

## TOPIC 5: CLUSTER AND CLOUD COMPUTING

GLOBAL CHAIR: **IVONA BRANDIC, VIENNA UNIVERSITY OF TECHNOLOGY**

LOCAL CHAIR: **BLESSON VARGHESE, UNIVERSITY OF ST ANDREWS**

### DESCRIPTION

While the term Cluster Computing is hardware-oriented and determines the organization of large computer systems at one location, the term Cloud Computing addresses the effective use of such large computer systems. Since Cluster and Cloud Computing complement each other, there are interdependencies between many research questions addressing these topics. In this Topic of EuroPar, we will particularly focus on these interdependencies in addition to the results specifically addressing issues related to each area.

In Cluster Computing, important research topics focus on performance, reliability, and energy efficiency as well as the impact of novel processor architectures. Since Cloud Computing abstracts the hardware and system software details from the users, research issues include various forms of virtualization and their impact on performance, resource management, and business models that address service provider and user interests.

Further, employing Cloud data centres and their advantages with respect to reliability and load balancing along with the consideration of networks is of interest to the community.

Finally, the combination of leveraging local computing resources with Cloud Computing, also referred to as "fog/edge" computing has received growing interest in recent times. This concept has led to many research questions, like an appropriate distribution of subtasks to the available systems under the consideration of various constraints.

Since research in this area relies on experimental evaluation, it is expected that the authors will provide a sufficiently in-depth evaluation, and where appropriate provide supplementary results.

### Focus

- Cloud-enabled applications and platforms
- Interoperability and portability in Cloud Computing
- Aggregation and federation of Clouds
- Hybrid, Fog and Edge computing
- Energy efficiency in Cluster and Cloud Computing
- Resource/Service/Information discovery in Clouds
- Resource management and scheduling in Clusters and Clouds
- Cloud-Edge-Device programming models, tools, and algorithms
- Dependability, adaptability, and scalability of Cloud applications
- Security and privacy for Clouds
- Workflow management in Clouds and Clusters
- Accounting, billing and business models for Cloud Computing
- Management of resources and applications in Clusters and Clouds
- Quality-of-Service and Service-Level-Agreement in Clouds
- Containers and serverless computing
- Application use-cases leveraging machine learning in the Cloud-Edge-Device continuum



if you are joining us in @UofGlasgow for @euro\_par this August please check out our website where you can find information on Travel and Activities  
<https://t.co/ccQ7a5KmGx>

22.06.2022 - 13:09

The Famous Edinburgh Festival @edfests will be happening between the 5th and 28th of August. If you are joining as for @euro\_par in Glasgow please check it out. Edinburgh is a quick train ride away!

14.06.2022 - 14:33

@euro\_par announced the PhD symposium for 2022 please find more information here: <https://t.co/z4g8OaIZGO> \*  
Key Dates Submissions: 20 May  
2022 Notifications: 27 June  
2022

27.04.2022 - 16:37

Euro-Par Achievement Award and Keynote Speakers for Euro-Par'22: Euro-Par Achievement Award: Ewa Deelman  
<https://t.co/BUrnR02fZ>  
Keynote Speakers: Jos  
<https://t.co/TTQXKpzyl>  
Domenico Talia  
<https://t.co/BvimOh02Lv> Ewa Deelman  
<https://t.co/BUrnR02fZe>

27.04.2022 -



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