



Contribution ID: 75

Type: **Break-out session**

## BOS: Next-generation Numerical Linear Algebra Libraries

*Thursday 23 March 2023 10:30 (1h 30m)*

BoS: Next-generation Numerical Linear Algebra Libraries

Exa-class system development has achieved some successful results, and full-scale systems are in operation. RIKEN is currently conducting a feasibility study of technological trends for developing a successor to Fugaku. Based on the experience developing the numerical library for Fugaku, RIKEN is now studying library development trends in Fugaku NEXT and strengthening international development relationships. There is no doubt that sustainable development and functional enhancement of deliverables in the ECP and European HPC projects, in which many JLESC partners have been involved, also remain an issue. We want to provide a place to discuss such matters, especially trends in numerical linear algebra libraries and various other topics.

Speakers:

Toshiyuki Imamura, and Atsushi Suzuki (R-CCS): Numerical Linear Algebra Libraries towards the Fugaku NEXT project

Edoardo Di Napoli (JSC): Massively parallel eigensolvers with spectral filters (remotely)

Sergi Laut, and Ramiro de Olazabal(BSC): Architecture-aware Sparse Patterns for the Factorized Approximate Inverse, and Parallel implementation of a Linelet preconditioner

Toby Isaac (ANL): Low-rank kernels in PETSc solvers (remotely)

Piotr Luszczek (ICL): Beyond classic linear algebra libraries for modern hardware platforms

Luc Giraud, and Emmanuel Agullo(INRIA and ANL): Variable accuracy GMRES and FGMRES

Thanks to the proposal:

Schleife Andre (UIUC)

### JLESC topic

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**Session Classification:** Break-out Session: Next-generation Numerical Linear Algebra Libraries

**Track Classification:** Numerical methods and algorithms