Isabelle/HOL	
	Martin Desharnais, Jasmin Blanchette. Sledgehammering without ATPs (short paper 20 min)	Victor Barroso-Nascimento, Ekaterina Piotrovskaya and Elaine Pimentel. A Sequent Calculus Perspective on Base-Extension Semantics
14-15:30	ITP 2 Chair: René Thiemann	TABLEAUX 6 Chair: Anupam Das
	Laura Titolo. Taming Floating-Point Rounding Errors with Proofs	Kaustuv Chaudhuri, Arunava Gantait and Dale Miller. Designing a Safe Forward Chaining Tactic Using Productive Proofs
		Matteo Acclavio and Lutz Straßburger. Intuitionistic BV
	Robert Krebbers, Luko van der Maas, Enrico Tassi. Inductive Predicates via Least Fixpoints in Higher-Order Separation Logic	Niccolò Veltri and Cheng-Syuan Wan. An Agda Formalization of Nonassociative Lambek Calculus and Its Metatheory
16-18	ITP 3 Chair: Michael Norrish	TABLEAUX 7 Chair: Niccolò Veltri
	Burak Ekici, Tadayoshi Kamegai, Nobuko Yoshida. Formalising Subject Reduction and Progress for Multiparty Session Processes	Anupam Das and Abhishek De. Cyclic System for an Algebraic Theory of Alternating Parity Automata
	Elaine Li, Thomas Wies. Certified Implementability of Global Multiparty Protocols	Niklas Heidler and Reiner Hähnle. A Sequent Calculus for Trace Formula Implication
	Magnus Myreen, Mario Carneiro. GOL in GOL in HOL: Verified Circuits in Conway's Game of Life	Clemens Eisenhofer, Theodor Seiser, Laura Kovács and Nikolaj Bjørner. On Solving String Equations via Powers and Parikh Images
	Rafael Castro G. Silva, Laouen Fernet, Dmitriy Traytel. Nondeterministic Asynchronous Dataflow in Isabelle/HOL	Business meeting

Mon 29	ITP - room M110	TABLEAUX - room M115
9-10:30(20)	ITP 4 Chair: Sophie Tourret	TABLEAUX 8 Chair: Marianna Girlando
	Dohan Kim. An Isabelle/HOL Formalization of Semi-Thue and Conditional Semi-Thue Systems	Mauro Ferrari, Camillo Fiorentini and Ricardo Oscar Rodriguez. A Gödel Modal Logic over Witnessed Crisp Models
	Reynald Affeldt, Alessandro Bruni, Cyril Cohen, Pierre Roux, Takafumi Saikawa. Formalizing Concentration Inequalities in Rocq: Infrastructure and Automation	Renato Leme, Carlos Olarte, Elaine Pimentel and Marcelo Esteban Coniglio. The Modal Cube Revisited: Semantics without Worlds
	Nadeem Abdul Hamid. Towards Automating Permutation Proofs in Coq: A Reflexive Approach with Iterative Deepening Search (short paper, 20 mins)	Kiana Samadpour Motalebi, Renate A. Schmidt and Cláudia Nalon. Refined Tableau Systems for Some Modal Logics of Confluence [online]
11-12:30	ITP 5 Chair: Lawrence Paulson	TABLEAUX 9 Chair: Carlos Olarte
	Jeremy Thibault, Joseph Lenormand, Catalin Hritcu. Nanopass Back-Translation of Call-Return Trees for Mechanized Secure Compilation Proofs	Borja Sierra Miranda, Sebastijan Horvat and Thomas Studer. Non-Wellfounded Proof Theory for Interpretability Logic
	Sage Binder, Eric Ren, Katherine Kosaian. Formalizing the Hidden Number Problem in Isabelle/HOL	Clemens Eisenhofer, Michael Rawson and Laura Kovács. Finding Connections via Satisfiability Solving
	David Knothe, Oliver Bringmann. On Verifying Secret Control Flow Elimination	Michael Rawson, Clemens Eisenhofer and Laura Kovács. Constraint learning for non-confluent proof search
		TABLEAUX + FroCoS - room M209
14-15	ITP 6 Chair: Benedikt Ahrens	TABLEAUX + FroCoS Chair: Tarmo Uustalu
	Joshua M. Cohen. A Mechanized First-Order Theory of Algebraic Data Types with Pattern Matching	Kaustuv Chaudhuri. Towards a Universal Interactive Theorem Proving Interface
	David Castro Perez, Marco Paviotti, Michael Vollmer. Program Optimisations via Hylomorphisms for Extraction of Executable Code	
15:30-17	ITP 7 Chair: Manuel Eberl	FroCoS 1 Chair: Elaine Pimentel
	Chun Tian, Michael Norrish. Mechanising Böhm Trees and λη-Completeness	Franz Baader and Filippo De Bortoli. The Expressive Power of Description Logics with Numerical Constraints over Restricted Classes of Models
	Adrienne Lancelot, Beniamino Accattoli, Maxime Vemclefs. Barendregt's Theory of the Lambda-Calculus, Refreshed and Formalized	Francesco Kriegel. Reasoning in OWL 2 EL with Hierarchical Concrete Domains
	Zhuo Chen, Johannes Åman Pohjola, Christine Rizkallah. A Verified Cost Model for Call-by-Push-Value	Christian Alrabbaa, Franz Baader, Raimund Dachselt, Alisa Kovtunova and Julián Méndez. The Concrete Evonne: Visualization Meets Concrete Domain Reasoning
19-21:30	Conference dinner - Harpa, Restaurant Hnoss (Austurbakki 2, 101 Reykjavik)	

Tue 30 Sept	ITP - room M209	FroCoS - room V109
9-10:30	ITP 8 Chair: Yannick Forster Kathrin Stark. Autosubst: On Mechanising Binders in a General-Purpose Proof Assistant Jan van Brügge, Andrei Popescu, Dmitriy Traytel. Animating MRBNFs: Truly Modular Binding-Aware Datatypes in Isabelle/HOL	FroCoS 2 Chair: Christophe Ringeissen Daniel Ranalter, Cezary Kaliszyk, Florian Rabe and Geoff Sutcliffe. The Dependently Typed Higher-Order Form for the TPTP World Anela Lolic, Matthias Baaz and Mariami Gamsakhurdia. An Analytic Representation of the Semantics of First-Order S5 Nicolas Peltier, Quentin Petitjean and Mihaela Sighireanu. Deciding Satisfiability for Overlaid Symbolic Heaps
11-12:30	ITP 9 Chair: Dmitriy Traytel Mohammad Abdulaziz, Thomas Ammer, Shriya Meenakshisundaram, Adem Rimpapa. A Formal Analysis of Algorithms for Matroids and Greedoids Emin Karayel, Seng Joe Watt, Derek Khu, Kuldeep S. Meel, Yong Kiam Tan. Verification of the CVM Algorithm with a Functional Probabilistic Invariant Manuel Eberl, Peter Lammich. Verifying an Efficient Algorithm for Computing Bernoulli Numbers	FroCoS 3 Chair: Carsten Fuhs Martin Avanzini and Akihisa Yamada. Weighted Rewriting Samuel Frontull, Manuel Meitinger and Georg Moser. Data-Driven Runtime Complexity Analysis Serdar Erbatur, Andrew M. Marshall, Paliath Narendran and Christophe Ringeissen. Graph Embedded Rewrite Systems: Combination and Undecidability Results
14:30-16 (!)	ITP - room M105 ITP 10 Chair: Pierre Boutry Anshula Gandhi, Anand Rao Tadipatri, Timothy Gowers. Automatically Generalizing Proofs and Statements Chase Norman, Jeremy Avigad. Canonical for Automated Theorem Proving in Lean Johannes Tantow, Lukas Gerlach, Stephan Mennicke, Markus Krötzsch. Verifying Datalog Reasoning with Lean	FroCoS 4 Chair: René Thiemann Carsten Fuhs. Automated Static Program Analysis via Constrained Term Rewriting Naoki Nishida, Misaki Kojima and Yuto Nakamura. Difference of Constrained Patterns in Logically Constrained Term Rewrite Systems
16:30-18 (!)	ITP 11 Business meeting Community meeting	FroCoS 5 Chair: Haniel Barbosa Tanguy Bozec and Jasmin Blanchette. Iterative Monomorphisation Colin Rothgang and Florian Rabe. Subtyping in Dependently-Typed Higher-Order Logic Claudia Schon. Context-Aware Clause Selection Using Symbol Name Meanings in Theorem Proving
Wed 1 Oct	**ITP - room M105**	**FroCoS - room M115**
9-10:30	ITP 12 Chair: Maria Inés de Frutos-Fernández Eric Wang, Arohee Bhoja, Cayden Codel, Noah G. Singer. Algebra is Half the Battle: Verifying Presentations for Graded Unipotent Chevalley Groups Lawrence Paulson. Formalising New Mathematics in Isabelle: Diagonal Ramsey Peter Koepke. A Natural Language Formalization of Perfectoid Rings in Naproche	FroCoS 6 Chair: Mathias Fleury Parosh Aziz Abdulla, Mohamed Faouzi Atig, Julie Cailler, Chencheng Liang and Philipp Rümmer. When GNNs Met a Word Equations Solver: Learning to Rank Equations Sören Möller, Florian Bruse and Martin Lange. A Finite Abstraction of Real-Valued Functions for Complete Reasoning about Influence Guilherme Toledo and Yoni Zohar. Number Theory Combination: Natural Density and SMT
11-12:30	ITP 13 Chair: Johan Commelin Antoine Chambert-Loir, Maria Inés de Frutos-Fernández. A Formalization of Divided Powers in Lean Jonas Bayer, Marco David. A Formal Proof of Complexity Bounds on Diophantine Equations Yves Bertot, Thomas Portet. Formally Verifying a Vertical Cell Decomposition Algorithm	FroCoS 7 Chair: Guilherme Toledo Rodrigo Raya and Christophe Ringeissen. Polite Combination in Parametric Array Theories Benjamin Przybocki, Guilherme Toledo and Yoni Zohar. Shininess, Strong Politeness, and Unicorns Gabriele Masina and Roberto Sebastiani. Exploiting Partial-Assignment Enumeration in Optimization Modulo Theories
14-15:30	ITP 14 Chair: Loïc Pujet Arnoud van der Leer, Kobe Wullaert, Benedikt Ahrens. Scott's Representation Theorem and the Univalent Karoubi Envelope Stefania Damato, Thorsten Altenkirch, Axel Ljungström. Formalising Inductive and Coinductive Containers Mario Carneiro, Emily Riehl. Formalizing colimits in Cat	FroCoS 8 Chair: Kaustuv Chaudhuri Alessio Coltellacci and Stephan Merz. Checking Linear Integer Arithmetic Proofs in Lambdapi Alberto Griggio, Giulia Sindoni and Stefano Tonetta. Certifying rlive: A New Proof Strategy for Liveness Model Checking [online] Business meeting
16-17:50	ITP 15 Chair: Mohammad Abdulaziz Asta Halkjær From, Anders Schlichtkrull. Abstract, Compositional Consistency: Isabelle/-HOL Locales for Completeness à la Fitting Ekaterina Zhuchko, Hendrik Maarand, Margus Veanes, G. Ebner. Finiteness of Symbolic Derivatives in Lean Remi Desmartin, Omri Isac, Ekaterina Komendantskaya, Kathrin Stark, Grant Passmore, Guy Katz. A Certified Proof Checker for Deep Neural Network Verification in Imandra Eric Vin, Kyle Miller, Daniel J. Fremont. LeanLTL: A Unifying Framework for Linear Temporal Logics in Lean (short paper, 20 mins)	
Thu 2 Oct	**Lean - room M117**	
9-10:30	Lean 1 Joachim Breitner. Report from the FRO (60 mins) Jhet Chan. Gödel Mirror: A Paraconsistent Calculus Mechanized in Lean 4 (20 mins) [online]	
11-12:30	Lean 2 Mauricio Barba da Costa. Automatic Geometry Theorem Proving Using Polynomial Elaboration (20 mins) Moritz Firsching. The Formal Conjectures Repo (20 mins) [online] Lukas Gerlach. Formalizing Possibly Infinite Trees of Finite Degree (20 mins) Yulu Pan. Verifying a Real-World Regex Implementation	
14-15:30	Lean 3 Discussion session	
16-17:30	Lean 4 Luc Duponcheel. Teaching Programming using Lean (20 mins) Jesse Alama. Euler's Polyhedron Formula à la Lean (20 mins) Jovan Gerbscheid. Generalized Rewriting (20 mins) Chase Norman. Canonical: Simplify, Monomorphize, Destruct	