

Conference on Learning Theory 2021: Post-conference Preface

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This has been a year of many firsts for COLT. For one, the past twelve months have unfortunately been defined by a pandemic, for the first time in the thirty four years of COLT’s history. Given such a difficult environment, we are immensely grateful to Program Committee members who had worked hard to make the conference possible, even despite demanding changes introduced to the reviewing process. For instance, for the first time in COLT’s history, the discussion period involved continuous interactions between reviewers and authors (after the initial rebuttal phase), to help identify and resolve issues beyond what is feasible with a single chance at a rebuttal. As this involved more work than usual, we significantly increased the committee size to ensure that fewer submissions (at most 4-5) were assigned to reviewers and area chairs. Also, as introduced in last year’s COLT, area chairs doubled as reviewers on submissions outside of those they chaired. Thus, we had 310 Program Committee members (102 of whom were both area chairs and reviewers), who reviewed 387 submissions out of which 136 were selected for publication. These proceedings contain these papers as well as 4 separate open problems curated by the Open Problems Chair, Shai Ben-David.

Next, paper awards were selected this year—from a large pool of many outstanding submissions—with the help of a subcommittee of past program chairs, whose recommendations were extremely helpful in our final selection. This final selection is outlined below.

Best Paper Awards:

- *Non-stationary Reinforcement Learning without Prior Knowledge: an Optimal Black-box Approach*, by C.-Y. Wei, H. Luo.
- *The Min-Max Complexity of Distributed Stochastic Convex Optimization with Intermittent Communication*, by B. Woodworth, B. Bullins, O. Shamir, N. Srebro.

Best Student Paper Awards:

- *Stochastic block model entropy and broadcasting on trees with survey*, by E. Abbe, E. Cornacchia, Y. Gu, Y. Polyanskiy.
- *Optimal Dynamic Regret in Exp-Concave Online Learning*, by D. Baby, Y.-X. Wang.

In another first, three papers were named as runner-ups for best paper awards:

- *Online Learning with Simple Predictors and a Combinatorial Characterization of Minimax in 0/1 Games*, by S. Hanneke, R. Livni, S. Moran.
- *Statistical Query Algorithms and Low Degree Tests Are Almost Equivalent*, by M. Brennan, G. Bresler, S. Hopkins, J. Li, T. Schramm.

- *Improved Regret for Zeroth-Order Stochastic Convex Bandits*, by T. Lattimore, A. Gyorgy.

This year was also the first time COLT was held in a hybrid format, i.e., involving both online and physical components. Such a hybrid format meant balancing the needs of in-person and online participants, resulting in an unusually complex mix of requirements and scheduling constraints. On one hand, the Local Arrangements Chairs, Raf Frongillo and Bo Waggoner, faced an almost impossible task of organizing the first major Machine Learning conference to have a physical component in the midst of an ongoing pandemic. They and the Online Experience Chairs, Surbhi Goel and Nika Haghtalab, had to put in effort far beyond normal conference expectations to strive for a seamless amalgamation of physical and virtual. Furthermore, the hybrid format demanded much coordination with the publication chair Suriya Gunasekar, to ensure attendees could engage with publications before the conference start. We are deeply grateful to them.

In another first for COLT, the main technical program was preceded by two virtual-only days of tutorials and mentoring workshops—aimed at reaching and engaging with a more diverse set of participants—and which also included a session in memory of Matthew Brennan. We thank Nika and Surbhi for proposing and organizing such a successful component of the program.

In addition to paper presentations, the main technical program included four plenary lectures by Eva Tardos, David Silver, Sara van der Geer, and Persi Diaconis.

Next, we would like to acknowledge the following individuals whose help over the past year was essential to a successful COLT: Daniel Hsu (The Information Officer and SafeTOC advocate); Varun Kanade and Thomas Steinke (Sponsorships Chairs); Vitaly Feldman (Treasurer). We appreciate the help and encouragement of Peter Grunwald as well as the COLT 2020 chairs, Jake Abernathy and Shivani Agarwal, whose advice throughout the year was simply invaluable.

We thank Gabriel Andrade for the help with the program website, Colin Mahoney and Michelle Ambruz for exceptional A/V work, and Virginia Schultz for local coordination and logistics.

Finally, we would like to thank all our sponsors for their generosity. The platinum sponsors were Google, G-Research (also sponsor of best paper and best student paper awards) and DeepMind. The gold sponsor was Microsoft, and the silver sponsor was Two Sigma.

Misha Belkin and Samory Kpotufe
COLT 2021 Program Chairs.

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*Asterisk indicates that the PC member was also an area chair.