Conference Spotlight: ALGO

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ALGO 2025 took place September 15–19 in Warsaw with the six colocated conferences European Symposium on Algorithms (ESA), International Symposium on Parameterized and Exact Computation (IPEC), Symposium on Algorithmic Approaches for Transportation Modeling, Optimization and Systems (ATMOS), Workshop on Approximation and Online Algorithms (WAOA), International Symposium on Algorithmics of Wireless Networks (ALGOWIN, formally ALGO-SENSORS), and International Symposium on Algorithmic Aspects of Cloud Computing (ALGOCLOUD)[1]. I presented a paper at ESA, was in the PC for IPEC, and will share my experience here. I am a postdoc working on (parameterized) algorithms, but this spotlight is written with a broad TCS audience in mind. Before I start, I just quickly want to mention that Warsaw was impressive with a lot of larger and smaller parks around the university campus. These parks were very well maintained and just overall very clean and lovely.

Overall, the organization of ALGO was very good. The local organizers (Jadwiga Czyżewska, Tomáš Masařík, Marcin Pilipczuk, Jakub Radoszewski, Paweł Rzążewski, and Wiktor Zuba) had everything under control and were very helpful in answering questions and helping where needed. The expected bag for participants have an unexpectedly good quality and everyone could choose between a red, green, or blue bag. There were three to four parallel sessions with some plenary sessions for keynote talks. Due to the fact that each session chair followed the schedule very closely and the different rooms were very close to one another, it was easily possible to switch between talks even during a session; though I did not use this possibility myself.

As with any event of this size, there are bound to be a couple of small hiccups in the organization. As far as I can tell, there were only two minor points of critique regarding ALGO. First, the organizers admitted that they underestimated how long it would take to create invoices for almost 300 participants. This led to a situation where some people got it relatively late (during the conference). Second, the organizers decided for a distributed algorithm when it comes to organizing the sessions. In particular, how to distribute the 17 minutes into set-up, talk, and questions was delegated to the session chairs and getting hold of a USB-stick for

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[1]The conferences are sorted by the number of talks at ALGO in descending order.

transferring slides to the local computers we were asked to use for the presentation was sometimes a non-trivial task. I would have liked the possibility to upload the slides beforehand to a common repository, but this is more of a suggestion for the future rather than a complaint. Interestingly, the organizers decided to not have a welcoming session on Monday morning. Instead, the conference immediately started with talks of accepted papers. I am not sure whether I liked this or not, but it was definitely an interesting idea and I am curious what other people think of this decision.

For the social event and the conference dinner, we went to a summer residence of John III Sobieski, the elected (!) king of Poland between 1674 and 1696. There, we learned a bit about King John, his wife Marie Casimire Louise, and the history of Warsaw. King John was a very capable military leader, but also well educated in science and possibly the only Polish King who married the love of his live. The conference dinner took place in a former green house.

Regarding the technical contributions, I cannot possibly write about the many different talks and keynote talks I listened to at ALGO. Fortunately, I do not have to as most (maybe even all) keynote talks will have summaries in the proceedings. These proceedings are expected to be published before the end of the year. I only want to highlight a contribution by Bernhard Haeupler, which is not directly related to computer science, but about the scientific environment overall. He talked about his experience in science having both ADHD and dyslexia. The main point he made was that it is not the people that do not work correctly, but it is the environment that does not let them work correctly. So it is up to all of us to create an environment in which we celebrate our differences and do not stigmatize neuro diversity.

The next part is about the business/community meetings. Since many of them ran in parallel, I can only report on ESA and IPEC here. For ESA, 115 out of 372 submissions were accepted (for comparison: last year, 103 out of 333 submissions were accepted). Due to the larger number of accepted papers, the talks were shortened from 20 minutes slots to 17 (including questions and changing speakers in both). This year, 500 lines + appendix were allowed which replaced the 12 pages + appendix rule from before. This change was overall very well received by the community (according to a vote during the business meeting). Lastly, the idea was brought up to rename track B to track E (for engineering/experiments).

For IPEC, 30 out of 61 submissions were accepted. Unfortunately, not a single student paper was accepted. This led to a discussion whether the definition of a student paper should be softened to allow papers with supervisors as long as the student did most of the work. This discussion is still ongoing. Another notable discussion in the community meeting—not only in the context of IPEC—was the consideration to recognize additional aspects of the research procedure. Ideas of awarding a best figure award, a best talk reward, or a best review

award were brought up. If you have a strong opinion regarding these or other ideas for recognizing different research aspects, please get in touch with the steering committee of IPEC. Finally, as someone working in parameterized algorithmics, I would like to point out two useful tools in the context that were informally presented at IPEC: `https://vaclavblazej.github.io/parameters` and `https://yutookada.com/tools/graph-parameters`. The former is an extensive survey of different graph parameters and their relations. It is managed by Václav Blažej and if you want to have additional parameters included or find a new connection between parameters, get in touch with him, so we can all benefit from a complete overview. The latter is maintained by Yuto Okada and helps you keep track of what an FPT/W[1]-hardness result for a certain parameter tells you about the same problem parameterized by different (related) parameters.

Speaking of graph parameters, the results of this years PACE challenge on Dominating Set and Hitting Set were presented. Most submitted solvers for the exact track used a combination of reduction rules and ILP- or SAT-solvers. In the heuristic track, different combinations of reduction rules, local search, greedy algorithms, and more were tried. Next years challenge was also announced: Agreement Forests, a problem from computational biology. There will be three tracks: an exact/parameterized track, a heuristic track, and a new lower bounds track. For the exact/parameterized track, the organizers invite you to ask for interesting parameters/decompositions you would like to have in addition to the input. Unfortunately, the NETWORKS program ends after 10 years and thus also their financial support for PACE comes to an end. Consequently, there will probably not be any prize money for the winners in the next iteration. You can still win cool medals, though.

To conclude this small report, I want to thank all the chairs of the conferences for organizing wonderful conferences:

- Anne Benoit, Haim Kaplan, and Sebastian Wild (ESA)
- Akanksha Agrawal and Erik Jan van Leeuwen (IPEC)
- Jonas Sauer and Marie Schmidt (ATMOS)
- Jannik Matuschke and José Verschae (WAOA)
- Othon Michail and Giuseppe Prencipe (ALGOWIN)
- Domenico Garlisi and Dimitris Chatzopoulos (ALGOCLOUD)

Hopefully, next years ALGO will be similarly great, so see you all in l'Auqila (100km east of Rome in Italy). And by the way, the best way to get there is apparently to take a bus from Rome taking about 2 to 2.5 hours. Thus, we might all be forced (or tempted?) to take a stop at Rome. On top of that, we might have to spend some time there so we might feel pressured to visit the Colosseum, the Pantheon, the Vatican, or ... Oh my, oh my, the things we all collectively endure for science.