

The International Conference on the Frontier of Computational and Applied Mathematics: Tony Chan's 60th Birthday Conference

Friday June 8, 2012

- 8:00–8:45 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:45–9:00 *Welcome and Opening Remarks*
- 9:00–9:40 **Stanley Osher** (University of California, Los Angeles (UCLA))
- 9:50–10:30 **Hongkai Zhao** (University of California, Irvine (UCI))
A fast solver for radiative transport equation with applications to optical imaging
- 10:30–11:00 *Break*
- 11:00–11:40 **Richard Tapia** (Rice University)
Shifted Inverse Iteration and Rayleigh Quotient Iteration as Newton's Method
- 11:50–12:30 **Russel Caflisch** (Institute for Pure and Applied Mathematics)
Fast and Accurate Simulation of Stochastic Differential Equations
- 12:30–2:00 *Lunch (on your own)*
- 2:00–2:40 **Leslie Greengard** (New York University)
Numerical methods for wave scattering in quasiperiodic and semi-infinite domains
- 2:50–3:30 **Chi-Wang Shu** (Brown University)
Maximum-principle-satisfying and positivity-preserving high order discontinuous Galerkin and finite volume schemes
- 3:30–4:00 *Break*
- 4:00–4:40 **Luminita Vese** (University of California, Los Angeles (UCLA))
Active contours without edges, Mumford-Shah segmentation, and some new results
- 4:50–6:15 *Poster Session and Wine Reception*
- 6:30–8:30 *Dinner Banquet to Honor Tony Chan at the Faculty Center*



Saturday June 9, 2012

- 8:00–9:00 *Breakfast (Hosted by IPAM)*
- 9:00–9:40 **Bjorn Engquist** (University of Texas at Austin)
Numerical multiscale methods: the communication problem
- 9:50–10:30 **Jason Cong** (University of California, Los Angeles (UCLA))
Advances in Analytical Circuit Placement
- 10:30–11:00 *Break*
- 11:00–11:40 **Nick Trefethen** (University of Oxford)
How Chebfun solves ODEs and eigenvalue problems
- 11:50–12:30 **Howard Elman** (University of Maryland)
Lyapunov Inverse Iteration for Identifying Hopf Bifurcations in Models of Incompressible Flow
- 12:30–2:00 *Lunch (on your own)*
- 2:00–2:40 **Charles Van Loan** (Cornell University)
Matrix Factorization Challenges Associated with Tensor and Tensor-like Computation
- 2:50–3:30 **Raymond Chan** (Chinese University of Hong Kong)
Tight-frame Approach for Image Processing
- 3:30–4:00 *Break/Cake Celebration*
- 4:00–4:40 **Andrea Bertozzi** (University of California, Los Angeles (UCLA))
Geometric methods in image processing and data fusion
- 4:50–6:00 *Panel Discussion: "The future of applied mathematics and scientific computing"?*

Sunday June 10, 2012

- 8:00–9:00 *Breakfast (Hosted by IPAM)*
- 9:00–9:40 **Randolph Bank** (University of California, San Diego (UCSD))
Some Algorithmic Aspects of hp-Adaptive Finite Elements
- 9:50–10:30 **Bill Coughran** (Sequoia Capital)
Computer science and applied math: big data
- 10:30–11:00 *Break*
- 11:00–11:40 **Jun Zou** (Chinese University of Hong Kong)
Some Recent Advances in Inverse Obstacle/Medium Scattering

