

## ATTENDEES

# Conference Program

Final schedule for IEEE CCGrid 2026, 18-21 May 2026, Sydney, Australia.

## Monday, 18 May 2026

Tutorials and workshops day

| Time          | Conf Room 1                              | Conf Room 2          | Conf Room 3            | Conf Room 4                  |
|---------------|--|----------------------|------------------------|------------------------------|
| 08:00 - 17:00 | Registration: Foyer                      |                      |                        |                              |
| 09:00 - 10:30 | <a href="#">Tutorial 1</a>               | <a href="#">CIC2</a> | <a href="#">FL-RCE</a> | <a href="#">Continuum-RI</a> |
| 10:30 - 11:00 | Morning Tea                              |                      |                        |                              |
| 11:00 - 12:30 | <a href="#">Tutorial 1</a>               | <a href="#">CIC2</a> | <a href="#">FL-RCE</a> | <a href="#">Continuum-RI</a> |
| 12:30 - 14:00 | Lunch                                    |                      |                        |                              |
| 14:00 - 15:30 | <a href="#">Tutorial 2</a>               | <a href="#">CIC2</a> | <a href="#">HEAD</a>   | <a href="#">Continuum-RI</a> |
| 15:30 - 16:00 | Afternoon Tea                            |                      |                        |                              |
| 16:00 - 17:30 | <a href="#">Research Mentorship</a>      |                      |                        | <a href="#">Continuum-RI</a> |
| 18:00 - 20:00 | <a href="#">Welcome Reception: Foyer</a> |                      |                        |                              |

### Session Details

Tutorial and workshop details below were provided via the published tutorial and workshop programmes.

09:00 -  
10:30

#### **Tutorial 1: Harnessing HPC and AI for Interactive Analysis and Visualization of Large Scientific Datasets with the National Science Data Fabric (NSDF)**

[Tutorial overview and materials](#)

Instructors: Prof. Michela Taufer and Prof. Valerio Pascucci

Session 1 of 2, 09:00 - 10:30

#### **IEEE Workshop on Computational Intelligence in Cluster, Cloud, and Internet Computing (CIC<sup>2</sup>)**

##### **PredictScale: Proactive Autoscaling via Workload Forecasting for Cloud-Edge Microservices**

Bablu Kumar, Anshul Verma, Pradeepika Verma and Rajkumar Buyya

[09:00 - 09:20](#)

##### **Comparative Analysis of Model Pruning Approaches for Optimizing Small Language Models**

Sneha Benny, Christina Terese Joseph and Manu Madhavan

[09:20 - 09:40](#)

##### **Mango Leaf Health Classification for Drone Images Using Deep Learning in Cloud**

Prince Ganeshwala, Dhruv Gohil, Sumedha Arora, Jaiprakash Verma and Bishwajit Poddar

09:40 - 10:00

### **Towards Monitoring-Driven and Workload-Aware Scheduling for Federated Learning in Cloud-Edge Environments**

Pierluigi Dell'Acqua, Eleonora Di Pietro, Francesco La Rosa, Angelo Marchese, Orazio Tomarchio and Massimo Villari

10:00 - 10:20

### **Session 1 Wrap-Up / Transition**

10:20 - 10:30

## **Workshop on Federated Learning for Resource Constraint Environments (FL-RCE)**

### **Welcome**

09:00 - 09:15

### **Edge-Native Federated LiDAR Analytics for Robust Guardrail Monitoring in Rural Environments**

Maria Teresa Reggio, Francesco La Rosa, Pierluigi Dell'Acqua and Massimo Villari

[Paper Presentation 1](#), 09:20 - 09:40

### **SpotFed: Cost-Efficient Federated Learning with Spot Instance Compensation**

Myungjun Son, Woohyeon Baek, Mehrdad Mahdavi and Mahmut Kandemir

[Paper Presentation 2](#), 09:45 - 10:05

### **Enhancing Fairness in Federated Learning Using Client Clustering and Personalized Models**

Asifa Shah, Kenan Matawie and Bahman Javadi

[Paper Presentation 3](#), 10:10 - 10:30

## **Research Infrastructures for Experimenting across the HPC-Cloud-Edge Continuum (Continuum-RI)**

### **Welcome**

09:30 - 09:40

### **Everything, Everywhere, All the Time: End-to-end Software Infrastructure for Real-time Coupling of HPC, AI, and IoT**

Rich Wolski

[Keynote](#), 09:40 - 10:30

**11:00 -  
12:30**

### **Tutorial 1: Harnessing HPC and AI for Interactive Analysis and Visualization of Large Scientific Datasets with the National Science Data Fabric (NSDF)**

[Tutorial overview and materials](#)

Instructors: Prof. Michela Taufer and Prof. Valerio Pascucci

Session 2 of 2, 11:00 - 12:30

## **IEEE Workshop on Computational Intelligence in Cluster, Cloud, and Internet Computing (CIC<sup>2</sup>)**

### **Tutorial**

Tutorial Speakers: Dr. Navid Yazdanjue and Prof. Amir H. Gandomi

11:00 - 12:00

### **A Federated Edge-AI Smart City Framework for Early Parkinson's Disease Detection Using Handwriting and Multimodal Digital Biomarkers**

Mahtab Shahin, Riina Palu, Ralf-Martin Soe, Mohammad H. Nadimi-Shahraki and Amir H. Gandomi

12:00 - 12:25

### **Session 2 Wrap-Up**

12:25 - 12:30

## **Workshop on Federated Learning for Resource Constraint Environments (FL-RCE)**

### **Panel Discussion: Distributed Intelligence: Building Collaborative AI for the Real World**

11:00 - 12:30

## **Research Infrastructures for Experimenting across the HPC-Cloud-Edge Continuum (Continuum-RI)**

### **Cloud-Native Distributed Data Layer for the Computing Continuum with Integrated Location-Aware Workflows**

Michal Orzechowski, Łukasz Opiola, Bartosz Kryza, Bartosz Baliś, Lukasz Dutka, Renata G. Słota and Jacek Kitowski

11:00 - 11:30

### **Energy Malleable Computing Continuum**

Carlos Jaime Barrios Hernandez, Frédéric Le Mouël and Oscar Carrillo

11:30 - 12:00

### **Towards IoT Rejuvenation: From Machine to Federated Learning Based Regression to Detect Sensor Ageing in Cloud-Edge Continuum**

Antonio Celesti, Giovanni Lonia, Maria Fazio, Lyubomir Gotsev, Eugenia Kovatcheva, Denis Chikurtev, Antonino Quattrocchi, Roberto Montanini and Massimo Villari

12:00 - 12:30

14:00 -  
15:30

## **Tutorial 2: Federated Learning for Edge Computing**

### **[Tutorial overview and materials](#)**

Instructors: Dr Nan Yang, A/Prof Rodrigo N. Calheiros, Prof Massimo Villari, Mark Gambito, and Prof Bahman Javadi

14:00 - 15:30

## **IEEE Workshop on Computational Intelligence in Cluster, Cloud, and Internet Computing (CIC<sup>2</sup>)**

### **InfiTRON: An LLM-Powered Infrastructure for Monitoring, Intervention, and Technology Repair Operations Network**

Timothy Tron and Abdelbaset Hamza

14:00 - 14:20

### **Unified Metadata Architecture and Workflow Automation for SEM Imaging in Support of FAIR and Open**

## Science

Phyo Thandar Thant, Takashi Endo, Yuko Mori, Naomi Hirai, Masashi Takei, Takuya Yumine, Masaharu Munetomo, and Yasutaka Matsuo

[14:20 - 14:40](#)

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### **About the Influence of Workflow Topology on Task Intensity Prediction through Graph Learning**

Max Simon Otto, Haci Ismail Aslan, Joel Witzke, Jonathan Bader and Odej Kao

[14:40 - 15:00](#)

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### **A Hybrid Multi-task Network Traffic Classification Model Based on Transformer and Mamba**

Baiyang Zhou, Aniket Mahanti, Sudheer Kumar Battula and Ranesh Naha

[15:00 - 15:20](#)

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### **Session 3 Wrap-Up / Closing Remarks**

[15:20 - 15:30](#)

## Healthcare Evolution through AI and Digital Twins (HEAD)

### **Session Welcome**

[14:00 - 14:05](#)

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### **Reproducible Analytics Workflow for Longitudinal Healthcare Digital Twins**

Kunal Rehani and Kenan Matawie

[14:05 - 14:25](#)

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### **Acoustic Features as Potential Vocal Biomarkers for Multiple Sclerosis**

Salvatore Giugliano, Ilaria Basile, Raffaele Dubbioso, Rosa Iodice, Lucia Aruta and Giovanna Sannino

[14:25 - 14:45](#)

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### **A Systems-Level Evaluation of Scalable Multimodal Architectures for Social Media Suicide Risk Detection**

Vijayalakshmi Saravanan, Sai Karthik Navaluru, Khaled Z. Ibrahim and Lakshman Tamil

[14:45 - 15:05](#)

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### **Physics-Informed Prediction of Uncertain Glucose Dynamics: Integrating Wong-Zakai Corrected Stochastic Differential Equations with Machine Learning**

Rossella Laudani, Armando Ruggeri and Massimo Villari

[15:05 - 15:25](#)

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### **Closing and Best Paper Award**

[15:25 - 15:30](#)

## Research Infrastructures for Experimenting across the HPC-Cloud-Edge Continuum (Continuum-RI)

### **Research Data Storage in the RI Continuum**

David Abramson

[Invited Talk, 14:00 - 15:00](#)

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### **Continuum-Aware Storage: Late-Bound Convergence for Unified Edge-to-Cloud Research Data Infrastructures**

Jake Carroll, David Abramson and Bronis R. de Supinski

[15:00 - 15:30](#)

16:00 -  
17:30

**Research Infrastructures for Experimenting across the HPC-Cloud-Edge Continuum (Continuum-RI)  
Failure Risks and Mitigations for a Wide-Area Digital Nervous System**

Nicolas Erdody

[Invited Talk](#), 16:00 - 17:00

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**Abstractions, Architecture and Implementation of a Modular IoT Edge Testbed**

Loïc Guégan, Salma Tofaily and Issam Raïs

17:00 - 17:30

# Tuesday, 19 May 2026

Main conference opening and technical sessions

| Time          | Conf Room 1   | Conf Room 2   | Conf Room 3     | Conf Room 4               |
|---------------|---|---------------|-----------------|---------------------------|
| 08:00 - 17:00 | Registration: Foyer   |               |                 |                           |
| 09:00 - 09:30 | Opening Ceremony  |               |                 |                           |
| 09:30 - 10:30 | <b>Keynote: Professor Song Guo</b><br>Exploring Edge Physical Intelligence: Extreme Quantization, Limitless Memory, and Rapid Evolution |               |                 |                           |
| 10:30 - 11:00 | Morning Tea   |               |                 |                           |
| 11:00 - 12:30 | <b>GPU-1</b>  | <b>LLM-1</b>  | <b>WORKFLOW</b> | <b>Doctoral Symposium</b> |
| 12:30 - 14:00 | Lunch   |               |                 |                           |
| 14:00 - 15:30 | <b>GPU-2</b>  | <b>LLM-2</b>  | <b>AI-SEC</b>   | <b>Posters</b>            |
| 15:30 - 16:00 | Afternoon Tea   |               |                 |                           |
| 16:00 - 17:30 | <b>HPC-SCH</b>  | <b>AI-SYS</b> | <b>GREEN</b>    |                           |
| 18:00 - 19:00 | Panel Session: Shaping the Future: Research Frontiers and Leadership in Cloud, Edge Intelligence, and Distributed Computing             |               |                 |                           |

## Session Details

11:00 - 12:30

### GPU Communication and HPC Acceleration (GPU-1)

Session Chair: Pierre Jacquet (ETS Montreal)

#### Kernel-Initiated One-Sided Networking for GPU-Accelerated AI Workloads

Khaled Hamidouche, John Bachan, Pak Markthub, Peter-Jan Gootzen, Elena Agostini, Sylvain Jeaugey, Aamir Shafi, Georgios Theodorakis and Manjunath Gorentla Venkata

[Full paper](#)

#### Mammoth: Macro-Level MPI Offloading to Off-path Accelerator in DPU

Jong-Bin Lee, Pu-Rum Seo, Ki-Moon Jeong and Hyun-Wook Jin

[Full paper](#)

#### Scalable, Topology- and Multi-HCA-Aware Hierarchical GPU Allgather Using Parallel Rings

Amirreza Barati Sedeh, Ryan Grant and Ahmad Afsahi

[Full paper](#)

### Efficient LLM Inference Systems - 1 (LLM-1)

Session Chair: Mohsen Amini Salehi (University of North Texas)

#### Characterizing LLM Inference Energy-Performance Tradeoffs across Workloads and GPU Scaling

Paul Joe Maliakel, Shashikant Ilager and Ivona Brandic

[Full paper](#) Best Student Paper Nominee

### **Quicktopia: Iteration-Level GPU Frequency Control for Energy-Latency Co-Optimization in LLM Inference**

Soyang Baek, Bodon Jeong, Hongsu Byun and Sungyong Park

[Full paper](#)

### **ARKV: Adaptive Resource-Efficient KV Cache Management for Long Context LLM Inference under Memory Constraints**

Jianlong Lei and Shashikant Ilager

[Full paper](#)

## **Distributed Workflow Management and Optimization (WORKFLOW)**

Session Chair: Rodrigo Calheiros (Western Sydney University)

### **ElastiFlow: Elastic Resource Management for Iterative Scientific Workflows in Hybrid HPC-Cloud Infrastructure**

Srishti Dasgupta, Kavitha Subramaniam and Michael Gerndt

[Full paper](#)

### **Efficiently Reproducing Distributed Workflows in Notebook-based Systems**

Talha Azaz, Raza Ahmad, Saiful Islam, Douglas Thain and Tanu Malik

[Full paper](#)

### **Compass: Optimizing Compound AI Workflows for Dynamic Adaptation**

Milos Gravara, Juan Luis Herrera and Stefan Nastic

[Full paper](#)

## **Doctoral Symposium**

Session Chair: Mohammad Goudarzi (Monash University)

### **Topology-Aware Task and Data Placement for Distributed Scientific Workflows**

Sami Kharma, Tobias Wies, Björn Scheuermann and Florian Schintke

[Doctoral Symposium paper](#)

### **Energy-Efficient Federated Learning Approaches for Orbital Edge Computing**

Bara'Ah Al-Blewi, Bahman Javadi and Rodrigo N. Calheiros

[Doctoral Symposium paper](#)

### **Accurate Synthetic Tasks for Scientific Workflow Benchmarks**

Tobias Wies, Sami Kharma, Tobias Meuser and Björn Scheuermann

[Doctoral Symposium paper](#)

14:00 -  
15:30

## **GPU Resource Management and Runtime Optimization (GPU-2)**

Session Chair: Nick Brown (The University of Edinburgh)

### **ADVICE: Automatic Identification of Variables to Checkpoint through Compiler Augmentation**

Xin Huang, Luanzheng Guo, Nathan Tallent and Kento Sato

[Full paper](#)

### **Enhanced SVM for Improving Application Performance under GPU Memory Oversubscription**

Bennett Cooper, Thomas Scogland and Rong Ge

[Full paper](#)

### **Priority-Aware GPU Co-Scheduling for High Performance Computing**

Naman Kulshreshtha, Tapasya Patki, Aniruddha Marathe, Tom Scogland and Rong Ge

[Full paper](#)

## **Efficient LLM Inference Systems - 2 (LLM-2)**

Session Chair: Adel Toosi (The University of Melbourne)

### **EmbDc: Error-Bounded Lossy Video Embedding Compression For On-Device LLM Inference**

Bo Jiang, Taolue Yang, Youyuan Liu, Sheng Di and Sian Jin

[Full paper](#)

### **LLM-Pilot: SLO-Aware and Cost-Efficient LLM Serving on Public Cloud VM Clusters via Offloading**

Jinwoo Kim, Kihyun Kim, Hyunsun Chung, Jihoon Yang, James J. Kim, Dong Li and Youngjae Kim

[Full paper](#)

### **EAFAL: An Edge-Based Agentic Framework for Adaptive Selection between SLMs and LLMs**

Chamara Madarasingha, Prajyot Singh, Redowan Mahmud, Mahbuba Afrin, Aneesh Krishna and Salil Kanhere

[Full paper](#)

## **Security and Reliability in AI Systems (AI-SEC)**

Session Chair: Reza Farivar (University of Illinois)

### **Exploring Silent Data Corruption as a Reliability Challenge in LLM Training**

Anton Altenbernd, Philipp Wiesner and Odej Kao

[Full paper](#)

**Best Paper Nominee**

### **Noise-Aware Misclassification Attack Detection in Collaborative DNN Inference**

Shima Yousefi and Saptarshi Debroy

[Full paper](#)

### **SeCI: A Framework for Self-Certified Identity for Autonomous AI Agents**

Nehal Al-Otaiby, Mohammad Hammoudeh and Jameleddine Hassine

[Full paper](#)

## **Posters**

Session Chair: Mohsen Amini Salehi (University of North Texas)

### **AccTS: Co-Design of OS Scheduling and System Architecture for Accelerator-Rich SoC**

Weicong Xie, Qiyu Wu, Xiaoyang Wang, Minjie Fan and Jiwu Shu

[Poster](#)

### **Learning-Based Command Priority Scheduling for Tail Latency Reduction in Storage Systems**

Zilong Liang, Ye Xu, Minjie Fan and Jiwu Shu

[Poster](#)

### **Network Telescope as a source of actionable information in near real-time**

Marek Janiszewski, Jan Adamski, Marcin Rytel, Jakub Koman and Wojciech Sołtys

[Poster](#)

### **Empirical Analysis of GPU Frequency Behavior Under ML Workloads**

Truong-Thanh Le, Hoang-Loc La, Amir Taherkordi, Frank Eliassen, Phuong Hoai Ha and Peiyuan Guan

[Poster](#)

### **AI-Enhanced CTI for SOCs: Practitioner Priorities from a Multi-Sector Survey**

Anna Felkner and Antonio Monte Pegado

[Poster](#)

### **A High-Performance RAID-on-Chip SoC Design Implemented with 28nm CMOS Technology**

Xu Gao, Qiyu Wu, Xiaoyang Wang, Minjie Fan and Jiwu Shu

[Poster](#)

### **FORE-Twin: Neuro-Symbolic Middleware for Latency-Aware Data Staging in Federated Digital Twin Systems**

Jiwoo Han, Yangkoo Lee, Kyoungyun Park and Daesub Yoon

[Poster](#)

### **Edge-Based Perception-Driven Robotic System for Assistive Patient Care**

Kanaka Sai Jagarlamudi, Rhys Tague, Jacob Desmond, Chng Wei Lau, Hao Wu, Anupama Ginige and Oliver Obst

[Poster](#)

16:00 -  
17:30

## **HPC Scheduling and Execution Optimization (HPC-SCH)**

Session Chair: Salil Kanhere (UNSW)

### **GASched: Goal-Adaptive Hierarchical Reinforcement Learning for Multi-Objective HPC Job Scheduling**

Minsol Choo and Sangyoon Oh

[Full paper](#)

### **Reducing Backfill Failures from Workload Drift with Lightweight Uncertainty Buffers in HPC Job Scheduling**

Jiheon Choi and Sangyoon Oh

[Full paper](#)

### **Automated Configuration of Power-Management Knobs for Optimal HPC Job Executions**

Francesco Antici, Andrea Proia, Ryoma Ohara, Toshihiro Hanawa, Zeynep Kiziltan, Andrea Bartolini and Jens Domke

[Full paper](#)

**Best Paper Nominee**

## **LLM / AI Training & Inference Systems (AI-SYS)**

Session Chair: Nancy Yang (Western Sydney University)

### **Reuse-Aware Min-Cost Flow Scheduling for Distributed LLM Training in Hybrid Optical-Electrical Networks**

Yifan Yang, Gongming Zhao, Hongli Xu and Huihui Tang

[Full paper](#)

### **Tula: Optimizing Time, Cost, and Generalization in Distributed Large-Batch Training**

Sahil Tyagi and Feiyi Wang

[Full paper](#)

**VEX: Scaling HNSW-Based Vector Search with DPU Memory and Parallelism**

Kihwan Kim, Hyungsun Yoo, Woojung Kim, Donghyun Min, Myungcheol Lee, Jihoon Yang, Weikuan Yu and Youngjae Kim

[Full paper](#)

**Energy, Sustainability & Carbon-Aware Computing (GREEN)**

Session Chair: Massimo Villari (University of Messina)

**Green or Fast? Learning to Balance Cold Starts and Idle Carbon in Serverless Computing**

Bowen Sun, Christos Antonopoulos, Evgenia Smirni, Bin Ren, Nikolaos Bellas and Spyros Lalis

[Full paper](#)

**STEAM: Realistic Modeling and Systematic Exploration of Composable Techniques for Sustainable Datacenter**

Dante Niewenhuis, Sacheendra Talluri, Alexandru Iosup and Tiziano De Matteis

[Full paper](#)

**Spanergy: Energy-aware Distributed Tracing for Microservices**

Cesar Perdigao Batista, Denis Conan and Sophie Chabridon

[Full paper](#)

18:00 -  
19:00

**Panel Session: Shaping the Future: Research Frontiers and Leadership in Cloud, Edge Intelligence, and Distributed Computing**

Panel Chair: Professor Salil Kanhere (UNSW, Australia)

**Panelists**

Prof. Michela Taufer, The University of Tennessee, US

Emeritus Prof. David Abramson, The University of Queensland, Australia

Prof. Luiz Fernando Bittencourt, University of Campinas, Brazil

Pepper: AI Panelist

# Wednesday, 20 May 2026

Keynote, best-paper sessions, and community events

| Time          | Conf Room 1  | Conf Room 2 | Conf Room 3       | Conf Room 4            |
|---------------|--|-------------|-------------------|------------------------|
| 08:00 - 17:00 | Registration: Foyer  |             |                   |                        |
| 09:30 - 10:30 | <b>Keynote: Professor Kate Keahey</b><br>"This is Not a Testbed": How to Build and Operate Experimental Infrastructure |             |                   |                        |
| 10:30 - 11:00 | Morning Tea  |             |                   |                        |
| 11:00 - 12:30 | <b>CLOUD</b>   | <b>FL-1</b> | <b>OPT-SYS</b>    | <b>SCALE Challenge</b> |
| 12:30 - 14:00 | Lunch (Steering Committee Meeting)   |             |                   |                        |
| 14:00 - 15:30 | <b>EDGE-AI</b>   | <b>FL-2</b> | <b>DATA-SYS-1</b> | <b>ICFEC 1</b>         |
| 15:30 - 16:00 | Afternoon Tea  |             |                   |                        |
| 16:00 - 17:30 | <b>EDGE-IoT</b>  | <b>FL-3</b> | <b>DATA-SYS-2</b> | <b>ICFEC 2</b>         |
| 19:30 - 22:30 | <a href="#">Conference Gala Dinner</a>   |             |                   |                        |

## Session Details

11:00 -  
12:30

### Cloud Infrastructure and Orchestration (CLOUD)

Session Chair: Luiz Bittencourt (University of Campinas)

#### Larger Cloud Servers, Fewer Hosts? On the Evolution of VM Sizes in IaaS Platforms

Pierre Jacquet, Camille Coti and Marcos Dias De Assuncao

[Full paper](#)

#### TelePod: Live Migration for Stateful Containers

Mingjie Yan, Atharva Ranade, Xin Zhang and Kartik Gopalan

[Full paper](#)

Best Student Paper Nominee

#### Cost-Justified Multi-type Resource Fair Scheduling for Kubernetes

Bo Yan, Sujoy Sikdar and Madhusudhan Govindaraju

[Short paper](#)

#### XCAgent: Automating Multi-Cloud Deployment of Agentic Workflows on FaaS Platforms

Varad Kulkarni, Vaibhav Jha, Nikhil Reddy, Anand Eswaran, Praveen Jayachandran and Yogesh Simmhan

[Short paper](#)

### Federated / Decentralized Learning - 1 (FL-1)

Session Chair: Sangyoon Oh (Ajou University)

#### A Multi-Armed Bandit-Based Participant Selection Method for Federated Recommendation Systems

Jintao Liu, Mohammad Goudarzi and Adel N. Toosi

[Full paper](#)

### **FedMO: Mobility-Aware Client Selection in Federated Learning for Drone Delivery Systems**

Jiang Yuan, Xiao Liu, Jia Xu, Aiting Yao, Frank Jiang and Xuejun Li

[Full paper](#)

### **Heterogeneous-Resource-Aware Federated Learning with Intelligent LoRA Allocation and Aggregation**

Youye Xie, Yao Lian, Kevin Chen, Abdul Latif, Lingzhi Zhao and Reza Farivar

[Full paper](#)

## **Scheduling & Systems Optimization (OPT-SYS)**

Session Chair: Carlos J. Barrios H. (INRIA)

### **AdaSched: A Performance-Driven Cluster Scheduler for Deep Learning Workloads using Deep Reinforcement Learning**

Han Yin, Jialun Li, Xuan Mo and Weigang Wu

[Full paper](#)

### **Congestion-Aware Pricing for Fast and Efficient Edge-Cloud Computing**

Polyzois Soumplis and Emmanouel Varvarigos

[Full paper](#)

### **SD-MoE: Scenario-Driven MoE Forecasting for Intelligent Elastic Scaling in Cloud Clusters**

Xianzhao Guo, Weipeng Cao, Minxian Xu, Dachuan Li, Chuanfei Xu, Xi Tao and Zhong Ming

[Full paper](#)

## **SCALE Challenge**

Session Chair: Michela Taufer (University of Tennessee, Knoxville)

### **Logical Scalability in Big Data Architectures: Impact of Data Modeling on the Database Layer**

Rosario Napoli, Mark Adrian Gambito, Antonio Celesti, Massimo Villari and Maria Fazio

[SCALE Challenge paper](#)

### **A Scalable Computing Continuum Framework for Ambient Assisted Living**

Jahedul Anowar, Koushikur Islam, Kanaka Sai Jagarlamudi, Bahman Javadi and Rodrigo Calheiros

[SCALE Challenge paper](#)

### **Breaking All-Reduce Bottlenecks with Asynchronous Influence Maximization at Scale**

Shubhendra Pal Singhal, Ajay Mandadi, Akihiro Hayashi, Thomas M Conte and Vivek Sarkar

[SCALE Challenge paper](#)

### **MemScale: Real-Time Change Detection with Near-Linear Scale-Out on HPC Systems**

Vijayalakshmi Saravanan, Sai Karthik Navaluru, Jon Ryan Cole, Khaled Z Ibrahim and Lakshman Tamil

[SCALE Challenge paper](#)

### **Scaling Real-Time Traffic Analytics on Edge-Cloud Fabrics for City-Scale Camera Networks**

Akash Sharma, Pranjal Naman, Roopkatha Banerjee, Priyanshu Pansari, Sankalp Gawali, Mayank Arya, Sharath Chandra Madanu, Arun Josephraj, Rakshit Ramesh, Punit Rathore, Anirban Chakraborty, Raghu Krishnapuram, Vijay Kovvali and Yogesh Simmhan

[SCALE Challenge paper](#)

14:00 -  
15:30

### Edge Systems for AI Agents (EDGE-AI)

Session Chair: Yogesh Sharma (University of Regina)

#### Orchestrating WASM-based MCP Tool Runtimes for AI Agents across Edge-Cloud Continuum

Moohyun Song, Hayoung Kim, Kyoohyun Lee, Jae Gi Son and Kyungyong Lee

[Full paper](#)

#### SwiftBot: A Decentralized Platform for LLM-Powered Federated Robotic Task Execution

Hailu Xu, Simon Zhang, Zhengxiong Li, Shuai Xu, Xiaokun Yang and Fangtian Zhong

[Full paper](#)

#### DriveCache: On-Board Compute Caching for Scalable Vehicular Edge Computing Networks

Suvarthi Sarkar, Aditya Gupta, Salil Kashyap and Aryabartta Sahu

[Full paper](#)

### Federated / Decentralized Learning - 2 (FL-2)

Session Chair: Mohammad Goudarzi (Monash University)

#### Dual-Distilled Heterogeneous Federated Learning with Adaptive Margins for Trainable Global Prototypes

Fatema Siddika, Md Anwar Hossen, Wensheng Zhang, Anuj Sharma, Juan Pablo Munoz and Ali Jannesari

[Full paper](#)

#### RDA-CAFL: Reputation-Dynamic and Distillation-based Asynchronous Conflict-Aware Federated Learning for UAV Networks

Jie Li, Pengyang Li, Liming Sun, Xingwei Wang and Yihang Zhang

[Full paper](#)

#### Evaluating Federated Learning Beyond Simulation: A Deployment-Aware Methodology

Mathis Valli, Cedric Tedeschi, Alexandru Costan, Loic Cudennec and Gabriel Antoniu

[Full paper](#)

### Hardware-Aware Storage & Memory Systems (DATA-SYS-1)

Session Chair: Jongmoo Choi (Dankook University)

#### Making Variable-Size I/O Practical in ZNS SSDs

Sijie Lan, Abutalib Aghayev, Mahmut Kandemir and Umesh Maheshwari

[Full paper](#)

#### NIO-Cache: Device-Affinitive Page Cache Placement Mechanism for NUMA Systems

Jiazheng Zhang, Xiaoyang Wang and Jiwu Shu

[Full paper](#)

#### S-MSHR: A Scalable MSHR Architecture Using Cache Tag Data-Ready Bits and Index Queues

Shuang Wu, Xu Zhang, Yibin Xu, Yangyang Zhao, Tianyue Lu and Mingyu Chen

[Full paper](#)

### Monitoring and Management in the Computing Continuum (ICFEC 1)

Session Chair: Yu Xiao (Aalto University)

### **K-Sense: A Non-Invasive eBPF Framework for QoS Inference**

Abdullah Muslim, Ali Beiti Aydenlou and Stephan Recker

### **Cost-Effective Processing of IoT Data in the Computing Continuum**

Vasileios Karagiannis, Drazen Ignjatovic, Antonios Iosifidis and Stefan Schulte

### **LLMEdger: Phase-Aware Model Parallelism Scheduler for LLM Inference on Edge**

Xinyang Shen and Lena Mashayekhy

16:00 -  
17:30

### **IoT & Edge Systems Performance (EDGE-IoT)**

Session Chair: Yogesh Simmhan (Indian Institute of Science)

#### **Benchmarking Message Brokers for IoT Edge Computing: A Comprehensive Performance Study**

Tapajit Chandra Paul, Pawissanutt Lertpongrijikorn, Hai Nguyen and Mohsen Amini Salehi

[Full paper](#) Best Paper Nominee

#### **Volatility-Aware Adaptive Context Caching for Real-Time Context-Aware IoT Applications**

Ashish Manchanda, Prem Prakash Jayaraman, Abhik Banerjee and Arkady Zaslavsky

[Short paper](#)

#### **Hierarchical Semi-Supervised Federated Learning for UAV-Enabled Fire Monitoring**

Mark Adrian Gambito, Bahman Javadi, Lorenzo Carnevale and Massimo Villari

[Short paper](#)

#### **Synthetic Data Generation for Storage Failure Prediction in Large-Scale Systems**

Chandranil Chakrabortii, Ana Solorzano and Devesh Tiwari

[Short paper](#)

### **Federated / Decentralized Learning - 3 (FL-3)**

Session Chair: Shaleeza Sohail (The University of Newcastle)

#### **FedOort: A Fair and Efficient Optimization Method for Federated Learning**

Zhaohua Zheng, Junhui Du, Qiquan Chen, Xu Han, Qijun Huang and Jin Zhang

[Full paper](#)

#### **Evidential Trust-Aware Model Personalization in Decentralized Federated Learning for Wearable IoT**

Murtaza Rangwala, Richard Sinnott and Rajkumar Buyya

[Full paper](#)

#### **CroSatFL: Energy-Efficient Federated Learning with Cross-Aggregation for Satellite Edge Computing**

Nan Yang, Bahman Javadi, Rodrigo Neves Calheiros, David Boland and Philip Leong

[Full paper](#)

### **Data Systems & Storage Engines (DATA-SYS-2)**

Session Chair: Laurent Lefevre (INRIA)

#### **ARC: Adaptive Resource Coordination for Write-Stall Mitigation in LSM-Tree**

Guangxun Zhao, Yongjie Zhu, Suhwan Shin, Seehwan Yoo and Jongmoo Choi

[Full paper](#)

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**Altocumulus: Enabling Efficient Erasure Coding in IPFS**

Mohammad Rizk, Shadi Ibrahim and Thomas Lambert

[Full paper](#)

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**BucketLSM: What, After All, Is the I/O Bottleneck Behind L0 Key-Range Overlap in LSM-Based KV Stores?**

Jaewan Park, Kyungwook Min, Sungjin Byeon, Taewan Noh, Hyungi Park, Xubin He, Hongyeon Kim and Youngjae Kim

[Full paper](#)

Best Student Paper Nominee

**Efficient On-Device Learning and Model Compression (ICFEC 2)**

Session Chair: Stefan Schulte (TU Berlin)

**Layer-Wise Weight Sharing for Efficient Transformer on SoCs**

Saeed Khalilian Gourtani, Hang Xu, Nirvana Meratnia and Anuj Pathania

**CORAL: Covariance-Guided Resource Adaptive Learning for Efficient Edge Inference**

Ahmad Nabhaan, Zaki Sukma, Rakandhiya Rachmanto, Muhammad Santriaji, Byungjin Cho, Arief Setyanto and In Kee Kim

**Order-Aware Compression for RF-DETR on Edge Devices: Overcoming Graph Fragmentation and Quantization Instability**

Farhan Mahmood, Michalis Karamousadakis, Antonis Porichis, Vishwanathan Mohan and Panagiotis Chatzacos

# Thursday, 21 May 2026

Final technical sessions and closing

| Time          | Conf Room 1   | Conf Room 2     | Conf Room 3       | Conf Room 4    |
|---------------|---|-----------------|-------------------|----------------|
| 08:00 - 17:00 | Registration: Foyer   |                 |                   |                |
| 09:30 - 10:30 | <b>Keynote: Professor Muhammad Usman</b><br>Cloud computing and security in the era of quantum processors |                 |                   |                |
| 10:30 - 11:00 | Morning Tea   |                 |                   |                |
| 11:00 - 12:30 | <b>EDGE-CLOUD</b>   | <b>ML-SYS-1</b> | <b>EMERGE-SYS</b> | <b>ICFEC 3</b> |
| 12:30 - 14:00 | Lunch   |                 |                   |                |
| 14:00 - 15:30 | <b>SERVERLESS-SEC</b>   | <b>ML-SYS-2</b> |                   | <b>ICFEC 4</b> |
| 15:30 - 16:00 | Afternoon Tea   |                 |                   |                |

## Session Details

11:00 -  
12:30

### Edge-Cloud Resource Management for AI Workloads (EDGE-CLOUD)

Session Chair: Anshul Verma (Banaras Hindu University)

#### Multi-Objective Load Balancing for Heterogeneous Edge-Based Object Detection Systems

Daghash Alqahtani, Maria Rodriguez, Muhammad Aamir Cheema and Adel N. Toosi

[Full paper](#)

#### Deep Reinforcement Learning-driven Edge Offloading for Latency-constrained XR pipelines

Sourya Saha and Saptarshi Debroy

[Full paper](#)

#### Decentralized Resource Sharing in Edge-Cloud Federations via Multi-Agent Hierarchical Reinforcement Learning

Panagiotis Kokkinakis, Polyzois Soumplis and Emmanouel Varvarigos

[Full paper](#)

### Learning-Based Performance Modeling (ML-SYS-1)

Session Chair: Stefan Schulte (TU Berlin)

#### CloudFormer: An Attention-based Performance Prediction for Public Clouds with Unknown Workload

Amirhossein Shahbazinia, Darong Huang, Luis Costero and David Atienza

[Full paper](#)

#### PM2Lat: Highly Accurate and Generalized Prediction of DNN Execution Latency on GPUs

Truong-Thanh Le, Hoang-Loc La, Amir Taherkordi, Frank Eliassen, Phuong Hoai Ha and Peiyuan Guan

[Full paper](#)

#### Towards Proactive AIOps: Transfer Learning for Unsupervised Anomaly Detection via Bi-LSTM

## Autoencoder in the Computing Continuum

Danny De Novi, Lorenzo Carnevale and Massimo Villari

[Full paper](#)

## Advances in Emerging Systems and Security (EMERGE-SYS)

Session Chair: Weisheng Si (Western Sydney University)

### Efficient Concurrent GHZ State Distribution in Quantum Networks

Charles Cao, Weisheng Si, Jong Choi and Sajal Das

[Full paper](#)

### QRAP: Adaptive Quantum-Safe Risk-Aware Prioritization for Cloud Applications

Surabhi Garg, Delton Myalil, Nidhi Singh, Shiv Shankar, Meena Singh Dilip Thakur and Rajan M A

[Short paper](#)

### BCRLSecureLink: A Blockchain, Cryptography, and Reinforcement Learning-Based Defense Against Link Discovery Attacks in SDVN

Patikiri Arachchige Don Shehan Nilmantha Wijesekara, Harsha Sandaruwan Gardiyawasam Pussewalage, Kalupahana Liyanage Kushan Sudheera and Geeth Priyankara Wijesiri

[Short paper](#)

### Lifting to tensors when compiling scientific computing workloads for AI Engines

Nick Brown and Gabriel Rodriguez-Canal

[Short paper](#)

## Intelligent Infrastructure and Multi-Tier Orchestration (ICFEC 3)

Session Chair: Kanaka Sai Jagarlamudi (Western Sydney University)

### Multi-Provider Caching in Multi-Tier Fog Networks

Ferdous Sharifi, Young Choon Lee and Shaahin Hessabi

### NL-CPS: Reinforcement Learning-Based Kubernetes Control Plane Placement in Multi-Region Clusters

Sajid Alam, Amjad Ullah and Ze Wang

### UAV-Enabled Integrated Sensing, Semantic Communication, and Computation: Disaster-Oriented Edge Computing and Sensing

Yaxi Liu, Wencan Mao, Xulong Li, Yu Xiao, Wei Huangfu and Keping Long

14:00 -  
15:30

## Security and Analysis of Serverless Systems (SERVERLESS-SEC)

Session Chair: Hao Wu (Western Sydney University)

### Kumo: A Security-Focused Serverless Cloud Simulator

Wei Shao, Chongzhou Fang, Khaled Khasawneh, Setareh Rafatirad and Houman Homayoun

[Full paper](#)

### LogLearners: Identifying Compromised AI Functions in Serverless Systems

Adil Bin Bhutto, Erik Elmroth and Monowar Bhuyan

[Full paper](#)

### **PoliFlow: Inferring Control-Flow Policies from Serverless Workflows**

Pedro Escalera, Vitor A. Cunha, Joao P. Barraca, Diogo Gomes and Rui L. Aguiar

[Full paper](#)

## **ML Systems & Optimization (ML-SYS-2)**

Session Chair: Ranesh Naha (Queensland University of Technology)

### **ACNNS: A Multi-interest Recommendation Model with Capsule Network**

Yan Zhang, Xiaotong Cui, Nan Wang and Yingli Zhong

[Full paper](#)

### **InverseTune: Inverse Synthetic Fine-Tuning for Reliable Structured Output in Small Language Models**

Markus Goetz and Hojjat Baghban

[Short paper](#)

### **SOtrain: Efficient LLM Fine-Tuning on a Consumer GPU via User-space I/O and Scheduling Optimizations**

Zhengguo Liu, Hao Lan and Jiwu Shu

[Short paper](#)

### **RapidGNN: Communication-Efficient Distributed Training on Large-Scale Graph Neural Networks**

Arefin Niam, Tevfik Kosar and M. S. Q. Zulkar Nine

[Short paper](#)

## **Security and Coordination in Federated Learning (ICFEC 4)**

Session Chair: Young Choon Lee (Macquarie University)

### **A Federated LLM-based Framework for DDoS Defense in Mobile Edge Computing**

Shuo Zhang, Kousuke Mori and Toshio Hirotsu

### **Atlas Synchronization in the Hierarchical Federated Learning Continuum**

Antonios Iosifidis, Vasileios Karagiannis and Stefan Schulte