ConsensusDay 22

An ACM CCS 2022 workshop on recent developments in consensus

7|11 November 2022 - Los Angeles, CA, USA

http://research.protocol.ai/sites/consensusday22

Berkeley Center for Responsible, Decentralized Intelligence

Protocol Labs **Research**

Consensus — loosely defined as global agreement on the state of a decentralised network across its mutually untrusting participants — has been at the heart of decentralised systems ever since the inception of Nakamoto's Proof-of-Work (PoW) consensus. At the same time, its scalability remains the Achilles' heel of decentralised systems.

A number of ongoing R&D efforts aim at scaling blockchain networks up to 10s to 100s of thousands of transactions per second. Yet such performance targets can be seen as modest when the goal is to bring traditional web workloads to the decentralised web (Web3), requiring the handling of billions of transactions per second, large volumes of data, complex workloads, and hard latency requirements.

The goal of this event, ConsensusDay 22, is to foster scientific exchange across a wider community in consensus research and adjacent fields, by disseminating and providing a forum for discussion of upcoming impactful research with a practical twist. Topics of interest span the entirety of decentralised system scaling, including but not limited to:

- Sharding
- Consensus protocols
- Parallel execution
- Reconfiguration of consensus protocols
- CRDTs and consistency semantics weaker than total order
- Security/scalability tradeoffs
- Interoperability across blockchain systems
- Novel approaches to Sybil attack protection
- Scalable VDFs, VRFs and other cryptographic primitives

Contributions should be submitted via https://consensusday22.hotcrp.com/ and be formatted as a PDF file in double-column ACM format (see https://www.acm.org/publications/proceedings-template, with a simpler version at https://github.com/acmccs/format and an Overleaf template at https://www.overleaf.com/gallery/tagged/acm-official). Accepted contributions will be given a presentation slot at the workshop and published in the ACM Digital Library. Accepted formats include (page limits without the bibliography, well-marked appendices, and supplementary material):

- **Work-in-progress papers** (up to 12 pages)
- **Position papers** (up to 6 pages)
- **Demos** (up to 6 pages) — *Demos include summaries of concurrently submitted papers to other peer-reviewed conferences, or papers accepted or published in 2022. Such papers need to be clearly marked in an appropriate footnote, and will not be published in the proceedings.*

Important Dates

- Submission Deadline: 24 June 2022
- Acceptance Notification: 5 August 2022
- Camera-ready deadline: 5 September 2022

Organising Committee

- Jorge Soares, Protocol Labs
- Dawn Song, UC Berkeley
- Marko Vukolic, Protocol Labs

Technical Programme Committee

- Ittai Abraham, VMware Research
- Sarah Azouvi, Protocol Labs
- Alysson Bessani, University of Lisbon
- Christian Cachin, University of Bern
- George Danezis, Mysten Labs
- Arthur Gervais, Imperial College London
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- Michal Krol, City University of London
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- Giuliano Losa, Stellar Development Foundation
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- Andrew Miller, UIUC
- Joachim Neu, Stanford University
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- Yvonne Anne Pignolet, DFINITY
- Vivien Quéma, Université Grenoble Alpes
- Etienne Riviere, UC Louvain
- Rodrigo Rodrigues, University of Lisbon
- Dragos-Adrian Seredinschi, Informal Systems
- Alberto Sonnino, Mysten Labs
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- Chrysoula Stathakopoulou, Chainlink
- Xuechao Wang, UIUC
- Roger Watenhoffer, ETHZ