

Paris Kanellakis and the beginnings of the International Conference on Principles and Practice of Constraint Programming

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In the spring of 1992, Paris invited me to be his PhD student at Brown University. I had taken some theory courses with him during my Masters studies at Brown, and also had been a member of a successful software start-up team in the Boston area. Paris must have decided that I had the right combination of mathematical rigor and engineering practicality to meet his criteria. Paris accepted only one doctorate student a year, and I considered it a big honor.

When I started my doctorate studies with Paris in the fall of 1992, his primary research interest was in the new area of constraint databases, and that became the topic of my Ph.D. thesis. That fall and winter, Paris was immersed in organizing the first Constraints Programming workshop, and I was actively involved in helping with the organization. The First Workshop on Principles and Practice of Constraint Programming (PPCP'93) took place April 28-30, 1993 in Newport, Rhode Island, USA -- just half an hour from the Brown campus. The next PPCP was a year later, May 2-4, 1994 in Orcas Island, Washington, USA.

After these two very successful events, the workshop became a conference. The First International Conference on Principles and Practice of Constraint Programming (CP'95) took place in September 19-22, 1995 in Cassis, France. This conference is still going strong; CP2020 will be the 26th conference, to take place September 7-11, 2020 in Louvain-la-Neuve, Belgium.

I was there at the first CP conference in Cassis, where Paris and I presented our paper "On Similarity Queries for Time-Series Data: Constraint Specification and Implementation". Of all the conference events, the hike on the calanques along the Mediterranean seacoast stands out the most in my mind. Paris moved along the rugged terrain surrounded by like-minded colleagues and friends as if on wings. Later I learned from his colleagues that this combination of intellectually stimulating conversation and a picturesque outdoor setting was always Paris' favorite.

Unfortunately, Paris's first International Conference on Principles and Practice of Constraint Programming in September 1995 turned out to be his last. On the dark Wednesday night of December 20 1995, Paris died in a plane crash, together with his wife and both children. Paris' wife was from Columbia, and they were flying American Airlines Flight 965 from Miami to Cali, Colombia, to spend the winter holidays with her family.

I learned of this accident on Thursday morning December 21, when I got a phone call from one of the secretaries at the Brown Computer Science department. The news seemed impossible. Just a couple of days earlier, Paris and I finished a paper on Constraint Query Algebras for the inaugural issue of the *Constraints* journal and sent it off to Eugene Freuder, who was the editor. This was followed by a long planning meeting. We discussed the papers we planned to write in the spring semester of 1996, and the research I needed to do during Paris' vacation in preparation for those papers. Among them was the journal version of our CP'95 paper "On Similarity Queries for Time-Series Data: Constraint Specification and Implementation". There was a lot to do, and Paris expressed regret multiple times at having to go to Columbia.

Paris and I also discussed other work I should do in his absence, such as preparing some slides for a talk he was to give at the DIMACS workshop on finite-model theory in mid-January 1996 at Princeton University. Perhaps most importantly, we discussed my upcoming thesis proposal and job search. The plan was to propose early in the spring semester of 1996, to defend in late summer, and to start a new academic position in the fall of 1996. Paris planned to write recommendations on my behalf right after his return from Colombia, and he assured me that if nothing good (academically speaking) came up in the job search, I could always stay at Brown as his post-doc.

This meeting with Paris in the evening of Monday December 18 1995 was the last time I saw him. Tuesday was his errand day, and Wednesday morning he flew off... I was able to follow the career plans we laid out at that meeting, and completed my Ph.D. in Constraint Databases without switching topics or finding another advisor. I am officially Paris's last Ph.D. student, but I was left an academic orphan, sorely missing the guidance and reassurance that one could count on from him. For years afterwards, I had a recurring dream that this was all a misunderstanding, a joke of some kind, and Paris would suddenly reappear to pick up his work where he left it off, and once again resume as my academic advisor and mentor.

In the spring of 1996, I worked with Todd Millstein to implement a system for similarity querying of time-series data, as envisioned in the CP'95 paper. Todd was then an undergraduate at Brown, recruited by Paris for this work; he is now professor of computer science at UCLA. This work became part of my Ph.D. thesis, but the journal version of the paper was not completed in 1996, or for years afterwards. It was finally published in the *Information & Computation Journal* in November 2004, titled "Bounded Similarity Querying for Time-series Data".

Paris was greatly missed by the world-wide computer science community. Many events and publications were dedicated to him in 1996, here is a partial list:

- Paris was going to give a talk at a *DIMACS workshop* on finite-model theory in mid-January 1996 at Princeton University, in New Jersey. Instead, his colleagues talked about his work. The proceedings of the workshop, published in the DIMACS/AMS series, were dedicated to Paris.

- Peter Wegner was editing a special issue of *Information and Computation* in which Paris had a paper. The issue was dedicated to Paris.
- *Computing Surveys* published a technical obituary of Paris in the March 1996 issue.
- Paris was an associate editor of the *Journal of Logic Programming*. There was a technical obituary in the April 1996 issue, written by Pascal Van Hentenryck.
- There was a tutorial dedicated to Paris's work in the June 1996 *ACM Symposium on Principles of Database Systems* (PODS). The proceedings were dedicated to Paris.
- There was a special session in Paris's honor in the 1996 conference on *Principles and Practice of Constraint Programming* (CP, August 1996). The proceedings were dedicated to Paris.
- The *International Conference on Database Theory* was held in Greece in January 1997. The proceedings were dedicated to Paris.
- Other publications (CACM, Bulletin of the EATCS, etc.) also featured technical obituaries.

In 1996, ACM also established an award named after Paris: the ACM Paris Kanellakis Theory and Practice Award. That award is still going strong, as is the International Conference on Principles and Practice of Constraint Programming. CP2019 was the 25th conference, which took place in September 2019 in Stamford, CT. It is a testament to the value of his work, to the endurance of Paris' ideas, and to the strength of the community that he created around those ideas.