8th CSRC Conference

Numerical Methods for Fractional-Derivative Problems

8-11 July 2024

Each time slot: *40 minutes for the talk* *+ 5 minutes for questions and change of speakers*

All lectures are in Conference Room 1 (after entering CSRC, walk to the right)

Registration takes place outside Conference Room 1 on Monday 8 July 14:00–17:00 and Tuesday 9 July 08:00–08:30.

Chairpersons of sessions: Please check the list at the end of this Program to see if you are requested to act as Chairperson for any session. The conference organisers hope that the people on this list are willing to accept this responsibility. If you are unable to do so, please let the organisers know as soon as possible.

Tuesday 9 July	
08:30–08:35	*Opening of Conference*
08:35–09:20	**Lei Li**, Resolvent kernels and monotonicity-preserving discretizations of Volterra equations
09:20–10:05	**Hui Liang**, Analysis of direct piecewise polynomial collocation methods for the Bagley-Torvik equation
10:05–10:30	*Tea/Coffee Break*
10:30–11:15	**Wanrong Cao**, High-order numerical methods for the fractional Langevin equation via Wong-Zakai approximation and its extension
11:15–12:00	**Zhi Zhou**, Inverse problems for subdiffusion from observation at an unknown terminal time
12:00–13:45	*Lunch (CSRC Canteen, in basement)*
13:50–14:00	*Group photo*
14:00–14:45	**Seakwen Vong**, Numerical study on multi-singularity problems arising from time delay fractional equations
14:45–15:30	**Weiping Bu**, Finite element method for a generalized constant delay diffusion equation
15:30–16:00	*Tea/Coffee Break*
16:00–16:45	**Meng Li**, Finite element methods for nonlinear time-fractional parabolic equations with constant/distributed delay
16:45–17:30	**Hu Chen**, Grünwald-Letnikov scheme for a multi-term time fractional reaction-subdiffusion equation
17:45	*Dinner (CSRC Canteen, in basement)*

Wednesday 10 July	
09:15–10:00	**Dongfang Li**, An energy-stable and divergence-free variable-step L1 scheme for time-fractional Navier-Stokes equations
10:00–10:30	*Tea/Coffee Break*
10:30–11:15	**Xuan Zhao**, Energy dissipation and evolutions of the nonlocal Cahn-Hilliard model and space fractional variants using efficient variable-step BDF2 method
11:15–12:00	**Dongdong Hu**, Linearly implicit schemes preserve the maximum bound principle and energy dissipation for the time-fractional Allen-Cahn equation
12:00–14:00	*Lunch (CSRC Canteen, in basement)*
14:00–14:45	**Hongfei Fu**, A fast fractional block-centered finite difference method for two-sided space-fractional diffusion equations on general nonuniform grids
14:45–15:30	**Shuowan Wu**, Monotone discretization of integral fractional Laplacian on bounded Lipschitz domains: applications to the fractional obstacle problem
15:30–16:00	*Tea/Coffee Break*
16:00–16:45	**Minghua Chen**, Error analysis of a collocation method on graded meshes for a fractional Laplacian problem
16:45–17:30	**Xiangcheng Zheng**, Two methods addressing variable-exponent fractional initial and boundary value problems and Abel integral equation
17:45	*Dinner (CSRC Canteen, in basement)*

Thursday 11 July	
08:30–09:15	**Natalia Kopteva**, Error analysis for higher-order methods for subdiffusion equations on quasi-graded meshes
09:15–10:00	**Chaoyu Quan**, H^1-norm stability and convergence of an L2-type method on nonuniform meshes for subdiffusion equation
10:00–10:30	*Tea/Coffee Break*
10:30–11:15	**Fanhai Zeng**, Fast time-stepping discontinuous Galerkin method for the subdiffusion equation
11:15–12:00	**Dongling Wang**, Numerical Mittag-Leffler stability of initial steps correction schemes for sub-diffusion equations
12:00–12:10	*Closing of Conference*
12:10–13:00	*Lunch (CSRC Canteen, in basement)*

Chairpersons of sessions	
Tuesday 08:35–10:05	Xiangcheng Zheng
Tuesday 10:30–12:00	Weiping Bu
Tuesday 14:00–15:30	Meng Li
Tuesday 16:00–17:30	Seakwen Vong
Wednesday 08:30–10:00	Xuan Zhao
Wednesday 10:30–12:00	Chaoyu Quan
Wednesday 14:00–15:30	Minghua Chen
Wednesday 16:00–17:30	Hongfei Fu
Thursday 08:30–10:00	Fanhai Zeng
Thursday 10:30–12:00	Zhi Zhou