

What It's Like to Be a Database Theorist in the Land of Multisets

Abstract for Invited Talk

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My original plan for this lecture was to talk about attempts to solve two fundamental decision problems in database theory – namely Query Determinacy Problem and Query Containment Problem – in the setting where one considers multiset semantics instead of set semantics. But since I only have one hour, rather than, say, four hours, I think I will focus exclusively, or almost exclusively, on the multiset version of Query Containment Problem. People have been working on this problem for 35 years now. Hundreds research person-years have been spent on it. Given that level of effort, surprisingly few papers have been published. If academic's success is measured by the number of publications, this problem is certainly not worth working on! But there are a few beautiful mathematical anecdotes to tell, which resulted from this research, and I will try to share some of them with you. I won't say anything, or almost anything, about the multiset version of Query Determinacy Problem. Which I regret, because it is here where I passed through a door from the set semantics based database theory into the land of multisets.