15th JLESC Workshop



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Type: Project talk

## **Open Platforms and Reproducibility**

Thursday 23 March 2023 14:20 (20 minutes)

Open experimental platforms for Computer Science systems research, like the Chameleon and Grid'5000/FIT testbeds, are a critical tool not only for the support of computer science experimentation but also a key enabler of reproducibility. One of the perennial challenges that scientific instruments of this type grapple with are how they should evolve to support the emergent needs of research. Another is the definition and alignment of abstractions through which these resources should be provided such that research may be portable across different platforms. Finally, once such abstractions are found, the challenge is to create tools and services that will make packaging experiments for repeatable execution feasible.

This talk will present an update of the collaboration between the Chameleon and Grid'5000 testbeds on all these questions. We will describe the manner in which respectively CHI@Edge (for Chameleon) and FIT (for Grid'5000) address the challenge of supporting edge to cloud experimentation as well as report on the CHI-in-a-Box packaging of Chameleon that has been used to support IndySCC experimentation and is being used to integrate unique resources (such as Fugaku nodes or ARM Thunder nodes), often ephemerally for reproducibility purposes. We will then describe reproducibility tools and workflows and how they leverage abstractions the respective testbeds expose to run edge to cloud experiments across platforms. Finally, I will talk about the recently funded REPETO project that supports international collaboration on fostering practical reproducibility in computer science research and describe how it can be leveraged by JLESC attendees.

## **JLESC topic**

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Session Classification: Project Talks on I/O, Storage and Workflows

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