Workshop on
Engineering techniques for Distributed Computing Continuum Systems

Distributed Computing Continuum Systems (DCCS) represent a disruptive transformation for the distributed computing paradigm, where boundaries between disparate computing environments vanish, and a seamless continuum emerges. DCCSs are based on the idea of a continuum of computing resources, where each resource has different capabilities and characteristics and, furthermore, different tenants and owners. As cloud computing, edge computing, mobile devices, and other computing devices become a unified ecosystem, numerous opportunities and challenges arise. Creating a cohesive ecosystem in which resources are dynamically allocated across different tiers in accordance with the specific needs of the task at hand while service objectives, including QoS and QoE, are dynamically fulfilled is an ambitious task.

In our workshop, we gather papers on various theoretical and practical aspects of DCCS with a special focus on works that show DCCS inherent heterogeneity, e.g., heterogeneity of devices, computing tiers, tenants, owners, etc., and build solutions able to benefit from these differences while making the distributed system to behave as a cohesive entity. The outcome of this special track will produce a roadmap and an initial set of techniques for DCCS researchers and practitioners that will revolutionize the practical implementation of various real-life applications.

This session is a significant step in exploring the potential of distributed computing continuum systems, focusing on revolutionizing interdisciplinary collaboration between researchers, practitioners, and stakeholders in the field of distributed systems. The outcomes of this session will serve as a reference for future developments in this area and help define a roadmap for the use of computing continuum systems in various applications. The session aligns with the Conference's mission to promote cutting-edge distributed systems research and applications to address critical challenges facing society.

Topics:
We accept submissions on a wide range of topics in these domains, with a particular emphasis on distributed computing continuum systems, including (but not limited to):

- Intelligence in distributed computing continuum systems
- Equilibrium in the computing continuum through active inference
- Collaborative inference in distributed computing continuum systems
- Zero trust in distributed computing continuum systems
- Zero-touch mechanism in distributed computing continuum systems
- The convergence and interplay of edge, fog, and cloud in the distributed AI/ML
- Intelligent Data Protocols for distributed computing continuum systems
- Building Intent, Intelligent and Internet-based distributed Ecosystems
- Perspectives and opportunities for distributed computing continuum systems
- Elasticity strategies for distributed computing continuum systems
- Sustainable distributed computing continuum systems
- Governing distributed computing continuum systems resources
- Orchestration in distributed computing continuum systems
- Causal Inferences for explainability in distributed computing continuum systems
- Controlling data gravity and frictions in computing continuum systems
- Real-time data federations, fragmentation, and operations in distributed continuum systems
- Generative AI and large language models for computing continuum systems.
- Graph representation learning for distributed computing continuum systems
- Distributed Computing continuum systems for Generative AI and large language models.
- Real-time applications, case studies, use case analysis for computing continuum systems (Healthcare, Industry 4.0/5.0, Agriculture, Education, etc.)

Important Dates:

Submissions open date:	January 31, 2024
Deadline for Abstract Submission:	March 25, 2024 (Monday)
Deadline for Submit Full-text:	April 3, 2024 (Wednesday)
Notification of paper acceptance:	April 24, 2024 (Wednesday)
Camera-ready paper submissions:	May 10, 2024 (Friday)

Submission Guidelines: https://icdcs2024.icdcs.org/call-for-papers/
Paper submission website: https://easychair.org/conferences/?conf=icdcs2024.

Session Chairs:

- **Prof. Schahram Dustdar**, Professor and Head, Distributed Systems Group, TU Wien, Vienna 1040, Austria. dustdar@dsg.tuwien.ac.at | https://dsg.tuwien.ac.at/team/sd
- **Dr. Victor Casamayor Pujol**, Distributed Systems Group, TU Wien, Vienna 1040, Austria. vcasamayor@dsg.tuwien.ac.at | https://dsg.tuwien.ac.at/team/casamayor
- **Dr. Praveen Kumar Donta**, Distributed Systems Group, TU Wien, Vienna 1040, Austria. pdonta@dsg.tuwien.ac.at | https://dsg.tuwien.ac.at/team/pdonta