

# VHPC'24 - 19th Virtualization in High-Performance Cloud Computing Workshop

## Call for Papers

The Workshop on Virtualization in High-Performance Cloud Computing ([VHPC](#)) aims to bring together researchers and industrial practitioners facing the challenges posed by virtualization in HPC/Cloud scenarios in order to foster discussion, collaboration, mutual exchange of knowledge and experience, enabling research to ultimately provide novel solutions for virtualized computing systems. The workshop features paper presentations, discussion sections, and lightning talks. Accepted papers will be published in a Springer LNCS volume.

### Focus Topics

This year, we are calling the timely topic of virtualization in support of high-memory LLM training workloads including, but not limited to:

- GPU hypervisor memory virtualization
- Flat CPU/GPU memory page tables/TLB
- Storage/filesystem to virtual memory mapped approaches
- Distributed memory virtualization
- Memory compression and reduction techniques
- Out-of-core training algorithms
- Memory-efficient allocation and data formats
- Benchmarking and profiling tools
- Real-world examples and applications of virtualization techniques in LLM training scenarios

In addition to the regular topic areas of **HPC virtualization: design/architecture, management, performance management, modeling and configuration/tooling**:

- Container Platforms (Kubernetes, Docker, Nitro/Firecracker, ...) and Unikernel Frameworks
- Composable Lightweight Application Components and Lambda / Function-as-a-Service Paradigms
- Latency Control, Warm/Cold-start issues and Data/Container Placement in Heterogeneous Environments
- Energy-efficiency and Service Orchestration in Virtualized Cloud & HPC Infrastructures

The workshop will be composed of 20 min paper presentations, each followed by 10 min discussion sections, plus lightning talks that are limited to 5 minutes. Presentations may be accompanied by interactive demonstrations. For more information and detailed paper submission instructions, refer to the [VHPC'24 webpage](#).

### Important Dates (AoE)

- **May 6th, 2024**: Paper submission deadline (Springer LNCS)
- **Jun 20th, 2024**: Acceptance notification
- **Jul 1st, 2024**: Camera-ready version due
- **Aug 26th-27th, 2024**: Workshop Day

### General Chairs

- Michael Alexander, University of Vienna, Austria
- Anastassios Nanos, Nubificus Ltd., UK
- Tommaso Cucinotta, Scuola Superiore Sant'Anna, Italy

### Publicity Chair

- Remo Andreoli, Scuola Superiore Sant'Anna, Italy

### General Information

The workshop will be held in conjunction with the [International European Conference on Parallel and Distributed Computing \(Euro-Par 2024\)](#), on Aug 26th-27th, 2024, in Madrid, Spain.

