

CCGRID 2022

The 22th IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing

in conjunction with

the 6th IEEE International Conference on Fog and Edge Computing (ICFEC 2022)

May 16-19, 2022, Taormina, Sicily, Italy

<https://fclab.unime.it/ccgrid22>

CALL FOR PAPERS

The 22nd IEEE/ACM international Symposium on Cluster, Cloud and Internet Computing (CCGrid 2022) is a leading forum to disseminate and discuss research activities and results on a broad range of topics in distributed systems, ranging from computing Clusters to widely distributed Clouds and emerging Internet computing paradigms such as Fog/Edge Computing for Internet of Things (IoT)/Big Data applications. The conference features keynotes, technical presentations, posters, workshops, tutorials, as well as the SCALE challenge featuring live demonstrations and the ICFEC 2022 conference.

We solicit original contributions on all aspects of distributed systems and applications in the context of Cluster, Cloud, and Internet computing environments. Specific topics of interest include but are not limited to the following:

Track 1: Future Internet computing systems

- Internet Computing Frontiers: Edge, Fog, Serverless, Lambda, Streaming, Highly decentralized approaches to cloud computing. Edge/Fog computing, sensor data streaming and computation on the edges of the network. Function as a Service (Faas), Backend as a Service (BaaS), serverless computing, lambda computing;
- Future Internet: 5G/6G and Use cases of 5G/6G system. Software defined networking and 5G/6G. 5G/6G cyber security challenges and concerns Machine learning algorithms for 5G/6G systems;
- Osmotic Computing: Cloud Continuum with Osmosis behaviors, Micro Services and MicroData, Software Defined Membranes;
- Cloud-Economics: Trustworthiness of services, ecosystem economics, innovative metering, accounting, billing methods and tools, automated trading and bidding support tools, performance monitoring, optimization, prediction, energy efficiency, sustainability, decision support systems.

Track 2: Programming models and runtime systems

- Programming Models and Runtime Systems: Programming models, languages, systems and tools/environments. Virtualization, containers, and middleware technologies. Actors, agents, programming decentralized computing systems.

Track 3: Distributed middleware and network architectures

- Architecture, Networking, Data Centers: Service oriented architectures. Utility computing models. IaaS, PaaS, SaaS, *aaS paradigms. Service composition and orchestration. Software-Defined Network-enabled Systems. Micro-datacenter, cloudlet, edge, or fog computing infrastructure. Virtualized hardware: GPUs, tensor processing units, FPGAs;
- Cloud-to-Things continuum: Service provisioning and monitoring in a Cloud-to-Things environment; Resource elasticity in Cloud-to-Things contexts; Algorithms and systems for automated elasticity; Blockchain-based resource orchestrator; Machine learning techniques for resource orchestration; Security policies in Cloud-to-Things.

Track 4: Storage and I/O systems

- Storage and I/O Systems: Distributed storage, cloud storage, Storage as a Service, data locality techniques for in-memory processing, storage in the edge.

Track 5: Security, privacy, trust and resilience

- Cyber-Security, Privacy and Resilient Distributed Systems: Distributed Systems security and trust. Access control. Data privacy and integrity. Regulation. Resiliency of service attacks.

Track 6: Performance modeling, scheduling, and analysis

- Resource Management and Scheduling: Resource allocation algorithms, profiling, modeling. Cluster, cloud, and internet computing scheduling and meta-scheduling techniques;
- Performance Modelling and Evaluation: Performance models. Monitoring and evaluation tools. Analysis of system/application performance.

Track 7: Sustainable and green computing

- Sustainable and Green Computing: Environment friendly computing ecosystems. Hardware/software/application energy efficiency. Power, cooling and thermal awareness.

Track 8: Scientific and industrial applications

- Applications: Data Science, Artificial Intelligence, Machine Learning, Cyber-Physical Systems, e-Health, Internet of Things (IoT)-enabled Smart Systems and Applications;
- Digital Twins: Digital Twins and Industry 4.0. Digital Twins and emerging technologies linked to IoT Platforms. Digital Twin the virtual replica of a physical entity.

Track 9: Artificial intelligence, Machine Learning and Deep Learning

- Artificial Intelligence: Large Scalable Machine Learning, AI at the Edge and in the Cloud. Cognitive computing;
- Machine learning: deep learning, statistical learning, natural language processing, computer vision, data mining, multiagent systems, knowledge representation;
- Applicative domains: healthcare, sustainability, transportation, commerce, neuroscience and cognitive science;
- Quantum Machine Learning.

PAPER SUBMISSION

Authors are invited to submit papers electronically through the following link:

<https://easychair.org/conferences/?conf=ccgrid2022>

Submitted manuscripts should be structured as technical papers and may not exceed 10 letter size (8.5 x 11) pages including figures, tables and references using the IEEE format for conference proceedings:

(<https://www.ieee.org/conferences/publishing/templates.html>)

The proceedings will be published through the IEEE Press, USA and will be made online through the IEEE and ACM Digital Libraries.

General Co-Chairs

- Massimo Villari, University of Messina, Italy
- Omer Rana, University of Cardiff, UK

Program Committee Co-Chairs

- Maria Fazio, University of Messina, Italy
- Radu Prodan University of Klagenfurt Austria
- Dhableswar K. (DK) Panda Ohio State University. USA

Contact Email: ccgrid2022@unime.it

IMPORTANT DATES

- | | |
|---------------------------------|---|
| Timezone: | Anywhere in the world! |
| Paper Due (Abstract): | December 19, 2021 (Final paper submission: December 19, 2021) |
| Full Paper Due: | December 19, 2021 (firm deadline) |
| Acceptance Notification: | February 11, 2022 |
| Camera Ready Papers Due: | March 11, 2022 |