



INFORMATICS COLLOQUIUM

Speaker:**Prof. Christian Cachin, University of Bern, Switzerland****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.

Bio:

Christian Cachin is a professor of computer science at the University of Bern (Switzerland), where he leads the cryptology and data security research group since 2019. Prior to that he worked for IBM Research - Zurich during more than 20 years. He is an ACM Fellow, an IEEE Fellow, and has also served as the President of the International Association for Cryptologic Research (IACR) from 2014-2019. With a background in cryptography, he is interested in all aspects of security in distributed systems, particularly in cryptographic protocols, consistency, consensus, blockchains, and cloud-computing security. He has developed many cryptographic protocols, contributed to several IBM products, formulated security standards, and helped to create the Hyperledger Fabric blockchain platform.

Date and time: Tuesday January 21st, 2020, 11.00 am
Location: Pérolles 21, room B130, Bd de Pérolles 90, Fribourg
Contact person: Prof. Philippe Cudré-Mauroux

The colloquium is free and open to the public.