NEW ACM JOURNAL ANNOUNCEMENT

ACM Distributed Ledger Technologies: Research and Practice (DLT)

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Distributed Ledger Technologies: Research and Practice (DLT) is a peer-reviewed journal that seeks to publish high quality, interdisciplinary research on the research and development, real-world deployment, and/or evaluation of distributed ledger technologies; e.g., blockchain, cryptocurrency, and smart contract. DLT will offer a blend of original research work and innovative practice-driven advancements by internationally distinguished DLT experts and researchers from academia, and public and private sector organizations.

Topics of relevance include, but are not limited to, the following:

Innovation and advances in DLT
- Distributed ledger theory
- Performance analysis and optimization
- Distributed ledger scalability and reliability
- Interoperability or cross-chain interactions
- Consistency, availability and partition tolerance
- Mathematical modeling and stability analysis
- Language-based security and formal verification
- Blockchain and alternative distributed ledger technologies
- Green distributed ledger computing
- Sustainability of distributed ledgers
- Hardware-level security
- Security, privacy, attacks and forensics of distributed ledger
- Anonymity, privacy and network forensics
- Simulation tools and platforms

Smart Contracts
- Smart contract programming languages and tools
- Transaction monitoring and analysis
- Transactional privacy/anonymity
- Mining pools and swarms
- Workflows using smart contracts
- Proof-of-work, -stake, -burn and alternatives
- Smart contract security and attacks
- Formal analysis, verification and correct by design principles
- Governance, accountability, automation and safety

DLT Building Blocks
- Consensus protocols, including PoW, -stake, -burn and alternatives
- Cryptoeconomic mechanisms to reach consensus
• Economic incentive and payoff mechanisms
• Consensus mechanism of DAG
• Security risks and attack vectors

Fintech
• Cryptocurrency and cashless society
• Payment and exchange
• Cryptocurrency integration
• Business opportunities in blockchain
• Derivative contracts/transactions
• Tokens and value creation
• Token economies and governance
• Interfacing fiat and cryptocurrencies
• Machine learning in crypto-markets
• Distributed ledger-based financial market
• Prediction marketplace systems
• Fraud detection and management
• Regulation and taxation
• Policy issues associated with digital currencies
• Fintech adoption, use and impact

Blockchain Engineering
• User studies, real-world measurements and metrics
• Design methodologies for distributed applications
• Certification and audits
• Implications for existing business models
• Identity management, user services and integrity verification
• The Internet of Agreements
• Healthcare management
• Supply chain management
• Business and industrial applications
• Education, legal and smart infrastructure applications
• Distributed ledger and cryptocurrency impact on consumers and regulatory responses

Enabling Technologies
• Internet of things (IoT) and blockchain technology
• Distributed ledger in next generation communications and networks
• Artificial intelligence and blockchain
• Distributed ledger in big data analytics
• High-performance for transaction processing
• Quantum-resistant cryptography

For questions and further information, write to dlt-eics@acm.org.