Algorithmic Learning Theory 2019: Preface

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These proceedings contain the **37 papers** accepted for presentation at the 30th International Conference on Algorithmic Learning Theory (ALT 2019), held at Chicago, Illinois, March 22-24, 2019. The 37 papers accepted were selected by the program committee out of 78 papers submissions. Each accepted paper was allotted 20 minutes for presentation.

In addition to these presentations, the conference program included two invited talks, one by **Sanjeev Arora** titled *Theory for Representation Learning*, and one by **Jennifer Wortman Vaughan** titled *Why is fair machine learning hard and how can theory help?* The conference program also included three tutorial talks, one by **Ramon van Handel** titled *Structured random matrices*, one by **Christos Papadimitriou** titled *Computation and the Brain* and the other by **Alessandro Lazaric, Matteo Pirotta and Ronan Fruit** titled *Exploration-Exploitation in Reinforcement Learning*.

Andrew Cotter, Heinrich Jiang and Karthik Sridharan received the Best Paper Award this year for their paper titled *Two-Player Games for Efficient Non-Convex Constrained Optimization*. **Mohamed Ndaoud** received this year's Best Student Paper Award for his paper titled *Interplay of minimax estimation and minimax support recovery under sparsity*.

This years edition of the conference saw a slight decrease of the number of submissions, but a remarkable number of very high quality submissions. Therefore, the competition was particularly fierce during the selection process, despite a somewhat higher than usual acceptance rate. This, together with a strong program including our invited talks as well as our invited and selected tutorials make ALT a top conference in learning theory dedicated to all theoretical and algorithmic aspects of machine learning.

We warmly thank Lev Reyzin and Gyorgy Turan who served as the Local Arrangements Chairs for ALT this year, Mark Reid and Neil Lawrence who were our Publication Chair, Steve Hanneke who was our Workshop chair, Sandra Zilles who was our Publicity chair, and Vianney Perchet who was our Open problems Chair. We are also particularly grateful to Mehryar Mohri, the Chair of the ALT steering committee, for his guidance and help throughout, as well as to the rest of the steering committee for their support. We wish to express our deepest gratitude to all of the program committee for taking on the load of carefully reviewing all submissions and discussing all contributions. We are also thankful to all external reviewers for their attentive help in the reviewing process. Finally, we would like to thank our generous sponsors: Google, Toyota Technological Institute at Chicago, TwoSigma and the University of Illinois at Chicago.

Aurélien Garivier and Satyen Kale
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