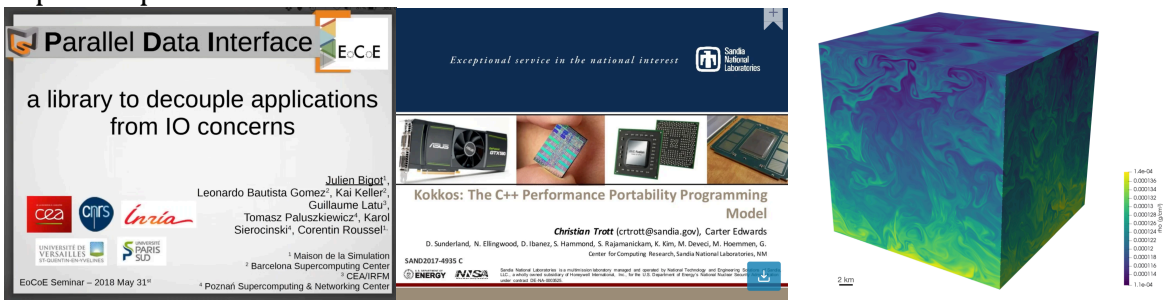
1-year position Engineer in High Performance Computing

Contract:

1 year at CEA/DRF Maison de la Simulation, CEA Paris-Saclay, France

Context & Role:

The successful candidate will coordinate and contribute to application software development related to the ERC Project ATMO. The goal is to produce and use high-end simulation tools designed for the next generation of largest supercomputers (GPUs, Xeon Phis, etc) for the study of convective dynamos in stars, brown dwarfs, and exoplanets. He/she will take advantage of the innovative library Kokkos to achieve performance portability between different architectures, and will contribute to the incorporation of the library PDI in the simulation code ARK. The successful candidate will contribute to the implementation of a large scale "grand challenge" simulation of a convective dynamo on the new French supercomputer Adastra.
He/she will be also part of teams of HPC experts from Maison de la Simulation and will work in collaboration with an international scientific community. He/she will have the opportunity to work on production level HPC codes running on the most powerful supercomputers.



Left: PDI presentation part of the EOCOE centre of excellence. Middle: Kokkos presentation at 2015 Programming Models and Environments Workshop. Right: convective simulation performed with the code ARK, published in Daley-Yates et al. (2021)

Required skills :

- PhD or master's degree in a scientific domain strongly connected to HPC
- Operational knowledge of techniques and programming language (Fortran90, C or C++) for application development
- Strong experience in application parallelization (MPI, OpenMP) and scientific codes optimization on various architectures (SMP, MPP) running in Unix environment
- Skills to work in a team

Included Benefits:

Additional funding for collaborations and personal equipment is available. The positions include comprehensive benefits packages such as transportation and lunch subsidies, medical insurance, maternity leave and retirement benefits.

Application:

To apply, please send a CV, a publication list to pascal.tremblin[at]cea.fr and arrange to have 1 letter of reference forwarded to the same email address.