

Welcome Message from the PODS General Chair and Program Chair

Welcome to the 44th ACM SIGMOD Symposium on Principles of Database Systems (PODS 2025)! We're delighted to have you join us in vibrant Berlin, alongside the ACM SIGMOD International Conference on Management of Data (SIGMOD). PODS strives to be the premier venue for the theoretical and foundational aspects of data management, and we're thrilled to share this year's program with you.

Over the next few days, you'll hear from invited leading researchers in the field:

- Virginia Vassilevska Williams opens the conference with a keynote on “A Fine-grained Approach to Algorithms and Complexity.”
- Albert Atserias, in his invited PODS tutorial, will present “Local-vs-Global Consistency of Annotated Relations.”
- Stefan Mengel's invited PODS tutorial dives into “Lower Bounds for Conjunctive Query Evaluation.”
- Wim Martens presents the Gems of PODS talk, “Querying Graph Data: Where We Are and Where To Go.”

The Gems of PODS series aims to bridge PODS and SIGMOD by highlighting theoretically rigorous work with practical relevance. This year, we're taking that connection a step further with the SIGMOD/PODS Warm-up Session—Query Optimization Unleashed. Originating as a PODS special session, this initiative has now evolved into a fully joint SIGMOD/PODS event, fostering collaboration between the two communities in a relaxed and joyful setting. We thank all the speakers and moderators who contributed: Carsten Binnig, Surajit Chaudhuri, Viktor Leis, Volker Markl, Dan Olteanu, and Dan Suciu.

In addition to these invited talks, keynote and special event, the core PODS program features 44 research presentations, selected from 45 papers accepted to the PACMMOD journal (Vol. 2, Issue 5, Nov 2024 and Vol. 3, Issue 2, May 2025). These papers were chosen by the Program Committee from 127 submissions across two cycles (June and December), each undergoing a conflict-of-interest check, three anonymous reviews, author rebuttal, and revision before final acceptance. The invited contributions (keynote, tutorials, Gems of PODS, and the Test-of-Time Award lecture) appear in the separate PODS 2025 Companion volume.

We're proud to highlight the following awarded contributions:

- Best Paper Award: “Output-sensitive Conjunctive Query Evaluation” by Shaleen Deep, Hangdong Zhao, Austen Fan, and Paraschos Koutris.
- Best Paper Award: “Output-Optimal Algorithms for Join-Aggregate Queries” by Xiao Hu.
- Best Newcomer Award: “Differentially Private Substring and Document Counting” by Giulia Bernardini, Philip Bille, Inge Li Gørtz, and Teresa Anna Steiner.
- Distinguished Paper Award: “Explaining k-Nearest Neighbors: Counterfactual and Abductive Explanations” by Pablo Barceló, Alexander Kozachinskiy, Miguel Romero, Bernardo Subercaseaux, and José Verschae.
- Distinguished Paper Award: “Shapley Revisited: Tractable Responsibility Measures for Query Answers” by Meghyn Bienvenu, Diego Figueira, and Pierre Lafourcade.
- Distinguished Paper Award: “Minimizing Conjunctive Regular Path Queries” by Diego Figueira, Rémi Morvan, and Miguel Romero.
- Distinguished Paper Award: “Fast Matrix Multiplication Meets the Submodular Width” by Mahmoud Abo Khamis, Xiao Hu, and Dan Suciu.

Also, we wish to emphasize the

- Alberto O. Mendelzon Test-of-Time Award, honoring the PODS 2015 paper “Joins via Geometric Resolutions: Worst-case and Beyond” by Mahmoud Abo Khamis, Hung Q. Ngo, Christopher Ré, and Atri Rudra.

We wish to thank everyone who contributed to the organization of PODS 2025: the authors who submitted papers, the keynote and tutorial speakers, the information directors Nofar Carmeli and Ahmet Kara, and the Program Committee and external reviewers. Their efforts were crucial in shaping a high-quality program.

The Gems of PODS presentation was selected by Benny Kimelfeld (Program Chair), Marcelo Arenas, Stijn Vansummen, and Nicole Schweikardt. We thank the committee for their service. We also thank Diego Calvanese (Chair and PODS 2015 PC Chair), Graham Cormode, and Leonid Libkin for serving on the Test-of-Time Award committee.

Special thanks go to SIGMOD General Chair Volker Markl and PODS Liaison Chair Nicole Schweikardt for their continued support and guidance. Our gratitude also extends to all those involved in organizing this joint conference.

The PODS General Chair would like to express heartfelt thanks to the Program Chair, Benny Kimelfeld, for his outstanding work in selecting and coordinating the Program Committee, and to the members of the PODS Executive Committee and Advisory Board for their guidance. We are also grateful to the ICDT Council, the SIGMOD Executive Committee, and SIGMOD PC Chairs Joe Hellerstein and Azza Abouzied for the smooth and enjoyable collaboration. Thanks also go to ACM and Sheridan Press for ensuring timely publication of the compendium and PACMMOD journal issues.

Finally, we thank the ACM Special Interest Group on Management of Data for their support and our industry partners for their generous sponsorship.

We sincerely hope you enjoy the conference and find the program informative, thought-provoking, and inspiring.

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