

ICBC'24 Sessions (Monday, 27 May)
08:30-16:30 REGISTRATION (Registration Desk, Street Level (Level 2) @ Arts Building)
08:45-10:45 TUTORIAL 1 (Room 3074) COMPUTE OFFCHAIN, VERIFY ONCHAIN: HOW TO BUILD ZK-DAPPS WITH CIRCOM AND ZOKRATES
08:45-10:45 TUTORIAL 2 (Room 3071) BEYOND – CRYPTO: PREPARING FOR THE NEXT WAVE OF CHALLENGES IN DISTRIBUTED LEDGER TECHNOLOGY
10:45-11:00 COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre)
11:00-13:00 TUTORIAL 3 (Room 3074) SCALABILITY AND THROUGHPUT OF BLOCKCHAINS AND DECENTRALIZED APPLICATIONS
11:00-13:00 TUTORIAL 4 (Room 3071) BLOCKCHAIN AND EMERGING STANDARDS
13:00-14:00 LUNCH (Lower Concourse, outside Edmund Burke Theatre)
14:00-16:00 SHORT PAPER 1: CRYPTO, IDENTITY, ZKP (Room 3074) - Completely FROST-ed: IoT issued FROST signature for Hyperledger Fabric blockchain - SRNG: An Efficient Decentralized Approach for Secret Random Number Generation - zkGen: Policy-to-Circuit Transpiler - Gas-Efficient Decentralized Random Beacons - An Untraceable Credential Revocation Approach Based on a Novel Merkle tree Accumulator - Decentralised Redactable Blockchain: A Privacy-Preserving Approach to Addressing Identity Tracing Challenges
14:00-16:00 SHORT PAPER 2: MEV, TRANSACTION, ADDRESS ANALYSIS (Room 3071) - Short Paper: Unpredictable Transaction Arrangement for MEV Mitigation in Ethereum - Analysis of Earned Rewards In A Blockchain with Two Selfish Miners - The Spatiotemporal Scaling Laws of Bitcoin Transactions - Playing the MEV Game on a First-Come-First-Served Blockchain - Shared Send Mixers Untangling in Bitcoin Clustering Heuristics Adjustment - Quick Order Fairness: Implementation and Evaluation
16:00-16:20 COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre)
16:20-18:20 SHORT PAPER 3: NFT, DEFI, APPLICATION (Room 3074) - Decentralized commit-reveal scheme to defend against front-running attacks on Decentralized Exchanges - ML2SC: Deploying Machine Learning Models as Smart Contracts on the Blockchain - BAKUP: Automated, Flexible, and Capital-Efficient Insurance Protocol for Decentralized Finance - Machine Learning in DeFi: Credit Risk Assessment and Liquidation Prediction - A Blockchain-Based Decentralized and Incentive Compatible Distributed Computing Protocol - ROAR: A Benchmark for NFT Rarity Meters
16:20-18:20 SHORT PAPER 4: CONSENSUS, CROSS-CHAIN, SECURITY (Room 3071) - Enhancing Ethereum PoA Clique Network with DAG-based BFT Consensus - Gasless On-Chain Password Manager: A Comparative Analysis Across EVM-Based Platforms - Verifiable Querying Framework for Multi-Blockchain Applications - VELLE: Verifiable Embedded Wallet for Securing Authenticity and Integrity - Multi-Party Cross-Chain Asset Transfers
18:45-21:00 WELCOME RECEPTION JOINT EVENT WITH BLOCKCHAIN IRELAND WEEK (Trinity City Hotel, Pearse Street, Dublin 2)

ICBC'24 Sessions (Tuesday, 28 May)
08:30-16:30 REGISTRATION (Registration Desk, Street Level (Level 2) @ Arts Building)
08:45-10:00 FULL PAPER 1: STATE CHANNEL, CROSS CHAIN, SHARDING, SIMULATION (Edmund Burke Theatre) - Bridging BRC-20 to Ethereum - ShardingSim: A Modular Committee-Based Sharding Blockchain Simulator - Fast, Favorable, and Fair Blockchain-based Exchange of Digital Goods using State Channels
10:00-10:30 POSTER 1 & COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre) - Towards a harmonized global regulation: An analysis of the MiCA regulation and its implications for the European crypto-asset market - Blockchain Smart Contract Vulnerability Detection and Segmentation Using ML and XAI - Incident Analysis of Decentralized Finance - A Universal System for OpenID Connect Sign-ins with Verifiable Credentials and Cross-Device Flow - Stability Analysis of Market-Making Mechanisms for Decentralized Cryptocurrency Exchanges - Hierarchical Execution of Cross-Shard Transactions with Multiple Smart Contract Functions - Global, robust and comparable digital carbon assets
10:30-10:45 CONFERENCE OPENING (Edmund Burke Theatre)
10:45-11:45 FIRESIDE CHAT WITH RIPPLE: UNIVERSITY BLOCKCHAIN RESEARCH INITIATIVES AND PERSPECTIVES ON REGULATION (Edmund Burke Theatre) Eric Van Miltenberg (Senior VP of Strategic Initiatives, Ripple) David Ridgway (Head of Ripple Ireland) Moderator: William Knottenbelt (Imperial College London)

11:45-13:00 FULL PAPER 2: CBDC AND STABLE COIN (Edmund Burke Theatre) - Compliance Design Options for Offline CBDCs: Balancing Privacy and AML/CFT - What Drives the (In)stability of a Stablecoin? - LimboCoin: On the Denial-of-Service of Token based Retail CBDCs
13:00-14:00 DEMO 1 & LUNCH (Lower Concourse, outside Edmund Burke Theatre) - Sala: A Configurable Payment Channel Network Simulator - Machine Learning for Data Trust Evaluations in Blockchain-Enabled IoT Systems - Smart Donations for Software Development via Blockchain - Biometric Authentication Service on Smart Contract - Blockchain-IoT Demo for Supply Chain Management
14:00-15:15 FULL PAPER 3: POS AND DEFI (Edmund Burke Theatre) - Exploring the Market Dynamics of Liquid Staking Derivatives (LSDs) - How does Stake distribution influence Consensus? Analyzing Blockchain Decentralization - Financially-Stable Automated Market Making for Decentralized Fixed-Rate Lending and Trading
15:15-16:15 KEYNOTE: PIERCING THE VEIL OF TVL: DEFI REAPPRAISED (Edmund Burke Theatre) Speaker: Jiahua Xu (UCL; Head of Science, DLT Science Foundation)
16:15-16:45 POSTER 2 & COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre) - Integrating Behavioral Finance Factors with Temporal Convolutional Networks for Enhanced Cryptocurrency Return Predictions - CypherChain: A Privacy-Preserving Data Aggregation Framework for Blockchain-Based DR Programs - Towards the Optimization of Gas Usage of Solidity Smart Contracts with Code Mining - Enhancing Coin Selection in UTXO-based Blockchains through Modified Greedy Algorithms - Dynamically available consensus on a DAG with fast confirmation for UTXO transactions - Support Remote Attestation for Decentralized Robot Operating System (ROS) using Trusted Execution Environment - An Incentivization Scheme for a Fixed-Supply DLT with no Base Token Fees
16:45-18:00 FULL PAPER 4 (Edmund Burke Theatre) - Better Clients, Less Conflicts: Hyperledger Fabric Conflict Avoidance - From Slow Propagation to Partition: Analyzing Bitcoin Over Anonymous Routing - Optimizing Block Propagation in Bitcoin Network with Region-based Neighbor Selection Using Reinforcement Learning
18:30-19:30 VISIT TO THE OLD LIBRARY & BOOK OF KELLS EXPERIENCE

ICBC'24 Sessions (Wednesday, 29 May)
08:30-16:30 REGISTRATION (Registration Desk, Street Level (Level 2) @ Arts Building)
08:45-10:15 SOK (Edmund Burke Theatre) - SoK: Crosschain Token Bridges and Risk - SoK: Compression in Rollups - Cryptoeconomics and Tokenomics as Economics: A Survey with Opinions - Pragmatic Analysis of Key Management for Cryptocurrency Custodians - SoK: Public Blockchain Sharding - FATF Travel Rule's Technical Challenges and Solution Taxonomy
10:15-10:45 POSTER 3 & COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre) - Congesting Ethereum after EIP-1559 - Servicifying zk-SNARKs Execution for Verifiable Off-chain Computations - DecentPeer: A Self-Incentivised & Inclusive Decentralized Peer Review System - Delay Towers to Bootstrap Blockchains - SolMover: Feasibility of using LLMs for Translating Smart Contracts - Is Wireless Bad for Consensus in Blockchain? - ContractSafeguard: Practical Bug Bounty Platform for Smart Contracts with Intel SGX
10:45-11:45 KEYNOTE: THE CHALLENGES OF APPROACH: ALIGNING THE GOALS OF RESEARCH AND DEVELOPMENT TEAMS TO ENSURE OPTIMAL IMPLEMENTATION AND ADOPTION (Edmund Burke Theatre) Speaker: Sebastian Bode (Cardano Foundation)
11:45-13:00 FULL PAPER 5 (Edmund Burke Theatre) - Altruism, reciprocity, and tokens to reward forwarding data: Is that fair? - Unpacking How Decentralized Autonomous Organizations (DAOs) Work in Practice - CredAct: Privacy-Preserving Activity Verification for Benefits Schemes in Self-Sovereign Identity
13:00-14:00 DEMO 2 & LUNCH (Lower Concourse, outside Edmund Burke Theatre) - Enabling Web2-Based User Authentication for Account Abstraction - PROOF: Decentralized Platform for Verifiable Outsourced Computation - Demo: Radio Spectrum Data Collection with Distributed-Proof-of-Sense Blockchain Network - Demonstrating a Hyperledger Fabric-based Blockchain with Knowledge Graphs for a Supply Chain Ecosystem
14:00-15:15 FULL PAPER 6 (Edmund Burke Theatre) - End-to-End Verifiable Decentralized Federated Learning - Protecting Non Fungible Mutable Tokens: an Application in the Metaverse - Energy-Efficient Data Anchoring for IoT Devices

15:15-15:45 POSTER 4 & COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre) - An Evaluation of Lightweight CNNs for Smart Contract Vulnerability Detection - An Ensemble Method of Deep Reinforcement Learning for Automated Cryptocurrency Trading 15:15 - 15:45, Leveraging Machine Learning For Multichain DeFi Fraud Detection - Second Layer Network Impact on Bitcoin Mining Fees and Network Value - PrivHChain: Monitoring the Supply Chain of Controlled Substances with Privacy-Preserving Hierarchical Blockchain - POSTER: Towards an Identity Authentication Layer in CBDC Networks using Self-Sovereign Identities - Bitcoin, Gold, Oil Implied Volatility Spillover to Stock Market: Evidence from an Asymmetric Quantile Regression Model
15:45-17:00 FULL PAPER 7 (Edmund Burke Theatre) - Privacy-Preserving Account-Abstraction for Teams on EVM chains - How to Redact the Bitcoin Backbone Protocol - A Tip for IOTA Privacy: IOTA Light Node Deanonimization via Tip Selection
19:00-19:30 BOARD COACHES TO GUINNESS STOREHOUSE (Nassau Street, outside Arts Building)
19:30-20:15 SELF-GUIDED TOUR @ GUINNESS STOREHOUSE (Guinness Storehouse, St. James's Gate, Dublin 8)
20:15-22:15 BANQUET (The Arrol Suite @ Guinness Storehouse, St. James's Gate, Dublin 8)
22:15-22:30 BOARD COACHES RETURNING TO TRINITY COLLEGE CAMPUS (Guinness Storehouse, St. James's Gate, Dublin 8)

ICBC'24 Sessions (Thursday, 30 May)
08:30-16:30 REGISTRATION (Registration Desk, Street Level (Level 2) @ Arts Building)
09:00-10:15 FULL PAPER 8 (Edmund Burke Theatre) - Strategic Bidding Wars in On-chain Auctions - Efficient and Reliable Service Detection on Bitcoin - Private, Anonymous, Collateralizable Commitments vs. MEV
10:15-10:45 POSTER 5 & COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre) - Abstracting Bitcoin Lightning Network Complexity with Ultraviolet - SmartSLA: Enabling Quality of Service in Blockchain-Enabled IoT Networks for Multi-Tenant Environments - Garrison: A Defensive Overlay Network for Critical SCADA Infrastructure Networks - Revolutionizing the Stock Market: A Blockchain-Based Decentralized Approach - Garuda: Fast, Light-Weight Order-Fairness in Byzantine Consensus - LogaLookup: Efficient Multivariate Lookup Argument for Accelerated Proof Generation
10:45-11:45 KEYNOTE: THE FUTURE OF COMPUTE IS BLOCKCHAIN (Edmund Burke Theatre) Speaker: Jan Camenisch (DFINITY Foundation)
11:45-13:00 FULL PAPER 9 (Edmund Burke Theatre) - Bytecode Skeletons for Sample Selection in the Analysis of Blockchain Programs - Monero Traceability Heuristics: Wallet Application Bugs and the Mordinal-P2Pool Perspective - Lock-Free Concurrent Smart Contracts
13:00-14:00 LUNCH (Lower Concourse, outside Edmund Burke Theatre)
14:00-15:15 FULL PAPER 10 (Edmund Burke Theatre) - Enhanced mutation testing of smart contracts in support of code inspection - (In)Correct Smart Contract Specifications - iCon: Automated Verification of Inter-Transaction Properties in Tezos Smart Contracts with Unknowns
15:15-15:45 COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre)
15:45-17:25 FULL PAPER 11 (Edmund Burke Theatre) - Empirical Analysis of EIP-3675: Miner Dynamics, Transaction Fees, and Transaction Time - Towards a deeper understanding of the Cardano macro-economics Mostafa Chegenizadeh (University of Zurich, Switzerland); Shengnan - Rational Economic Behaviours in the Bitcoin Lightning Network - A Two-Stage Encrypted Cryptomining Traffic Detection Mechanism in Campus Network
17:25-17:50 BEST PAPER AWARD & CLOSING REMARKS (Edmund Burke Theatre)

ZKDAPPS & CROSSCHAIN Workshop Sessions (Friday, 31 May)
08:00-09:00 REGISTRATION (Registration Desk, Street Level (Level 2) @ Arts Building)
09:00-10:00 ZKDAPPS WORKSHOP (Room 3051) - Portal: Time-Bound and Replay-Resistant Zero-Knowledge Proofs for Single Sign-On - zk-IoT: Securing the Internet of Things with Zero-Knowledge Proofs on Blockchain Platforms
10:00-10:30 COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre)
10:30-11:30 CROSSCHAIN WORKSHOP (Room 3051) - Towards a Standard Framework for Blockchain Interoperability - Formalising a Gateway-based Blockchain Interoperability Solution with Event-B
11:30-12:00 COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre)
12:00-13:00 LUNCH (Lower Concourse, outside Edmund Burke Theatre)

CryptoEx Workshop Sessions (Friday, 31 May)

08:00-09:00 REGISTRATION (Registration Desk, Street Level (Level 2) @ Arts Building)
09:00-10:00 WELCOME ADDRESS & KEYNOTE (Room 3074)
10:00-10:30 COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre)
10:30-12:00 TECHNICAL SESSION 1 (Room 3074)
- An Improved Algorithm to Identify More Arbitrage Chances on Decentralized Exchanges
- Option Contracts in the DeFi Ecosystem: Motivation, Solutions, & Technical Challenges
- The AMMAzing Frontrunner: Practical Frontrunning on the XRP Ledger Automated Market Maker
12:00-13:00 LUNCH BREAK (Lower Concourse, outside Edmund Burke Theatre)
13:00-14:30 TECHNICAL SESSION 2 (Room 3074)
- A2C Reinforcement Learning for Cryptocurrency Trading and Asset Management
- Using Machine Learning for Predicting Arbitrage Occurrences in Cryptocurrency Exchanges
- Buy Crypto, Sell Privacy: Investigating the Cryptocurrency Exchange Evonax
14:30-15:45 SHORT PAPER SESSION (Room 3074)
- A Low-Volatility Strategy based on Hedging a Quanto Perpetual Swap on BitMEX
- Unlocking DeFi Literacy: Understanding NFT Market Microstructure in the Decentralized Finance Landscape
- Bitcoin Inscriptions: Foundations and Beyond
- Central Bank Digital Currency (CBDC) Requirements & Challenges
15:45-16:15 COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre)
16:15-17:45 TECHNICAL SESSION 3 (Room 3074)
- Detection of NFT Duplications with Image Hash Functions
- Towards Proxy Staking Accounts Based on NFTs in Ethereum
- SoK: Cryptocurrency Wallets - A Security Review and Classification based on Authentication Factors
17:45-18:00 CLOSING REMARKS (Room 3074)

DAG-DLT Workshop Sessions (Friday, 31 May)

08:00-09:00 REGISTRATION (Registration Desk, Street Level (Level 2) @ Arts Building)
09:00-09:15 WELCOME ADDRESS (Room 3126)
09:15-10:15 KEYNOTE: FROM CHAINS TO DAGS: A TOUR OF POW PROTOCOLS (Room 3126)
Speaker: Shai Wyborski (KASPA)
10:15-10:30 COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre)
10:30-11:30 TECHNICAL SESSION 1 (Room 3126)
- Secure Transmission of Immutable Data for Low-Power, Long-Range Wireless IoT Services
- A Study on Shared Objects in Sui Smart Contracts
11:30-11:45 COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre)
11:45-12:45 TECHNICAL SESSION 2 (Room 3126)
- Name Management Using IOTA in ICN
- SoK: DAG-based Consensus Protocols
12:45-13:00 CLOSING REMARKS (Room 3126)
13:00-14:00 LUNCH (Lower Concourse, outside Edmund Burke Theatre)

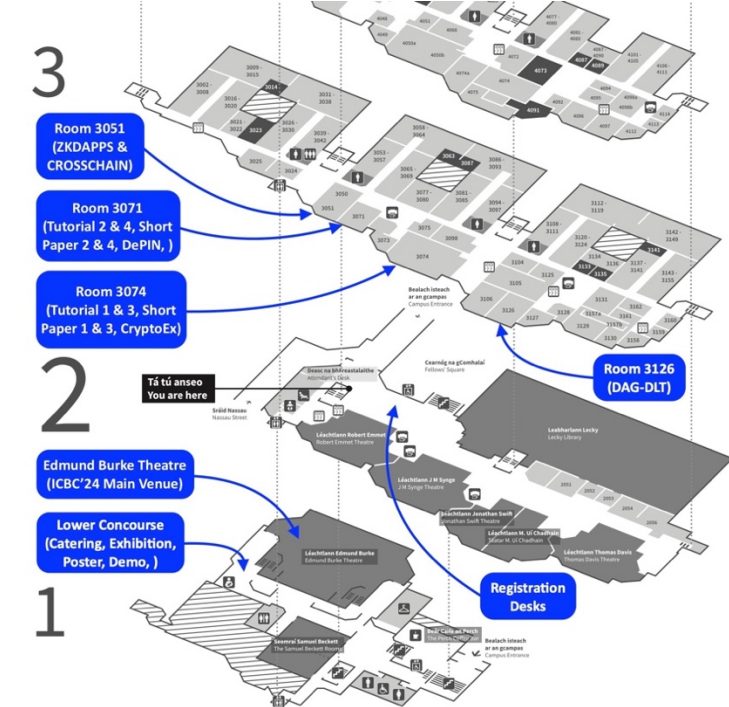
DePIN Workshop Sessions (Friday, 31 May)

08:00-09:00 REGISTRATION (Registration Desk, Street Level (Level 2) @ Arts Building)
09:00-09:10 WELCOME ADDRESS (Room 3071)
09:10-10:00 KEYNOTE: CAN AI HELP FINANCE AND BUILD GLOBAL AI INFRASTRUCTURE AND EQUALITY OF OPPORTUNITY? (Room 3071)
Speaker: David Palmer (Vodafone, UK)
10:00-10:30 COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre)
10:30-12:00 TECHNICAL SESSION 1 (Room 3071)
- Industry Perspective: DePIN - A Modular Infrastructure Thesis
- SoK: DePIN Data Layer for Modular Blockchain
12:00-13:00 LUNCH (Lower Concourse, outside Edmund Burke Theatre)
13:00-15:00 TECHNICAL SESSION 2 (Room 3071)
- Trusted LLM Inference on the Edge with Smart Contracts
- Towards a Trusted and Cryptocurrency-Enabled Decentralized Wireless Community Network
- Performance Analysis of Decentralized Physical Infrastructure Networks and Centralized Clouds
- Proliferation of the Service-centric Distributed Consensus Model and its Impact on Ethereum
15:00-15:30 COFFEE BREAK (Lower Concourse, outside Edmund Burke Theatre)
15:30-16:30 DEPIN PANEL (Room 3071)
Moderator: Xinxin Fan (IoTEx, USA)
Panellist: Robert Koschig (1kx, Portugal), David Palmer (Vodafone, UK), Jonathan Heiss (TU Berlin, Germany)
16:30-16:40 CLOSING REMARKS (Room 3071)

MAP OF TRINITY COLLEGE DUBLIN



VENUE FLOOR PLAN – ARTS BUILDING



IEEE International Conference on Blockchain and Cryptocurrency

27-31 May 2024 // Dublin, Ireland

<https://icbc2024.ieee-icbc.org/>



Patrons



Technical Sponsors

