

International Conference on Computational Mathematics

-Advances in Computational PDEs

Chang Ki-Won international conference room (Yonsei-Samsung Library 7F), Yonsei University
July 11-13, 2012


 ICCM 2012

Program Schedule Day 1

July 11 (Wednesday)

Time	Program	Chair
09:00-09:20	Registration	
09:20-09:40	Opening Ceremony Changhoon Lee	
	Plenary Talk I	Eun-Jae Park
09:40-10:30	Jinchao Xu (Pennsylvania State University, USA) Stable discretizations and optimal solvers for complex fluids and MHD models	
10:30-10:40	Break	
	Invited Talk I	Xiaobing Feng
10:40-11:20	Eun-Jae Park (Yonsei University, Korea) Advances in mixed FEMs and DG methods	
11:20-12:00	Alberto Valli (University of Trento, Italy) Finite element computational cohomology and magnetostatics	
12:00-13:30	Lunch break	
	Invited Talk II	Alberto Valli
13:30-14:10	Youngmok Jeon (Ajou University, Korea) The hybridized numerical schemes for PDE's	
14:10-14:50	Xiu Ye (University of Arkansas, USA) An introduction of new finite element methods: weak Galerkin methods	
14:50-15:30	Yonghoon Kwon (POSTECH, Korea) Difference methods for option pricing under jump-diffusion models	
15:30-16:00	Coffee break	
	Invited Talk III	Youngmok Jeon
16:00-16:40	Sangdong Kim (Kyungpook National University, Korea) Error correction methods for initial value problems	
16:40-17:10	Chunjae Park (Konkuk University, Korea) Nonconforming linear divergence-free space on square grids	
17:10-17:40	Oleg Reichmann (EHT, Switzerland) Numerical option pricing beyond Lévy models	
17:40-18:00	Yunkyoung Hyon (National Institute for Mathematical Sciences, Korea) Energetic variational approach in complex fluids: maximum dissipation principle	

Program Schedule Day 2

July 12 (Thursday)		
Time	Program	Chair
	Plenary Talk II	Jeehyun Lee
09:00-9:50	Dongbin Xiu (Purdue University, USA & Yonsei University, Korea) Multi-dimensional polynomial interpolation on arbitrary nodes	
	Invited Talk IV	Jeehyun Lee
09:50-10:30	Dongwoo Sheen (Seoul National University, Korea) On higher-order compact finite difference schemes	
10:30-10:40	Break	
	Invited Talk V	Xiu Ye
10:40-11:20	Do Young Kwak (KAIST, Korea) Discontinuous bubble scheme for immersed finite element method	
11:20-12:00	Junping Wang (National Science Foundation, USA) Weak Galerkin finite element methods for partial differential equations	
12:00-13:30	Lunch break	
	Invited Talk VI	Jungping Wang
13:30-14:10	Ja Eun Ku (Oklahoma State University, USA) Error Estimates for least-squares finite element methods	
14:10-14:50	Xiaobing Feng (University of Tennessee, USA) Finite difference and discontinuous Galerkin methods for fully nonlinear PDEs	
14:50-15:30	Dong Liang (York University, Canada) Energy-conserved identities and energy-conserved S-FDTD schemes for Maxwell's equations	
15:30-16:00	Coffee break	
	Invited Talk VII	Ja Eun Ku
16:00-16:30	Dongho Kim (Yonsei University, Korea) Adaptive Raviart-Thomas mixed method for the Stokes problem	
16:30-17:00	Kwang-Yeon Kim (Kangwon National University, Korea) A posteriori error estimator for mixed finite element methods of linear elasticity	
17:00-17:30	Hyea Hyun Kim (Kyunghee University, Korea) A staggered discontinuous Galerkin method for the Stokes system	
17:30-18:00	Jeehyun Lee (Yonsei University, Korea) An optimization based domain decomposition method for PDEs	
18:30-20:00	Banquet (Allen Hall)	

Program Schedule Day 3

July 13 (Friday)		
Time	Program	Chair
	Plenary Talk III	Michael Hintermüller
09:00-9:50	Carsten Carstensen (Humboldt-University, Germany & Yonsei University, Korea) An advertisement for nonstandard finite element schemes	
	Invited Talk VIII	Michael Hintermüller
09:50-10:30	Jay Gopalakrishnan (Portland State University, USA) Best test spaces in Petrov-Galerkin methods and DPG methods	
10:30-10:40	Break	
	Invited Talk IX	Jay Gopalakrishnan
10:40-11:20	Eunok Jung (Konkuk University, Korea) Mathematical models of circulatory systems	
11:20-12:00	Gabriel Gatica (Universidad de Concepción, Chile) Analysis of new mixed finite element methods for a fluid-solid interaction problem in 3D	
12:00-13:30	Lunch break	
	Invited Talk X	Gabriel Gatica
13:30-14:00	Michelle Vallejos (University of the Philippines, Philippines) Multigrid methods for optimal control problems with control and state constraints	
14:00-14:30	Seungil Kim (Kyunghee University, Korea) Complete radiation boundary conditions for the Helmholtz equations: waveguides and corner domains	
14:30-15:00	Durkbin Cho (Dongguk University, Korea) Overlapping Schwarz preconditioners for isogeometric analysis	
15:00-15:30	Yoon Mo Jung (Yonsei University, Korea) Analysis and Blocking of Error Propagation in MREIT	
15:30-16:00	Coffee break	
	Invited Talk XI	Carsten Carstensen
16:00-16:40	Michael Hintermüller (Humboldt University, Germany) AFEM in PDE constrained optimization	
16:40-17:10	Jae-Hong Pyo (Kangwon National University, Korea) Error estimates for the second order semi-discrete stabilized Gauge-Uzawa method for the Navier-Stokes equations	
17:10-17:30	Hyung Jun Choi (Seoul National University, Korea) A finite element method for the incompressible Navier-Stokes equations on non-convex polygons	
17:30-18:00	Eunjung Lee (Yonsei University, Korea) Newton-FOSLL* for nonlinear partial differential equations	