

Monday, April 28

08:00 – 08:45

REGISTRATION

MORNING SESSION:

Chair: Ron DeVore (Texas A&M University)

08:45 – 09:00

Mary Ann Rankin (Senior Vice President and Provost,
University of Maryland, College Park)
Welcoming Remarks

09:00 – 09:40

Tony Chan (Hong Kong University of Science and Technology)
[Image denoising using mean curvature of image surface](#)

09:45 – 10:25

Joel Smoller (University of Michigan)
[Existence of magnetic compressible fluid stars](#)

10:30 – 11:00

COFFEE BREAK

11:00 – 11:40

Peter Constantin (Princeton University)
[Lagrangian goodies: analyticity and uniqueness](#)

11:45 – 12:25

Shi Jin (University of Wisconsin-Madison)
[Semiclassical computational methods for quantum dynamics with band-crossing](#)

12:30 – 02:00

LUNCH BREAK

AFTERNOON SESSION:

Chair: Anne Gelb (Arizona State University)

02:00 – 02:40

Pierre Degond (Imperial College London)
[Interplay between kinetic theory and game theory](#)

02:45 – 03:25

Siddhartha Mishra (ETH Zürich)
[Entropy and efficient numerical schemes for conservation laws](#)

03:30 – 04:00

COFFEE BREAK

04:00 – 04:40

Blake Temple (University of California-Davis)
[A wave mechanism for the anomalous acceleration without dark energy](#)

05:00 – 06:00

RECEPTION (hosted by the conference)

Tuesday, April 29

MORNING SESSION:	Chair: Alina Chertock (North Carolina State University)
09:00 – 09:40	Thomas Hou (California Institute of Technology) Recent progress on the search of 3D Euler singularities
09:45 – 10:25	Albert Cohen (Université Pierre et Marie Curie) Estimating the n-width of solution manifolds of parametric PDE's
10:30 – 11:00	COFFEE BREAK
11:00 – 11:40	C. David Levermore (University of Maryland) Global Maxwellians over all space and their relation to conserved quantities of classical kinetic equations
11:45 – 12:25	Irene Gamba (The University of Texas at Austin) Convergence rates for the Boltzmann equation for Coulombic interactions to Landau equation: analysis and simulations
12:30 – 02:00	LUNCH (hosted by the conference)
AFTERNOON SESSION:	Chair: Dany Leviatan (Tel Aviv University)
02:00 – 02:40	Claude Bardos (Université Pierre et Marie Curie) Asymptotic behavior and scattering for solutions of the Boltzmann equation near global Maxwellian
02:45 – 03:25	Athanasios Tzavaras (University of Crete) The relative entropy method in hyperbolic and diffusive systems
03:30 – 04:00	COFFEE BREAK
04:00 – 04:40	Tao Tang (Hong Kong Baptist University) Hermite spectral methods and discrete least square projection with random evaluations

Wednesday, April 30

MORNING SESSION:

09:00 – 09:40

Chair: Doron Levy (University of Maryland)

Pierre-Louis Lions (Collège de France)

On mean field games

09:45 – 10:25

Andrew Majda (New York University)

[Applied math perspectives on stochastic climate models](#)

10:30 – 11:00

COFFEE BREAK

11:00 – 11:40

Alexandre Chorin (University of California-Berkeley)

[Computing with uncertainty](#)

11:45 – 12:25

Stanley Osher (University of California-Los Angeles)

[What sparsity and \$L^1\$ optimization can do for you](#)

12:30 – 02:00

LUNCH BREAK

FREE AFTERNOON

06:30 – 07:15

COCKTAIL (*)

07:15 – 10:00

CONFERENCE DINNER (*)

Peter Lax (New York University)

John von Neumann: The Early Years, The Years at Los Alamos
and the Road to Computing

[\(Video of Talk\)](#) [\(Text of Talk\)](#)

(*) [La Ferme](#), 7101 Brookville Road, Chevy Chase, MD

Thursday, May 1

MORNING SESSION:

Chair: Alexander Kurganov (Tulane University)

09:00 – 09:40

François Golse (Ecole Polytechnique-Paris)
[A derivation of models for spray flows](#)

09:45 – 10:25

Gui-Qiang Chen (University of Oxford)
[Multidimensional shock waves and free boundary problems](#)

10:30 – 11:00

COFFEE BREAK

11:00 – 11:40

Björn Engquist (The University of Texas at Austin)
[Wasserstein metric and Texas oil](#)

11:45 – 12:25

Jian-Guo Liu (Duke University)
[An analysis of merging-splitting group dynamics by Bernstein function theory](#)

12:30 – 02:00

LUNCH (hosted by the conference)

AFTERNOON SESSION:

Chair: Hailiang Liu (Iowa State University)

02:00 – 02:40

Pierre-Emmanuel Jabin (University of Maryland)
[Regularity estimates for transport equations through "dual norms"](#)

02:45 – 03:25

Saul Abarbanel (Tel-Aviv University)
[The role of pseudo-plane-waves in sound propagation in non-uniform media](#)

03:30 – 04:00

COFFEE BREAK

04:00 – 04:40

Edriss Titi (The Weizmann Institute and UC Irvine)
[Finite number of determining parameters for the Navier-Stokes equations with applications into feedback control and data assimilation](#)

Friday, May 2

MORNING SESSION:

Chair: Radu Balan (University of Maryland)

09:00 – 09:40

Endre Süli (University of Oxford)

[Existence of global weak solutions to Navier-Stokes-Fokker-Planck systems](#)

09:45 – 10:25

Helena Lopes (Universidade Federal do Rio de Janeiro)

[Boundary correctors and energy estimates for the boundary layer problem](#)

10:30 – 11:00

COFFEE BREAK

11:00 – 11:40

Chi-Wang Shu (Brown University)

[Positivity-preserving high order schemes for convection dominated equations](#)

11:45 – 12:25

José Carrillo (Imperial College London)

[Macroscopic and kinetic equations with repulsion-attraction mechanisms: a review](#)

12:30 – 01:00

CLOSING