PLASMA

Linear algebra solvers and spectral decompositions for multicore processors.
Portable and scalable dense solvers for large core counts.

- **Dense Linear Algebra Solvers**
  - Linear systems of equations
  - Linear least squares
  - Positive/Hermitian definitive solvers
- **Matrix spectrum methods**
  - Symmetric and non-symmetric eigenvalues
  - Generalized eigenvalue problems
  - Singular Value Decomposition
- **Data conversion and thread control**

MODERN SOFTWARE STACK

PLASMA

core BLAS | OpenMP

CBLAS | LAPACKE
(C)LAPACK
BLAS

double precision Cholesky factorization
Intel Xeon E5-2650 v3 (Haswell), 2.3GHz, 20 cores

OpenMP
MKL
QUARK

http://icl.utk.edu/plasma