45th IEEE International Conference on Distributed Computing Systems 2025 (ICDCS 2025)
20-23 July 2025, Glasgow, UK

Detailed Programme

Saturday, 19 July 2025	
16:00-17:00	Exclusive Distillery Whiskey Tasting Tour 1 (Optional)

Sunday, 20 July 2025	
08:00-09:00	Breakfast (Radisson Blu)
09:00-17:00	**Posters** Megalith 1
09:00-10:30	**Workshops & Tutorials (Morning Session 1)**
09:00-10:30	Tutorials
	T1: Federated Learning and Network Security: Foundations, Potential, and Resilience Megalith 2
	T5: AI-Native Joint Communication and Computation in 6G Networks and Beyond Room 1
	T6: Network Simulation Bridge: Bridging Distributed Applications with Network Simulators Room 2
	T2: Integrating Knowledge Graphs and Large Language Models for Advancing Scientific Research Finnieston
09:00-10:30	Workshops
	Federated Learning for Web Technologies Workshop (FL4WEB) Megalith 3
	1st Workshop on Distributed Computing Systems for Smart Logistics (DCSSL) Room 4
	Security, Privacy and Resilience in Converged Networked Systems Workshop (SPARCSNet) Room 4
	1st Workshop on High Performance and Energy Efficient Architectures for 3D Chiplets (HiPER3D) Room 5
	4th International Workshop on Autonomous Network Management Systems (ANMS) Room 7
	2nd Workshop on Engineering Techniques for Distributed Computing Continuum Systems (EDCCS) Room 3
	5th International Workshop on Distributed Infrastructure for Common Good (DICG) Room 6

10:30-11:00	Coffee break

11:00-12:30	**Workshops & Tutorials (Morning Session 2)**
11:00-12:30	Tutorials
	T1: Federated Learning and Network Security: Foundations, Potential, and Resilience Megalith 2
	T5: AI-Native Joint Communication and Computation in 6G Networks and Beyond Room 1
	T6: Network Simulation Bridge: Bridging Distributed Applications with Network Simulators Room 2
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12:30-13:45	Lunch

13:45-15:15	**Workshops, Tutorials, and Doctoral Consortium (Afternoon Session 1)**
13:45-15:15	Tutorials
	T3: Serverless Orchestration on the Edge-Cloud Continuum: From Small Functions to Large Language Models Megalith 2
	T4: Trustworthiness and Consensus in Distributed and Connected Autonomous Systems Room 1
	T7: Redefining Telecommunications: Data Engineering and Blockchain for B5G/6G Networks Room 2
	T8: Distributed Multi-Agent AI Systems: Scalability, Challenges, and Applications Finnieston
13:45-15:15	Workshops
	Federated Learning for Web Technologies Workshop (FL4WEB) Megalith 3

	Distributed Generative AI for Wireless (DGAIW) Room 4
	1st International Workshop on Federated Learning for Wireless Edge Artificial Intelligence (FedEdgeAI) Room 5
	Workshop on Federated and Privacy Preserving AI in Biomedical Applications (FPPAI) Room 7
	1st Workshop on Hot Topics in Distributed Machine Learning (HotDiML) Room 3
13:45-15:15	**Doctoral Consortium (DC)** Room 6
	DC 1: Core Advances in Distributed AI & Federated Learning
	#85 Multi-Modal Personalized Federated Learning for Human Intent Prediction *Maximilian Forstenhäusler* **#87 A Robust Byzantine-Resilient Framework for Federated Learning** *Ke Xiao* **#75 Optimization of Knowledge Distillation in Heterogeneous Federated Problems** *Wenhao Li and Kevin Bryson* **#80 Bridging Mobility and Federated Learning: Toward Dynamic Client Orchestration in Distributed Edge Systems** *Qiyuan Wang* **#84 CRS-FL: A Novel Framework for Communication Efficient, Reliable, and Scalable Decentralized Federated Learning** *Vahideh Hayyolalam and Öznur Özkasap*

15:15-15:45	Coffee break

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	1st Workshop on Hot Topics in Distributed Machine Learning (HotDiML) Room 3
15:45-17:15	**Doctoral Consortium (DC)** Room 6
	DC 2: Distributed AI in Real-World Systems
	#54 Improving Healthcare AI-Support Systems for Skin Lesion Diagnosis With tinyML *Tess Watt, Christos Chrysoulas and Rob Stewart* **#83 Distributed Temporal Graph Learning with Provenance for APT Detection in Supply Chains** *Zhuoran Tan and Jeremy Singer* **#86 Towards Sustainable Synchronization of Digital Twins in Next-Generation IoT Networks** *Yasith Ruwanga Wanigarathna Wanigarathna Arachchige, Roberto Morabito and Sasu Tarkoma* **#113 An energy-aware priority-based AI-enabled offloading framework in Edge-to-Cloud continuum** *Jaber Pournazari, Ahmed Al-Dubai and Xiaodong Liu* **#79 Digital Currency and Blockchain** *Uwe A. Kuehn*

19:00	**Conference Welcome Reception (Radisson Blu)**

Monday, 21 July 2025	
07:45-08:30	Breakfast (Radisson Blu)
08:30-09:00	Opening Ceremony
09:00-10:00	**Keynote 1: Peter Druschel** Megalith 2 & 3
10:00-10:30	Coffee break
10:30-12:00	**Technical Morning Sessions 1**
10:30-12:00	**AI/ML 1: Decentralized and Collaborative Learning** Megalith 2 Session Chair: Sonia Ben Mokhtar, LIRIS CNRS
	#284 PRISAM: Efficient Personalization via BN Masks in Heterogeneous Decentralized Federated Learning *Shan Chang, Xianbo Wang, Hao Yu, Denghui Li, Guanghao Liang, Hongzi Zhu and Bo Li* **#296 Few-Shot Domain Adaptation for Effective Data Drift Mitigation in Network Management** *Seyed Soheil Johari, Massimo Tornatore, Raouf Boutaba and Aladdin Saleh* **#318 FedShapleX: Shapley Value Driven Context-Aware Model-Heterogeneous Federated Learning** *Jifeng Chen, Haibo Zhang and Amanda Barnard*

	#409 PairUpLight: A Multi-agent Reinforcement Learning Approach for Coordinated Multi-intersection Traffic Signal Control *Wenlu Du, Jing Li and Guiling Wang*
10:30-12:00	**Edge 1: Efficient and Adaptive Edge Computing** Megalith 3 Session Chair: Ming Zhao, Arizona State University
	#67 NeRFlex: Resource-aware Real-time High-quality Rendering of Complex Scenes on Mobile Devices *Zhe Wang and Yifei Zhu* **#132 Multipath Parallel Reverse Segment Download (MPRD) for Peer to Peer Content Delivery** *Suresh Srinivasan and Ehsan Aryafar* **#289 TACO: Tackling Over-correction in Federated Learning with Tailored Adaptive Correction** *Weijie Liu, Ziwei Zhan, Carlee Joe-Wong, Edith C.-H. Ngai, Jingpu Duan, Deke Guo, Xu Chen and Xiaoxi Zhang* **#363 Plan-Based Scalable Online Virtual Network Embedding** *Oleg Kolosov, Gala Yadgar, David Breitgand and Dean Lorenz*
10:30-12:00	**BC&DB 1: Security and Fairness in Blockchain** Finnieston Session Chair: Muoi Tran, Chalmers University of Technology and University of Gothenburg
	#187 EquiBFT: A Framework for Achieving Fairness in BFT Consensus *Siwei Cai, Lei Fan, Shengyun Liu and Hong-Sheng Zhou* **#209 Mosaic: Client-driven Account Allocation Framework in Sharded Blockchains** *Yuanzhe Zhang, Shirui Pan and Jiangshan Yu* **#228 Asynchronous Dynamic Committee Proactive Secret Sharing for Large Data** *Zhenliang Lu, Tianyi Zhang, Alan Fekete, Kwok Yan Lam and Qiang Tang* **#247 Depermissioning Web3: a Permissionless Accountable RPC Protocol for Blockchain Networks** *Weihong Wang and Tom Van Cutsem*

12:00-13:15	Lunch

13:15-14:45	**Technical Afternoon Sessions 1**
13:15-14:45	**DS4AI/ML 1: Sustainable and Efficient Training and Deployment** Megalith 2 Session Chair: Reza Farahani, University of Klagenfurt
	#50 LLMSched: Uncertainty-Aware Workload Scheduling for Compound LLM Applications *Botao Zhu, Chen Chen, Xiaoyi Fan and Yifei Zhu* **#85 Communication-Efficient MoE Fine-Tuning with Locality-Aware Expert Placement** *Chenghao Hu, Yufei Kang and Baochun Li*

	#90 Shuffle-Exchange: Enhancing Collective Communication Efficiency for Large Model Training *Zhihang Tang, Chenxi Li, Xiang Yang, Bo He, Qi Qi, Jingyu Wang and Laiping Zhao* **#157 GreenFL: Carbon-efficient Federated Learning over RE Powered Edge Computing Systems** *Hanlong Liao, Yu Zhang, Lailong Luo, Deke Guo and Guoming Tang*
13:15-14:45	**S&P 1: Attacks and Defense in Collaboration** Megalith 3 Session Chair: David Mohaisen, University of Central Florida
	#95 InverCRS: Generative Audio Inversion Attack in Collaborative Recognition Systems *Xianglong Zhang, Haoming Luo, Mingda Han, Qihao Dong, Guoming Zhang, Yanni Yang, Qianli Li and Pengfei Hu* **#103 BEyes: Unseen Eyes Snooping Pattern Lock via BFI** *Hao Chen, Penghao Wang, Feng Hong, Zhongwen Guo and Chao Liu* **#136 Too Clever by Half: Detecting Sampling-based Model Stealing Attacks by Their Own Cleverness** *Xin Yao, Chenyang Wang, Yimin Chen, Kecheng Huang, Jiawei Guo and Ming Zhao* **#203 HarDTAPE: Hardware Dedicated Trusted transAction Pre-Executor** *Sirui He, Zhibo Sun, Yuan Chen, Yajin Zhou and Cong Wang*
13:15-14:45	**Cloud 1: Optimizing Cloud Networking and Systems** Finnieston Session Chair: Aleksander Slominski, IBM Research
	#106 Efficient Serverless Cold Start: Reducing Library Loading Overhead by Profile-guided Optimization *Syed Salauddin Mohammad Tariq, Ali Al Zein, Soumya Sripad Vaidya, Arati Khanolkar, Zheng Song and Probir Roy* **#122 P4CEMaker: automated hardware acceleration of consensus protocols** *Paul Breuil and Baptiste Lepers* **#212 PEE: Precise ECN Encoding for Efficient Congestion Control in Data Center Networks** *Changlin Jiang, Yi Wu, Hanling Wang, Feixue Han, Dayi Zhao, Yong Jiang, Gareth Tyson and Qing Li* **#246 Octopus: Decentralized Workflow-granular Scheduling for Serverless Workflow** *Keming Wang, Liaoliao Feng, Ligang He, Chenlin Huang, Fengyuan Yu and Tao Xie*

14:45-15:15	Coffee break

15:15-16:45	**Technical Afternoon Sessions 2**
15:15-16:45	**AI/ML 2: Efficient Training and Resource Management** Megalith 2 Session Chair: Hai Huang, Atlassian
	#456 Mast: Efficient Training of Mixture-of-Experts Transformers with Task Pipelining and Ordering *Wenxiang Lin, Xinglin Pan, Shaohuai Shi, Xuan Wang, Bo Li and Xiaowen Chu*

	#458 Mitigating Contention in Stream Multiprocessors for Pipelined Mixture of Experts: An SM-Aware Scheduling Approach *Xinglin Pan, Rui Wang, Wenxaing Lin, Shaohuai Shi and Xiaowen Chu* **#565 SimDC: A High-Fidelity Device Simulation Platform for Device-Cloud Collaborative Computing** *Ruiguang Pei, Junjie Wu, Dan Peng, Min Fang, Jianan Zhang, Zhihui Fu and Jun Wang* **#589 Congestion Control for Blockchain-enabled SDN in Web 4.0: A Reinforcement Learning Approach through Active Inference** *Chenyang Wang, Xiaoxu Ren, Ying He, Fei Richard Yu and Victor C. M. Leung*
15:15-16:45	**IoT&CPS 1: Mobile Agents and Perception in Autonomous Systems** Megalith 3 Session Chair: Angelos Marinedes, University of Cyprus
	#98 U-Mesh: Deploying UAV-Mesh Network for Automatic Powerline Inspection in Remote Areas *Jieyu Zhou, Feng Lyu, Mingliu Liu, Fan Wu, Lijuan He, Huali Lu, Zaixun Ling and Yibo Cui* **#109 CoPe: Taming Collaborative 3D Perception via Lite Network Attention across Mobile Agents** *Shifan Zhang, Hongzi Zhu, Yunzhe Li, Liang Zhang, Shan Chang and Minyi Guo* **#201 Saga: Capturing Multi-granularity Semantics from Massive Unlabelled IMU Data for User Perception** *Yunzhe Li, Facheng Hu, Hongzi Zhu, Shifan Zhang, Liang Zhang, Shan Chang and Minyi Guo* **#214 mmUAVsense: mmWave Radar-based UAV Detection via Fine-grained Rotary Sensing** *Wenhao Xu, Chuyu Wang, Qiancheng Jin, Yanling Bu, Lei Xie and Sanglu Lu*
15:15-16:45	**BC&DB 2: Smart Contracts and Consensus** Finnieston Session Chair: Xiapu Luo, The Hong Kong Polytechnic University
	#339 Mahi-Mahi: Low-Latency Asynchronous BFT DAG-Based Consensus *Philipp Jovanovic, Lefteris Kokoris-Kogias, Bryan Kumara, Alberto Sonnino, Pasindu Tennage and Igor Zablotchi* **#346 Uncovering Hidden Proxy Smart Contracts for Finding Collision Vulnerabilities in Ethereum** *Cheng-Kang Chen, Wen-Yi Chu, Muoi Tran, Laurent Vanbever and Hsu-Chun Hsiao* **#443 Enabling Bitcoin Smart Contracts on the Internet Computer** *Ryan Croote, Islam El-Ashi, Thomas Locher and Yvonne-Anne Pignolet* **#490 Lumi: Lightweight Blockchain Layer 2 Protocol from On-chain Coordination** *Xin Wang, Shuhe Cao, Keting Jia, Qidi You and Sisi Duan*

16:45-17:00	Break
17:00-18:30	**Women in Distributed Computing Systems (WiDCS) Event & Reception (Radisson Blu)** Megalith 2

Tuesday, 22 July 2025	
08:00-09:00	Breakfast (Radisson Blu)
09:00-10:00	**Keynote 2: Ling Liu** Megalith 2 & 3
10:00-10:30	Coffee break
10:30-12:00	**Technical Morning Sessions 1**
10:30-12:00	**DS4AI/ML 2: Distributed Training and Inference** Megalith 2 Session Chair: Marco Levorato, University of California, Irvine
	#194 SOLB: Synchronization-Objective Load Balancing for Distributed DNN Training *Jingling Liu, Zixi Wang, Zhong He, Rui Cui, Hao Fang and Jiawei Huang* **#252 Demystifying Distributed Training of Graph Neural Networks for Link Prediction** *Xin Huang and Chul-Ho Lee* **#257 S2M3: Split-and-Share Multi-Modal Models for Distributed Multi-Task Inference on the Edge** *Jinyi Yoon, Jiho Lee, Ting He, Nakjung Choi and Bo Ji* **#288 CAFGD: Reduce Fragmentation in Large-Scale Multi-tenant Clusters for GPU Sharing Workloads** *Huazheng Lao, Rui Xu, Long Chen and Jinquan Zhang*
10:30-12:00	**S&P2: Security and Privacy in AI and ML** Megalith 3 Session Chair: Shahid Raza, University of Glasgow
	#673 On Securing Data Privacy in Federated Learning Using Noise-assisted Aggregated Multi-Key Homomorphic Encryption *Yuxiao Ma, Wei Lou and Song Guo* **#324 PDSL: Privacy-Preserved Decentralized Stochastic Learning with Heterogeneous Data Distribution** *Lina Wang, Yunsheng Yuan, Chunxiao Wang and Feng Li* **#427 Physical Backdoor Attacks against mmWave-based Human Activity Recognition** *Ziqian Bi, Amit Singha, Hongfei Xue, Tao Li, Yimin Chen and Yanchao Zhang* **#478 Attributing ChatGPT-Transformed Synthetic Code** *Soohyeon Choi, Ali Alkinoon, Ahod Alghuried, Abdulaziz Alghamdi and David Mohaisen*
10:30-12:00	**FT1: Resilience in Distributed Learning and Communication** Finnieston Session Chair: Yu Liu, The Hong Kong Polytechnic University
	#140 RAPIDSCRIBE: Bandwidth-aware Parallel Snapshots for Distributed Neural-Network Training *Wenxuan Liu, Qihang Chen, Shuotao Xu, Hua Yang, Yuqing Yang and Peng Cheng* **#305 ECCheck: Enhancing In-Memory Checkpoint with Erasure Coding in Distributed DNN Training** *Guicheng Qi, Zongpeng Li, Chuan Wu, Zhuwei Peng and Yi Zheng*

	#715 Exploring Dangerous Graphs with Byzantine Companions *Giuseppe Antonio Di Luna, Paola Flocchini, Debasish Pattanayak, Francesco Piselli, Giuseppe Prencipe and Nicola Santoro* **#660 Bandwidth Optimized Scalable Designs with Inter-Layer Overlapping for MPI Broadcast** *Yi Dai, Qi Zhu, Mingche Lai, Jiaqing Xu, Zhiquan Lai, Bo Yang and Dongsheng Li*
10:30-12:00	**Industry 1** Room 4 Session Chair: Jordi Vilaplana-Mayoral, University of Lleida
	Industry Keynote 1: Mohamed Eldessouki
	#192 Name-based Quality for Name-based Networks *Ryo Yanagida, Jeremy Singer, Paul Harvey, Leon Wong and Colin Perkins* **#197 Edge-First Language Model Inference: Models, Metrics, and Tradeoffs** *Siyoung Jang and Roberto Morabito* **#64 Optimizing Telco Networks with Foundation Models: A Scalable Approach for Tabular Data** *Franck Le, Keith Grueneberg, Erich Nahum, Douglas Freimuth and Vadim Sheinin*

12:00-13:15	Lunch

13:15-14:45	**Technical Afternoon Sessions 1**
13:15-14:45	**DS4AI/ML 3: Privacy-preserving and Sustainable AI** Megalith 2 Session Chair: Cong Wang, Zhejiang University
	#362 FedLTH: A Privacy-preserving Federated Learning Framework with Model Pruning on Edge Clients *Heyu Zhang, Yulai Xie, Shengshan Hu, Miao He, Peisong He, Jun Zheng and Dan Feng* **#501 Carbon-Neutralizing Edge AI Inference for Data Streams via Model Control and Allowance Trading** *Yining Zhang, Lei Jiao, Konglin Zhu, Yuedong Xu and Lin Zhang* **#511 PARDON: Privacy-Aware and Robust Federated Domain Generalization** *Dung Thuy Nguyen, Taylor T. Johnson and Kevin Leach* **#530 ACME: Adaptive Customization of Large Models via Distributed Systems** *Ziming Dai, Chao Qiu, Fei Gao, Yunfeng Zhao and Xiaofei Wang*
13:15-14:45	**BC&DB 3: Cross-chain and Scalability** Megalith 3 Session Chair: Thomas Locher, DFINITY Foundation
	#618 Tombolo: Towards a Decentralized Interconnected Blockchain Ecosystem using Cross-Chain Payment Channels *Siddharth Maurya, Nitin Awathare, Vinay Joseph Ribeiro and Umesh Bellur* **#759 Fully Decentralized Collection of Attestations for Single-Slot Finality in Ethereum** *Janos Tapolcai and Bence Ladóczki*

	#760 A Generic Framework for Cross-Chain Atomic Swaps of Digital Tokens *Janos Tapolcai, Bence Ladóczki and Lajos Rónyai* **#895 A Novel Reputation-based Sharding Blockchain System in Edge Sensor Networks** *Jiarui Zhang and Yuanyuan Yang*
13:15-14:45	**Cloud 2: Reliable and Secure State Management** Finnieston Session Chair: Patrizio Dazzi, University of Pisa
	#526 SGX-Enabled Encrypted Cross-Cloud Data Synchronization *Jia Zhao, Yanjing Ren, Jingwei Li and Patrick P. C. Lee* **#802 Practical Considerations for Implementing State Machine Replication in the Cloud** *Zhiying Liang, Vahab Jabrayilov, Abutalib Aghayev and Aleksey Charapko* **#37 Spacker: Unified State Migration for Distributed Streaming** *Mao Yancan, Shuhao Zhang and Richard Ma* **#236 Asynchronous BFT Consensus Made Wireless** *Shuo Liu, Minghui Xu, Tianyi Sun and Xiuzhen Cheng*
13:15-14:45	**Industry 2** Room 4 Session Chair: Kostas Kolomvatsos, University of Thessaly
	#30 Incremental Learning Detection of Distributed Financially Motivated Attacks in Energy Markets *Ghadeer Alsharif, Christos Anagnostopoulos and Angelos Marnerides* **#34 Distributed Quantum Bit-Phase-Flip Error Correction based on CSS Codes and GHZ States** *Shahram Babaie and Chunming Qiao* **#65 D-MGN: A Distributed Mesh Graph Neural Network for Scalable Engineering Simulation** *Fu Lin, Jiasheng Shi, Weixiong Rao, Jiachuan Wang, Lei Chen, Chunyan Zhu, Haihua Wang and Suo Xie* **#66 Distributed Log-driven Anomaly Detection System based on Evolving Decision Making** *Zhuoran Tan, Qiyuan Wang, Christos Anagnostopoulos, Shameem P. Parambath, Jeremy Singer and Sam Temple*

14:45-15:15	Coffee break
15:15-16:45	**Posters & Demonstrations** Megalith 1
16:45-17:00	Break

17:00-18:30	**Technical Afternoon Sessions 2**
17:00-18:30	**IoT&CPS 2: Intelligent Computing and Sensing** Megalith 2 Session Chair: Stefanie Roos, University of Kaiserslautern-Landau
	#224 Sdser: Online Deployment and Scheduling of Dynamic DAG Functions with Bayesian Prediction in Serverless Edge Computing *Wentao Liu, Ruiting Zhou and Yue Ma* **#226 BaroAuth: Harnessing Ear Canal Deformation for Speaking User Authentication on Earbuds** *Luo Zhou, Shan Chang, Jiusong Luo, Huixiang Wen, Hongzi Zhu and Li Lu* **#317 TSAJS: Efficient Multi-Server Joint Task Scheduling Scheme for Mobile Edge Computing** *Chaoqun Li, Rongsheng Fan, Hesong Wang, Mingda Han, Si Wu, Feng Li and Pengfei Hu* **#479 Towards Visual-Inertial Integration: Multi-Modal Collaboration-based Video Stabilization** *Chaoran Li, Yanling Bu and Lei Xie*
17:00-18:30	**Edge 2: Edge Intelligence and Distributed Computing** Megalith 3 Session Chair: Tao Li, Purdue University
	#444 Partitioning or Not? Hierarchical Task Offloading Optimization in Collaborative Satellite Edge Computing Networks *Yan Chen, Haiquan Wang, Jun Liu, Xiaolin Jia, Jiejie Zhao and Han Qiu* **#459 HERACLES: Hierarchical Semantic Communications for Distributed Dynamic Sensor Fusion** *Langtian Qin, Yashuo Wu, Sameh Najeh, Marco Levorato and Carla Fabiana Chiasserini* **#507 Optimizing WebAssembly Garbage Collection in Go: Performance Insights, Tuning Tips, and Batch Execution Strategies** *Safia Guellil and Marc Sanchez-Artigas* **#858 Efficient Partitioning Vision Transformer on Edge Devices for Distributed Inference** *Xiang Liu, Yijun Song, Xia Li, Yifei Sun, Huiying Lan, Zemin Liu, Linshan Jiang and Jialin Li*
17:00-18:30	**Industry 3** Room 4 Session Chair: Athanasios Tziouvaras, University of Thessaly
	#51 Leveraging Federated Learning for Decentralized Semi-Supervised Task-Informed Representation Learning for Sequential Data *Maximilian Forstenhäusler, Daniel Külzer, Christos Anagnostopoulos, Shameem Puthiya Parambath and Natascha Weber* **#173 AutoFairML: An Automated Middleware for Fairness Auditing in Real-world AI Pipelines** *Dimitrios Tomaras, Vana Kalogeraki, Christos Varytimidis, Evangelos Anagnostopoulos, Rahul Nair, Elizabeth M. Daly, Jakub Marecek and Dimitrios Gunopulos* **#39 TS-V2X: Trust-Based Safety V2X Middleware for Adaptive Situation Awareness in Autonomous Driving** *Jimin Ryu, Subi Kim, Jieun Kang and Yong Ik Yoon*

	#165 Unearthing Silent Data: Back to Basics in Process Design *Jae Sook Cheong and Junseong Bang*

19:00	Banquet (Crowne Plaza)

Wednesday, 23 July 2025	
08:00-09:00	Breakfast (Radisson Blu)
09:00-10:00	**Keynote 3: Peter Pietzuch** Megalith 2 & 3
10:00-10:30	Coffee break
10:30-12:00	**Technical Morning Sessions 1**
10:30-12:00	**DS4AI/ML 4: Collaborative and Efficient Deep Learning** Megalith 2 Session Chair: Chul-Ho Lee, Texas State University
	#533 Distributed DNN-based Video Analytics with Adaptive Multi-Device Collaboration *Zhihao Xu, Maozhe Zhao, Qinya Li, Shengzhong Liu, Fan Wu and Guihai Chen* **#636 Rehearsal-free Federated Domain-incremental Learning** *Rui Sun, Haoran Duan, Jiahua Dong, Varun Ojha, Tejal Shah and Rajiv Ranjan* **#683 Enhancing In-network Aggregation with Adaptive Gradient Quantization for Multi-tenant Learning** *Huifeng Xing, Yinfan Hu, Hao Wang, Yang Chen, Zixuan Chen, Sen Liu and Yang Xu* **#700 Efficient Joint Communication and Computation Placement for Large-scale SNN Simulation on Supercomputers** *Yubing Bao, Zhihui Lu, Xin Du, Qiang Duan, Jirui Yang, Jin Zhao, Geyong Min, Yang Chen, Shijing Hu and Xin Wang*
10:30-12:00	**S&P3: Secure and Privacy-Preserving in Federated Learning** Megalith 3 Session Chair: Ilir Murturi, TU Wien
	#502 A Lightweight Secure Aggregation Protocol for Federated Learning Applications *Elina van Kempen, Qifei Li, Giorgia Azzurra Marson and Claudio Soriente* **#558 IB-SC:Simplify Key Management to Enable Quick Start for Short-session Path Validation** *Keji Miao, Xinghai Wei, Dongqi Han, Jie Yuan, Zhen Qin, Qun Li, Haiguang Wang and Tieyan Li* **#606 FLdetox: Detoxify Persistent Backdoors in Federated Learning** *Wenjuan Tang, Chenkai Liu, Yutong Jiang, Jianan Zhao and Peng Sun* **#637 PP-FCL: Privacy-Preserving Federated Continual Learning via Generative Replay and Incremental Representation Enhancement** *Zaobo He, Yunkun Wang, Zhipeng Cai and Yingshu Li*
10:30-12:00	**Alg1: Consensus and Coordination in Distributed Systems** Finnieston Session Chair: Aleksey Charapko, University of New Hampshire

	#376 Shared memory consensus on a ring: Epigenetic Consensus *Petra Berenbrink, Funda Ergun, Anna Geisler and Yannic Maus* **#508 Skip Hash: A Fast Ordered Map Via Software Transactional Memory** *Matthew Rodriguez, Vitaly Aksenov and Michael Spear* **#559 Efficient Deterministic Distributed Computing in Ad-Hoc Wireless Networks** *Tomasz Jurdzinski and Dariusz Kowalski* **#572 TOB-SVD: Total-Order Broadcast with Single-Vote Decisions in the Sleepy Model** *Francesco D'Amato, Roberto Saltini, Thanh-Hai Tran and Luca Zanolini*
10:30-12:00	**Industry 4** Room 4 Session Chair: Jordi Mateo-Fornes, University of Lleida
	Industry Keynote 2: Raúl Gracia
	#176 Monte Carlo Tree Search for Safe Decision Making at Unsignalized Intersections *Zhihao Lin, Jianglin Lan, Christos Anagnostopoulos, Zhen Tian and David Flynn* **#180 Bringing Serverless Functions Closer To Citizen Science Mobile Applications** *Aleksander Slominski, Pedro Garcia Lopez and Daniel Alejandro Coll Tejeda* **#68 GUIDE: GNN-based Unified Incident Detection for Microservices Application Deployments** *Anurag Dutt, Doseok Jang, Joao Nadkarni, Kai Su and Anshul Gandhi*

12:00-13:15	Lunch

13:15-14:45	**Technical Afternoon Sessions 1**
13:15-14:45	**DS4AI/ML 5: Inference and Resource Management** Megalith 2 Session Chair: JinYi Yoon, Virginia Tech
	#737 Wainscot: Tailoring Model Parallelism to Fit Device Memory Limits *Xiaojuan Ma, Shashwat Jaiswal, Chirag Shetty, Chen-Wei Chou, Kevin Zhang and Indranil Gupta* **#893 Inferring Communities of Interest in Collaborative Learning-based Recommender Systems** *Yacine Belal, Mohamed Maouche, Sonia Ben Mokhtar and Anthony Simonet-Boulogne* **#855 Ripple: Scalable Incremental GNN Inferencing on Large Streaming Graphs** *Pranjal Naman and Yogesh Simmhan* **#928 MCaM: Efficient LLM Inference with Multi-tier KV Cache Management** *Kexin Chu, Zixu Shen, Sheng-Ru Cheng, Dawei Xiang, Ziqin Liu and Wei Zhang*
13:15-14:45	**E&D 1: Smart Infrastructure and Resource Management** Megalith 3 Session Chair: Chenwei Xie, Snowflake
	#254 The Cloud, Like Building and Running Go Binaries *Diana Arroyo, Paul Castro, Cora Coleman, Thuan Doan, Nick Mitchell, Sara Kokkila-Schumacher, Ed Seabolt, Alek Slominski, Ansu Varghese and Lionel Villard*

	#263 Smart Blue Light Pole-based Real-Time Crowd Counting for Smart Campuses *Yitao Chen, Kaiqi Zhao, Krishna Gundu, Zohair Zaidi and Ming Zhao* **#424 Space Booking: Enabling Performance-Critical Applications in Broadband Satellite Networks** *Xiaojian Wang, Ruozhou Yu, Dejun Yang, Guoliang Xue, Qiushi Wei, Huayue Gu and Zhouyu Li* **#473 Elastic Scheduling for Mix-Flow in Time-Sensitive Networking** *Jiawei Huang, Yifeng Liu, Yiting Wang, Shengwen Zhou, Hui Li, Zhaoyi Li, Yijun Li, Qile Wang, Jishu Tian, Kengchang Chen and Jiacheng Xie*
13:15-14:45	**Mobile 1: Intelligent and Secure Mobile Computing** Finnieston Session Chair: Chen Qian, University of California, Santa Cruz
	#28 Weighted Monitoring Interval Minimization for Disaster Surveillance with a UAV *Wenzheng Xu, Yunrui Cao, Dandan Huang, Weifa Liang, Jianwei Zhang, Tang Liu, Jian Peng, Xiaohua Jia and Zichuan Xu* **#199 DiVE: Differential Video Encoding for Online Edge-assisted Video Analytics on Mobile Agents** *Jiangang Shen, Hongzi Zhu, Liang Zhang, Yunzhe Li, Shan Chang and Minyi Guo* **#322 Partitioned Collaborative Inference for On-Device Models via Evolutionary Reinforcement Learning** *Lin Tan, Pengzhan Zhou, Songtao Guo, Jun Zhao, Zhufang Kuang, Dewen Qiao and Lu Yang* **#286 QuHE: Optimizing Utility-Cost in Quantum Key Distribution and Homomorphic Encryption Enabled Secure Edge Computing Networks** *Liangxin Qian, Yang Li and Jun Zhao*
13:15-14:45	**Industry 5** Room 4 Session Chair: George Floros, University of Thessaly
	#172 Artificial Intelligence and Radar-Enhanced Audio-Visual Speech Recognition for the Next Generation of Communication Technologies *Nour Ghadban, Hira Hammed, Elem Miranda, Qammer H. Abbasi, Muhammad Ali Imran, Jonathan Cooper and Julien Le Kernec* **#63 Snowpark: Performant, Secure, User-Friendly Data Engineering and AI/ML Next To Your Data** *Brandon Baker, Elliott Brossard, Chenwei Xie, Zihao Ye, Deen Liu, Yijun Xie, Arthur Zwiegincew, Nitya Kumar Sharma, Gaurav Jain, Eugene Retunsky, Mike Halcrow, Derek Denny-Brown, Istvan Cseri, Tyler Akidau and Yuxiong He* **#174 Efficient and Safe Planner for Automated Driving on Ramps Considering Unsatisfication** *Qinghao Li, Zhen Tian, Xiaodan Wang, Jinming Yang and Zhihao Lin* **#175 Adaptive Field Effect Planner for Safe Interactive Autonomous Driving on Curved Roads** *Qinghao Li, Zhen Tian, Xiaodan Wang, Jinming Yang and Zhihao Lin* **#746 Correctness proof for a Ring-Learning-with-Errors Multi-Authority Ciphertext-Policy Attribute-Based Encryption Scheme**

	Jack Loughridge, Charuka Herath, Yogachandran Rahulamathavan, Chaminda Hewage, Imtiaz Khan, Lewis Kemp, Simon Bourne and Ali Shahaab

14:45-15:15	Coffee break

15:15-16:45	**Technical Afternoon Sessions 2**
15:15-16:45	**AI/ML 3: Efficient and Secure Federated Learning** Megalith 2 Session Chair: Jayaram Radhakrishnan, IBM Research
	#603 Federated Learning with Workload Reduction through Partial Training of Client Models and Entropy-Based Data Selection *Hongrui Shi, Valentin Radu and Po Yang* **#709 FedSU: Communication-efficient Federated Learning with Speculative Updating** *Wei Yu, Chen Chen, Qinbin Li, Jieru Zhao, Shixuan Sun, Bo Li and Minyi Guo* **#825 A Client-level Assessment of Collaborative Backdoor Poisoning in Non-IID Federated Learning** *Phung Lai, Guanxiong Liu, Nhathai Phan, Issa Khalil, Abdallah Khreishah and Xintao Wu*
15:15-16:45	**E&D 2: Advanced Management and Distributed Execution** Megalith 3 Session Chair: Probir Roy, University of Michigan Dearborn
	#545 Hetero^{2}Pipe: Pipelining Multi-DNN Inference on Heterogeneous Mobile Processors under Co-Execution Slowdown *Yuhao Shen, Zichen Wang, Tianyi Wang, Chaojie Gu, Zhenyu Wen, Yuanchao Shu and Cong Wang* **#654 Arsc: Automated Reconciliation for State Correctness of Cluster Management** *Hongjing Yu, Chaoqun Li, Tao Han and Pengfei Hu* **#803 Remote Gate Scheduling in Distributed Quantum Computing** *Xu Xu, Yu Liu, Yingling Mao and Yuanyuan Yang* **#411 CloudQC: A Network-aware Framework for Multi-tenant Distributed Quantum Computing** *Ruilin Zhou, Yuhang Gan, Yi Liu and Chen Qian*
15:15-16:45	**Alg 2: Efficient and Resilient Distributed Coordination** Finnieston Session Chair: Tomasz Jurdzinski, University of Wroclaw
	#594 Fast Self-Stabilizing Ranking *Petra Berenbrink, Robert Elsässer, Thorsten Götte, Lukas Hintze and Dominik Kaaser* **#735 On the Complexity of Deterministic Distributed Wireless Link Scheduling** *Dariusz Kowalski and Miguel A. Mosteiro* **#778 Failure-Aware Tasking for Teams of Drones** *Jonathan Diller, Qi Han, Robert Byers, Yee Shen Teoh, John G. Rogers III and Neil Dantam*

	#902 Distributed Non-Duplicate Sampling with Application on Network-wide Flow Cardinality Estimation *Aayush Karki, Zibo Liu, Shigang Chen and Haibo Wang*
15:15-16:45	**Industry 6** Room 4 Session Chair: Kostas Kolomvatsos, University of Thessaly
	#67 Performance of Confidential Computing GPUs *Antonio Martínez Ibarra, Julian James Stephen, Aurora González Vidal, Antonio Fernando Skarmeta Gómez and Kallapalayam Radhakrishnan Jayaram* **#182 Optimized Data Transfer Strategies for Forward Command Centres in Distributed Wildfire Management** *Mustafa Al-Bado, Thuy Truong, Michal Sworzeniowski, Deirbhile Healy, Panagiotis Oikonomou and Kolomvatsos Kolomvatsos* **#184 Scheduling Inference Workloads in the Computing Continuum with Reinforcement Learning** *Gabriele Castellano, Juan-Jose Nieto, Antonino Angi, Francisco Alvarez Terribas, Jordi Luque, Ferran Diego, Alessio Sacco, Flavio Esposito and Fulvio Risso* **#200 Reconfiguration of Applications in Cloud-Edge Multi-clusters** *Marta Patiño-Martinez, Ainhoa Azqueta-Alzuaz and Aitor Agirre*

16:45-17:15	Closing
19:00	Civic Reception (Glasgow City Chambers)

Thursday, 24 July 2025	
11:30-12:30	Exclusive Distillery Whiskey Tasting Tour 2 (Optional)

Sunday, 20 July 2025 – Wednesday, 23 July 2025	**Poster Papers** Megalith 1
	#17 Quantum Federated Aggregation using Joint Fidelity-and-Entropy Computation *Seok Bin Son and Soohyun Park* **#21 Efficient Fine-tuning of Large Models under 4GB VRAM with Power-saving Strategies** *Dong Dong, Mingshu Zhai, Hui Zeng, Chengzhang Wu and Jidong Zhai* **#22 Fundamentals of Caching Layered Data objects** *Agrim Bari, Gustavo de Veciana and George Kesidis* **#23 ACC: Ensuring Eventual Consistency across Diverse Data Stores in End-Cloud Collaboration** *Wenbo Zhao, Longhai Li, Hui Li, Mingtao Chen, Mingsong Xie, Yuheng Chang and Jiangtao Cui* **#25 FedColab: Federated Collaborative Learning for Teacher-Student Knowledge Distillation**

	Wenhao Li, Christos Anagnostopoulos and Kevin Bryson **#28 Adaptive Region-aware Video Encoding for Real-time Cloud-edge Collaborative Object Detection** *Bingyun Yang, Jingyi Ning, Wenhui Zhou, Chuyu Wang, Lei Xie, Zhenjie Lin and Liming Wang* **#29 Convergence Behaviors and Variabilities of Loss Functions in Quantum GANs and GANs** *Md Abdur Rahman, Alfredo Cuzzocrea and Hossain Shahriar* **#31 EMO: Edge Model Overlays to Scale Model Size in Federated Learning** *Di Wu, Weibo He, Wanglei Feng, Zhenyu Wen, Bin Qian and Blesson Varghese* **#32 Federated Learning for Privacy-Preserving Anomaly Detection in Electronic Health Record Access Control** *Javier Martínez Llamas, Paolo Marcheschi, Stefano Dalmiani, Davy Preuveneers and Wouter Joosen* **#33 A Federated Few-shot Learning Siamese Network Framework with Data Label Imbalance** *Tahani Aladwani and Christos Anagnostopoulos* **#35 Gradient Bandit Experts For Node Selection In Edge Computing** *Saleh Abdullah Alfahad, Shameem A Puthiya Parambath, Christos Anagnostopoulos* **#36 Federated Quantum Generative Adversarial Network for Intrusion Detection** *Franco Cirillo and Christian Esposito* **#38 Detection of stealthy attack vectors in networked Industrial Control Systems using Machine Learning** *Lazaros Lazarou, Costas Pashiourtides and Angelos K. Marnerides* **#41 Unified Parallel Semantic Log Parsing based on Causal Graph Construction for Attack Attribution** *Zhuoran Tan, Christos Anagnostopoulos, Shameem P. Parambath, Ke Xiao and Jeremy Singer* **#48 Resilient Inference for Personalized Federated Learning in Edge Computing Environments** *Ke Xiao, Qiyuan Wang, Christos Anagnostopoulos and Kevin Bryson* **#53 Traffic Embedding: Improving the Transferability of Deep Learning Model in Anomaly Detection** *Yifei Zhang, Chung-Horng Lung and Zhe Zhang* **#171 Causal VAE-DM: Trustworthy Generative Modeling for Image Modification Based on Causal Graphs** *Zhaoan Ye, Dezong Zhao, Li Zhang, Wenjing Zhao, David Flynn and Chongfeng Wei* **#181 EFaaS: Energy-efficient Function Orchestration in Serverless Edge Computing** *Chen Chen, Peiyuan Guan, Luning Li, Pedro Juan Rivera Torres, Roman Kolcun and Richard Mortier*

#183 A Fast-Converging Decentralized Approach to the Weighted Minimum Vertex Cover Problem
Matteo Mordacchini, Emanuele Carlini and Patrizio Dazzi

#185 GeNet: A Multimodal LLM-Based Co-Pilot for Network Topology and Configuration
Beni Ifland, Elad Duani, Rubin Krief, Miro Ohana, Aviram Zilberman, Andres Murillo, Ofir Manor, Ortal Lavi, Kenji Hikichi, Asaf Shabtai, Yuval Elovici and Rami Puzis

#186 Efficient Cloud-Edge Fault Diagnosis in High-Speed Trains leveraging Dynamic Neural Inference
Yunpu Wu, Paul Allen, Gareth Tucker, Lai Wei and Lei Xia

#187 HybridServe: Efficient Serving of Large AI Models with Confidence-Based Cascade Routing
Leyang Xue, Yao Fu, Luo Mai and Mahesh Marina

#188 TUBO: A Tailored ML Framework for Reliable Network Traffic Forecasting
Zhihang Yuan, Leyang Xue, Waleed Ahsan and Mahesh K. Marina

#190 LogWF: Anomaly Detection for Distributed Systems Based on Log Workflow Mining
Teng Li, Shengkai Zhang, Yebo Feng, Jiahua Xu, Yaxuan Xie, Wei Qiao and Jianfeng Ma

#191 Adaptive Multiple Workflow Scheduling in Cloud with Execution Uncertainty
Panagiotis Oikonomou, Nikos Tziritas, Mustafa Al-Bado, Thanasis Loukopoulos, Georgios Theodoropoulos and Kostas Kolomvatsos

#193 A Modularized and Greedy Strategy-Based Framework for Enhanced DV-Hop Model
Zhou Zhou, Han Shen and Mohammad Shojafar

#194 P4mCast: Accelerating and Scaling Fault-Tolerant Atomic Multicast in Multi-Cloud Environment
Bochra Boughzala, Boris Koldehofe and Alexander Lazovik

#195 Time-Varying Functional Connectivity for Scalable Observability in Microservice Architectures
Giles Winchester, George Parisis and Luc Berthouze

#196 Web of Things Framework for Remote Health Monitoring of Older Adults
Banani Anuraj, Kirill Dorofeev, Jean-Marie Aerts and Jean-Paul Calbimonte

#198 Towards Efficient Straggler Management in Distributed Deep Learning Training
Suraiya Tairin, Haiying Shen and Anand Iyer

#199 Analysis and Tuning of Knowledge Distillation for Efficient Collaborative Learning
Norah Alballa, Ahmed M. Abdelmoniem and Marco Canini

#339* Mahi-Mahi: Low-Latency Asynchronous BFT DAG-Based Consensus
Philipp Jovanovic, Lefteris Kokoris-Kogias, Bryan Kumara, Alberto Sonnino, Pasindu Tennage and Igor Zablotchi

Demonstration Papers
#45 Tokenator: A Blockchain-based Platform for Monetizing Wearable Device Data *Polina Bobrova, Artem Karapetian, Pavel Glebov, Viktor, Frolov-Bukanov, Yury Yanovich* **#47 FIONA: Detecting Syntactical Outliers in Attributes with Categorical Values** *Thanos Tsiamis and Abdulhakim A. Qahtan* **#50 SAGkit: A Python SAG Toolkit for Response Time Analysis of Hybrid-Triggered Jobs** *Ruide Cao, Zhuyun Qi, Qinyang He, Chenxi Ling, Yi Wang, Guoming Tang* **#58 Integrating Cvartel with Hyperledger Fabric for Enhanced Biometric Authentication** *Grigory Ivanov, Yash Madhwal, Renat Gubaev, Nikita Loshkarev, Yury Yanovich and Alexander Belenov* **#59 Demo: WaterLLMarks: In-data User Tracing for Distributed LLMaaS Environments** *Léo Lavaur and Jérôme François* **#61 Demo: Decentralized Product Lifecycle Management Using Blockchain and Digital Twins** *Ranjit Kannappan, Julien Hatin, Emmanuel Bertin and Noel Crespi*