

Dagstuhl Seminar 25081: Semirings in Databases, Automata, and Logic

Tentative Program

Monday February 17, 2025

9:00-10:00: Opening and self-introductions

10:00-10:30: Coffee break

10:30-noon: Tutorial #1

Val Tannen - The Semiring Framework for Data(base) Provenance

Noon-3:45pm Lunch, break, afternoon cake

3:45-5:15: Tutorial #2

Erik Paul - Weighted Automata and Weighted Logics

5:15-5:45: Talk

Johanna Björklund - The impact of state merging on predictive accuracy in probabilistic tree automata: Dietze's conjecture revisited

Tuesday February 18, 2025

9:00-10:00 Talks

Dan Suciu - Term Rewriting, Equality Saturation, and the Chase

Albert Atserias - The Transportation Problem for Positive Commutative Monoids

10:00-10:30: Coffee break

10:30-noon: Tutorial #3

Erich Grädel - The Model Theory of Semiring Semantics

Noon-3:45pm Lunch, break, afternoon cake

3:45-5:15: Tutorial #4

Sara Ugolini - The algebraic semantics of many-valued logics

5:15-5:45: Talk

Sophie Brinke - Compactness in Semiring Semantics

Wednesday February 19, 2025

9:00-10:00 Talks

Guillermo Badia – Codd’s Theorem for Databases over Semirings

Lovro Mrkonjic - Semirings with Infinitary Operations

10:00-10:30: Coffee break

10:30-noon: Tutorial #5

Peter Kostolányi - Models of Computation over Semirings

Noon-6:00pm

Lunch and free afternoon (excursion, hike, ...)

Thursday February 20, 2025

8:30-9:30 Problem session

9:30-10:00 Talk

Tomasz Kowalski: Hoops in Semiring Semantics

10:00-10:30: Coffee break

10:30-noon: Talks

Žaneta Semanišínová - Valued Constraint Satisfaction Problem and Resilience in Database Theory

Hung Ngo - Polytime convergence of Datalogo programs under p-stable semiring

Jacques Sakarovitch - Not all semirings are strong

3:45-5:15: Talks

Paris Koutris - Semiring Circuits for Sum-Product Queries

Jonni Virtema - Rewriting Consistent Answers on Annotated Data and Semiring Circuits

Balder Ten Cate - Query Algorithms based on Homomorphism Counts

Friday February 21, 2025

9:00-10:30 Talks

Boris Glavic - How to Bake an Uncertainty Pie: Take Even Parts of Abstract Interpretation, K-relations, and Zonotopes and Mix Thoroughly

Miroslav Ciric - Complete Additively-Idempotent Semirings and their Applications in Weighted Automata Theory, Social Network Analysis and Modal Logics

Wolfgang Thomas - The Boolean Closure of Deterministic Regular Tree Languages: On a Decades-Long Open Problem

10.30 -11: Coffee break

11:00-noon: Wrap-up session
