PODC 2013 Review

Nicolas Braud-Santoni
ENS Rennes
Bruz, France
nicolas.braud-santoni@ens-rennes.fr

The 32nd[1] Symposium on the Principles of Distributed Computing (PODC 2013) was held on July 22-24, in Montréal, Canada. PODC was co-located with the 25th[2] Symposium on Parallelism in Algorithms and Architectures (SPAA'2013), at the *Mont Royal* conference center. Moreover, two workshop were hosted on July 21 by Concordia University:

- the PODC Social Network Workshop; and

- WRAWN'13, the fourth Workshop on Realistic models for Algorithms in Wireless Networks.

This report focuses on PODC itself.

Program

Keynotes

This year featured 3 keynote talks in the mornings:

1. Michael MERRITT's *Distributed Computing: An Empirical Approach*

2. Nancy LYNCH's Athena lecture: *Distributed Computing Theory for Wireless Networks and Mobile Systems*

3. Marc SNIR's *Programming Models for Extreme-Scale Computing*

All three denoted a will to *bridge the gap* between theory and practice.

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[1] 2^5 sounded auspicious from the beginning, especially as it is the ninth happy number.

[2] $25 = 5^2$ sounds related to 32.

Distributed Computing: An Empirical Approach   Michael MERRITT is Executive Director of a research department at AT&T, concerned with network and infrastructure design and performance. His talk mainly revolved around anecdotes about AT&T's network, and how they illustrate the need, sometimes, to shed abstraction layers. For instance, he mentioned how they improved network capacity by removing old, unused allocation.

Distributed Computing Theory for Wireless Networks and Mobile Systems   Professor LYNCH is the head of MIT's *Theory of Distributed Systems* group, currently on sabbatical at Harvard University. The ACM Athena lecturer award is attributed yearly to a preeminent woman computer scientist, and is tied to a one-hour lecture during an ACM conference. The award includes travel expenses to the meeting and a $10,000 honorarium. Nancy LYNCH talked about the limitation of current models for wireless and mobile systems, and shared her views about what future works should bring to this field.

Programming Models for Extreme-Scale Computing   Professor SNIR is the director of the Mathematics and Computer Science Division at Argonne National Laboratory. The slides of the presentation are available on his homepage. After a brief overview of the evolution of technologies and programming languages, Marc asked several questions:

1. Why is message-passing said to be difficult, yet is the most-used paradigm?

2. What does a programming system need to succeed?

3. What does a *good, high performance computing* programming system need?

He then proceeded to answer these questions in the context of MPI, a widely successful message-passing programming model, to share some hindsight about the factors that contributed to its success, and what it tells us regarding the design of novel solutions.

Regular program

PODC 2013 featured 39 regular papers, and 17 brief announcements. Compared with the two previous years, we notice a skew towards regular papers. The papers were grouped in 13 sessions (by chronological order):

1. Concurrent Data Structures and Objects
2. Routing and Distributed Algorithms
3. Byzantine Agreement
4. Distributed Algorithms and Their Complexity
5. Brief Announcements
6. Distributed Algorithms and Their Complexity (again)
7. Fault Tolerance in Distributed Systems
8. Renaming and Mutual Exclusion
9. Social and Peer-to-peer Networks and Mobile Robots
10. Byzantine Agreement and Self-Stabilization
11. Shared and Transactional Memory

12. Radio and Wireless Networks

13. Sensor Network, Graph Algorithms and System Security

It could be said that the sheer number of sessions (and sometimes *odd* pairings) illustrate the breadth and diversity of distributed systems.

Social

Montréal was a very pleasant venue, combining features (both architectural and cultural) from both its French and Anglo-Saxon roots. Moreover, in the middle of Montréal lies *Mont Royal*, a 230m high hill, covered by a park spanning over 280ha[3].

The social event, this year, was two-fold: a tour of Montréal, in small groups, led us to the conference dinner, held at Montréal's Science Center, in the old harbour.

At the banquet, several awards were attributed:

- Shiri CHECHIK won the *Best Paper award* for *Compact Routing Schemes with improved stretch* [3].

- The *Best Student Paper award* was jointly awarded to:

    - Ami PAZ[4], for *Upper Bound on the Complexity of Solving Hard Renaming* [1];
    - myself, for *Fast Byzantine Agreement* [2].

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[3]280ha is almost 700 acres.
[4]Represented by his co-author, Armando CASTAÑEDA

Business meeting

In this year's business meeting, two main topic were broached:

- the locations for PODC 2014 and 2015;

- the possibility of co-locating with other conferences.

Indeed, it was officially announced that:

- PODC 2014 will be hosted in Paris, on June 15-19;

- PODC 2015 will take place in Portugal.

This announcement was met by some with discontent, as it breaks with the current trend, which had PODC alternating between Europe and the American continent since 2008.

The conference committee took advantage of the business meeting to ask the community about co-locating, in the future, with other conferences, in particular, co-locating with *Computer Aid Verification* (CAV), the premier conference on automated *formal analysis*. While the conference committee saw clear potential for synergy between distributed systems and automated verification, few met this proposal with enthusiasm; some even voiced their preference for co-locating with a chocolate-making conference. Despite the nay-saying, no other serious proposal was made regarding co-location, and the stance the conference committee will take is still unclear.

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References

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