

Program CSE 2023

Monday, March 20, 2023

Registration and Coffee 10:00 – 11:20
Opening 11:20 – 11:30

Carmen Gräßle 11:30 – 12:30
Model order reduction for parametrized phase field problems

Lunch 12:30 – 14:00

Sabine Le Borne 14:00 – 14:30
A block Householder based QR decomposition using hierarchical matrices

Ikrom Akramov 14:30 – 15:00
Spectral deferred correction methods for second-order problems

Rebekka S. Beddig 15:00 – 15:30
A low-rank correction for relaxed Schur complement preconditioners

Fabian Bleitner 15:30 – 16:00
Navier slip boundary conditions for two dimensional Boussinesq equations

Coffee/Tea Break 16:00 – 16:30

Jörn Behrens 16:30 – 17:00
Developing digital twins for geohazards

Benedict Philippi 17:00 – 17:30
A micro-macro implementation of parareal for the ocean-circulation model FESOM2

Naveenkumar Parameswaran 17:30 – 18:00
Semi-supervised feature-based learning for prediction of mass accumulation rate of sediments

Dinner 19:30 –

Tuesday, March 21, 2023

Stefan Frei 09:00 – 10:00
Numerical methods for fluid-structure interactions with contact and multiple scales in time

Abdul Qadir Ibrahim 10:00 – 10:30
Machine learning parallel-in-time with a parallelized coarse method for the non-linear Black-Scholes equations

Coffee/Tea Break 10:30 – 11:00

Armin Iske 11:00 – 11:30
On the construction of non-standard kernels for approximation

Stephanie Blanke 11:30 – 12:00
Approaching realistic modeling assumptions for field-free line magnetic particle imaging

Peter Marvin Müller 12:00 – 12:30
A $W^{1,\infty}$ -steepest descent approach for fluid dynamic shape optimization using ADMM

Lunch 12:30 – 14:30

Maria-Theresia Pelz 14:30 - 15:00
A diffusion-based kernel density estimator for the exploration of marine biogeochemical data

Ping Lin 15:00 – 15:30
A fast front-tracking approach for a temporal multiscale flow problem with a fractional boundary growth

Jens Rademacher 15:30 - 16:00
Bifurcations with continuous non-smooth terms in fluid-related problems

Coffee/Tea Break 16:00 – 16:30

Ezra Rozier 16:30 - 17:00
An adaptive discontinuous Galerkin method for 2D unsteady convection-diffusion problems on moving meshes

Niko Schmidt 17:00 - 17:30
Different solvers for the β -Stokes equations

Utku Kaya 17:30 - 18:00
Analysis of a hybrid finite element/neural network solver

Dinner 19:00 –

Wednesday, March 22, 2023

Fleurianne Bertrand 09:00 – 10:00
Can one hear the properties of a coupled structure?

Thomas Slawig 10:00 – 10:30
Object-oriented concepts and design patterns in numerical simulation and optimal control

Coffee/Tea Break 10:30 – 11:00

Paul Stryck 11:00 – 11:30
Unsteady simulation based shape optimisation

Henrik Wyszka 11:30 – 12:00
Computing p-harmonic descent directions and their limits for shape optimization

Saskia Neuber 12:00 - 12:30
Mathematical foundation of graph-based 2D-3D registration

Lunch 12:30 – 14:00

Manuel Weiß 14:00 – 14:30
Geometry segmentation with total variation regularization

Simon Taylor 14:30 – 15:00
An optimized predator-prey model and MPA based fishing policy for the Baltic Sea

Dayron Chang Dominguez 15:00 – 15:30
Application of a multirate method to model the degradation of the iridium anode catalyst layer in a proton exchange membrane water electrolyzer

Coffee/Tea and Farewell 15:30 – 16:00