

## Mathematical Colloquia

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**Tuesday, 02 April 2019**

17:15 h, Lecture Room 119

**Prof. Dr. Christian Cachin, University of Bern (INF)**

# Distributing Trust with Blockchains

### Abstract:

Cryptocurrencies on blockchains are worth billions today. Blockchain is promised to secure exchanges among unknown, mistrusting parties. Companies are struggling to explore new opportunities with the crypto-technology. What stands behind this hype?

A blockchain is simply a public ledger for recording transactions, maintained by many nodes without central authority through a distributed cryptographic protocol. All nodes validate the information to be appended to the blockchain, and a cryptographic consensus protocol ensures that the nodes agree on a unique order in which entries are appended. This talk will explore the cryptography and consensus mechanisms for blockchains. Public blockchains and cryptocurrencies like Bitcoin or Ethereum operate in a completely decentralized way. Consortium blockchains, on the other hand, are run by an a-priori established group. The presentation will also cover Hyperledger Fabric, a modular and extensible blockchain platform that is developed open-source under the Hyperledger Project, that has strong roots in Switzerland.