

RISC2 Virtual Workshop - HPC, Data Science and Scientific computing



Wednesday, 22 June 2022 - Thursday, 23 June 2022

online

Scientific Programme

Wednesday, June 22 - 4 pm to 8 pm CET

4:00 pm to 4:15 pm : Opening talk

4:15 pm to 4:45 pm : Dynamic workflows in the exascale era
Daniele Lezzi, Barcelona Supercomputing Center, Spain

4:45 pm to 5:15 pm : Interplay of Machine Learning and multiscale numerical simulations
Antônio Tadeu A. Gomes, Larissa Miguez, Frédéric Valentin
Laboratório Nacional de Computação Científica (LNCC), Brasil
Innovative Parallel finite Element Solvers (IPES) Research Group

5:15 pm to 5:45 pm : Developing efficient scientific gateways for bioinformatics in supercomputer environments supported by artificial intelligence
Ocaña, K.1, Coelho, M.1, Terra, R.1, Freire, G.1, Santos, M.1, Cruz, L.1, Galheigo, M.1, Carneiro, A.1, Fagundes, B.1, Cabral, M.1, Carvalho, D.2, Cardoso, D.2, Meneses, E.3, Gadelha, L.1, Boito, F.4, Navaux, P.5, Osthoff, C.1
1: Laboratório Nacional de Computação Científica (LNCC), Brasil
2: Federal Center for Technological Education Celso Suckow da Fonseca
3: National High Technology Center in Costa Rica
4: Université Bordeaux, CNRS, Bordeaux INP, Inria, LaBRI, UMR 5800, Talence, France
5: informatics Institute, Federal University of Rio Grande do Sul, UFRGS

5:45 pm to 6:15 pm : Preliminary evaluation of a randomized SVD-based GMRES solver under fault injection
José A. Moríñigo, Andrés Bustos and Rafael Mayo-García, Dept. de Tecnología, CIEMAT, Spain
6:15 pm to 6:45 pm : Coffee break
6:45 pm to 7:45 pm : Discussion

Thursday, June 23 - 4 pm to 8 pm CET

4:00 pm to 4:15 pm : Opening talk (part 2)

4:15 pm to 4:45 pm : An ML-based workflow for seismic imaging under uncertainty
Charlan D.S. Alves¹, Carlos H.S. Barbosa¹, Alvaro L.G.A. Coutinho¹, Djalma M. Soares Filho², Rodolfo S. M. Freitas¹, Liliane N. O. Kunstmann¹, Marta Mattoso¹, Debora B. Pina¹, Fernando A. Rochinha¹, Bruno S. Silva¹ and Romulo M. Silva¹
1: Federal University of Rio de Janeiro, Brasil 2: Petrobras Research Center, Rio de Janeiro, Brasil

4:45 pm to 5:15 pm : Using provenance to steer hyperparameter in physics guided neural networks
Débora Pina¹, Liliane Kunstmann¹, Rodolfo S. M. Freitas¹, Fernando A. Rochinha¹, Alvaro L.G.A. Coutinho¹, Daniel de Oliveira², Patrick Valduriez³, Marta Mattoso¹
1: COPPE/Federal University of Rio de Janeiro, Rio de Janeiro, Brazil
2: Fluminense Federal University, Niterói, Rio de Janeiro, Brazil
3: Inria, University of Montpellier, CNRS, LIRMM, France

5:15 pm to 5:45 pm : The HPDaSc (High Performance Data Science) project

Fabio Porto¹ and Patrick Valduriez²

1: Laboratório Nacional de Computação Científica (LNCC), Brasil

2: Inria, Zenith project-team

5:45 pm to 6:15 pm : TBC

6:15 pm to 6:45 pm : Coffee break

6:45 pm to 7:45 pm : Discussion