

5th International Symposium on Foundations and Applications of Blockchain 2022

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■ Preface

The goal of 5th International Symposium on Foundations and Applications of Blockchain 2022 (FAB'22) is to bring researchers and practitioners of blockchain – the technology behind Bitcoin – together to share and exchange results. The program of FAB'22 features four invited talks, two regular scientific papers, followed by a poster session. The program committee selected two regular papers for publication in the proceedings out of eight submissions.

Prof. Sylvain Conchon's invited talk is about the emergent challenges in blockchains and how they are tackled in the Tezos blockchain. Alberto Sonnino's invited talk is about building high-performance BFT consensus based on DAG protocols. The invited talk of Alfonso de la Rocha is about improving blockchain performances through hierarchical consensus. Finally, Ittai Abraham's talk is about future of blockchains and some exciting opportunities in RegDeFI.

The two regular scientific papers published in these proceedings cover two important emerging topics: sharding and accountability. Deepal Tennakoon and Vincent Gramoli present dynamic blockchain sharding, a new way to create and close shards on-demand, and adjust their size at runtime. Antonella del Pozzo and Thibault Rieutord study approaches to make BFT consensus protocols accountable, considering Tenderbake as a case study.

The proceedings include as well four posters presenting interesting research proposals. Juncheng Fang et al. research proposal is about improving blockchain protocols when recovering from network partitions. Floris Dinu and Silvia Bonomi present a proposal for analyzing and comparing different consensus protocols used in blockchain under churn. Andy Williams presents a proposal to frame blockchain in the scope of collective intelligence. Finally Kevin Bruhwiler et al. propose an approach to study network partitions through simulation.

The program also features a keynote from the Ethereum foundation.

Finally, we thank the authors for providing valuable content, and the program committee who gave very valuable feedback to the authors. We also thank Algorand, Protocol Labs and Ethereum for their financial support.

Sara Tucci-Piergiovanni and Natacha Crooks



