SPARSE DAYS 2022

Sunday, June 19		
16:00	**SHUTTLE DEPARTURE FROM TOULOUSE**	
19:00	**WELCOME RECEPTION**	

Monday, June 20		
08:45	**OPENING SESSION**	
09:00	**SESSION 1**	**Sparse direct methods, combinatorics, graphs I**
09:00	John Conroy	Towards Two to Five Truths Revealed in Non-Negative Matrix Factorizations
09:20	John Gilbert	Bale: A discussion of aggregating communication for parallel programming
09:40	Tim Davis	SuiteSparse:GraphBLAS: parallel graph algorithms via sparse matrix computations over semirings
10:00	Luce Le Gorrec	Scalable Partitioning of Directed Graphs Using Graphlets
10:20	**COFFEE BREAK**	
11:00	**SESSION 2**	**High performance computing I, quantum computing**
11:00	Jack Dongarra	TBA
11:40	Jean-Baptiste Harry	NEC SX-Aurora TSUBASA vector architecture with high memory bandwidth for the linear algebra solvers
12:00	Bob Lucas	Beyond GPUs
12:20	Marc Baboulin	Optimizing quantum algorithms using matrix factorization
12:40	**LUNCH BREAK**	
14:00	**SESSION 3**	**Iterative and hybrid solvers**
14:00	Pierre Matalon	TBA
14:20	Yongseok Jang	Randomized GMRES with Singular Vectors Based Deflated Restarting
14:40	Christie Louis Alappat	RACE: Speeding Up Iterative Solvers Using Level-Based Blocking Techniques
15:00	Alexis Montoison	Krylov.jl: A Julia basket of hand-picked Krylov solvers
15:20	**COFFEE BREAK**	
16:00	**SESSION 4**	**Artificial intelligence, machine learning I**
16:00	Sherry Li	Autotuning sparse linear solvers and theirs applications with Gaussian process regression
16:20	Michela Taufer	AI4IO: a suite of AI-based tools for IO-aware HPC resource management
16:40	Michael Kirby	An Autoencoder Neural Network Architecture for Supervised Sparse Nonlinear Principal Component Analysis
17:00	Quentin Ferro	Neural Network Precision Tuning Using Stochastic Arithmetic
17:20	**POSTER SESSION**	
	Théo Beuzeville	Adversarial attacks via sequential quadratic programming
	Andrei Dumitrasc	Inexact inner-outer Golub-Kahan bidiagonalization method: a relaxation strategy
	Matthieu Gerest	Mixed precision block low-rank compression for the solution of sparse linear systems
	Sadok Jerad	Optimal second-order complexity without function evaluations
	Sophie Mauran	Introduction of kernel methods in data assimilation
	Roméo Molina	Adaptive Precision Sparse Matrix-Vector Product and its Application to Krylov Solvers
	Mathis Peyron	TBA
19:00	**GALA DINNER**	

Tuesday, June 21		
09:00	**SESSION 5**	**Sparse direct methods, combinatorics, graphs II**
09:00	Alex Pothen	TBA
09:20	Philip Knight	Scaling to semi-doubly stochastic form
09:40	Esmond Ng	Some observations regarding high-performance serial implementations of sparse symmetric factorization
10:00	Elisa Riccietti	Sparse matrix factorization from an optimization point of view
10:20	**COFFEE BREAK**	
11:00	**SESSION 6**	**High performance computing II**
11:00	Satoshi Matsuoka	TBA
11:40	Ewa Deelman	Living in a Heterogenous World: How scientific workflows bridge diverse cyberinfrastructure and what we can do better?
12:00	Dzenek Dostal	Unpreconditioned hybrid TFETI-DP methods for the solution of huge problems discretized by structured grids
12:20	Antoine Jego	Task-Based Parallel Programming for Scalable Algorithms
12:40	**LUNCH BREAK**	
14:00	**SESSION 7**	**Low rank approximation, variable precision, randomization I**
14:00	Laura Grigori	Randomization for solving linear systems and eigenvalue problems
14:20	Theo Mary	Adaptive Precision Solvers for Sparse and Data Sparse Systems
14:40	Edmond Chow	H2Pack: Software for H2 Hierarchical Matrices Using the Proxy Point Method
15:00	George Turkiyyah	High Performance Tile Low Rank Symmetric Factorizations using Adaptive Randomized Approximation
15:20	**COFFEE BREAK**	
16:00	**SESSION 8**	**Low rank approximation, variable precision, randomization II**
16:00	Esragul Korkmaz	Deciding Non-Compressible Blocks in Sparse Direct Solvers using Incomplete Factorization
16:20	Marek Felšöci	Direct solution of larger coupled sparse/dense FEM/BEM linear systems using low-rank compression
16:40	Bastien Vieublé	A mixed precision strategy for preconditioned GMRES
17:00	**SESSION 9**	**High performance computing III**
17:00	Joseph Touzet	A Large-Scale Distributed Simulation Framework for Irregular Quantum Dynamics
17:20	Somesh Singh	An Efficient Parallel Implementation of a Perfect Hashing Method for Hypergraphs
19:00	**FÊTE DE LA MUSIQUE**	

Wednesday, June 22		
09:00	**SESSION 10**	**Least squares problems and optimization I**
09:00	Jennifer Scott	Solving large linear least squares problems with equality constraints
09:20	Andy Wathen	Preconditioning for Normal Equations and Least Squares
09:40	Jemima Tabeart	Stein-based preconditioners for weak-constraint 4D-var
10:00	Nicolas Nadisic	Matrix-wise L0-constrained Sparse Nonnegative Least Squares
10:20	**COFFEE BREAK**	
11:00	**SESSION 11**	**Least squares problems and optimization II**
11:00	Alexandre Scotto Di Perrotolo	Towards efficient randomized limited memory preconditioners for variational data assimilation
11:20	Michal Kocvara	An interior-point method for Lasserre relaxations of unconstrained binary quadratic optimization problems
11:40	Mike Saunders	Algorithm NCL for constrained optimization
12:00	**CLOSING SESSION**	
12:15	**LUNCH BREAK**	
14:00	**SHUTTLE DEPARTURE FROM SAINT-GIRONS**	
16:00	**HPC seminar and panel discussion at ENSEEIHT, Toulouse**	