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SOFTWARE ENGINEERING

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Contribution ID: **165**   Type: **Talk (15min + 5min)**

Incremental MPI Parallelization of a Julia Functional Renormalization Group code: a case study

Wednesday 26 February 2025 14:40 (20 minutes)

HPC-oriented Research Software Engineers are often required to perform optimization and parallelization on unfamiliar codebases.
This activity is of utter importance, as it allows scientific research to make use of increasingly powerful (and increasingly complex) supercomputing infrastructure.
In this talk I will share the experiences and lessons learned in the process of parallelizing incrementally with MPI a Functional Renormalization Group code written in Julia, including performance optimization, characterization testing, dealing with a CPU firmware update and refactoring to improve programmer productivity.
Finally I will report on my experience of learning Julia while also approaching a somewhat unfamiliar domain.

I want to participate in the youngRSE prize

no

Primary authors: MESITI, Michele;   Mr NIGGEMANN, Nils (Freie Universität Berlin)

Presenter: MESITI, Michele

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