

# PROGRAM SCHEDULE

Monday, May 15

8:00-8:45 a.m.	Registration + coffee and pastries Set Up Posters Poster session all day	GITC 3700 Lobby GITC 3720
8:45-9:00 a.m.	<b>Introductory Remarks</b> <b>Robert M. Miura</b> , Acting Chair Department of Mathematical Sciences	GITC 3730
	<b>Welcoming Address</b> <b>Fadi P. Deek</b> , Dean of the College of Science and Liberal Arts	GITC 3730
9:00-10:00 a.m.	<b>Plenary Lecture I</b> <b>Charles S. Peskin</b> , Courant Institute of Mathematical Sciences <i>Cardiac Mechanics and Electrophysiology by the Immersed Boundary Method</i>	GITC 3730
10:00-10:30 a.m.	Coffee Break	GITC 3700 Lobby

## MINISYMPOSIA I

	COMPLEX- AND BIO-FLUIDS GITC 3730	FREE SURFACE FLOW I: WAVES GITC 3710
10:30-11:00 a.m.	<b>L. Cummings</b> University of Nottingham <i>Fluid Flow Problems in Rotating Bioreactors</i>	<b>T. Akylas</b> Massachusetts Institute of Technology <i>On Gravity-Capillary Lumps and Related Problems</i>
11:00-11:30 a.m.	<b>O. Jensen</b> University of Nottingham <i>The Spreading and Stability of a Surfactant-Laden Drop on a Prewetted Substrate</i>	<b>D. Henderson</b> Penn State University <i>Stability, Instability, and Stability in Deep-Water Surface Waves</i>
11:30-12:00 noon	<b>D. Rumschitzki</b> City College of New York <i>A Model for Macromolecular Transport within Heart Valves</i>	<b>J-M. Vanden-Broeck</b> University of East Anglia <i>Gravity Capillary Waves on Electrified Fluid Sheets</i>
12:00-12:30 p.m.	<b>A. Bernoff</b> Harvey Mudd College <i>Domain Relaxation in Polymer Langmuir Layers</i>	<b>S-M. Sun</b> Virginia Tech <i>2D and 3D Surface Waves in Water with Surface Tension</i>

12:30-2:30 p.m.	Lunch and Poster Session	GITC 3700 Lobby GITC 3720
2:30-3:30 p.m.	<b>Plenary Lecture II</b> <b>T. Hou</b> , California Institute of Technology <i>The Interplay between Local Geometric Properties and the Global Regularity of the 3D Incompressible Euler Equations</i>	GITC 3730
3:30-4:00 p.m.	<b>Coffee Break</b>	GITC 3700 Lobby

<b>MINISYMPOSIA II</b>		
	<b>THIN FILMS AND THREADS</b> GITC 3730	<b>TURBULENCE AND GEOPHYSICAL FLUID DYNAMICS</b> GITC 3710
4:00-4:30 p.m.	<b>S. Howison</b> Oxford University <i>Fast Flows of Thin Layers</i>	<b>R. Ecke</b> Los Alamos National Laboratory <i>Experiments in Two-Dimensional Turbulence</i>
4:30-5:00 p.m.	<b>T. Witelski</b> Duke University <i>Coarsening Dynamics of Thin Fluid Films</i>	<b>K. Helfrich</b> Woods Hole Oceanographic Institution <i>The Effects of Rotation on Strongly Nonlinear Internal Waves</i>
5:00-5:30 p.m.	<b>J. Wylie</b> City University of Hong Kong <i>Thermal Instability in Drawing Viscous Threads</i>	<b>N. Balmforth</b> University of British Columbia <i>Instability in Flow through Elastic Conduits and Volcanic Tremor</i>
5:30-6:00 p.m.	<b>D. Gaver</b> Tulane University <i>The Importance of Surfactant Physicochemical Hydrodynamics in Pulmonary Atelectrauma</i>	<b>O. Buhler</b> Courant Institute of Mathematical Sciences <i>The Likely Shape of Large Waves</i>

6:00-9:00 p.m.	<b>Banquet</b>	Campus Center Atrium
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# PROGRAM SCHEDULE

Tuesday, May 16

8:00-8:45 a.m.	Coffee and pastries Poster session (half day)	GITC 3700 Lobby GITC 3720
9:00-10:00 a.m.	<b>Plenary Lecture III</b> <b>John Hinch</b> , Cambridge University <i>Collapse of a Column of Grains</i>	GITC 3730
10:00-10:30 a.m.	Coffee Break	GITC 3700 Lobby

## MINISYMPOSIA III

	FREE SURFACE FLOW II GITC 3730	REACTING FLOWS GITC 3710
10:30-11:00 a.m.	<b>J-L Thiffeault</b> Imperial College London <i>Chaotic Advection in Thin Films?</i>	<b>C.K. Law</b> Princeton University <i>Experimental Perspectives on the Formulation of Laminar Flame Theory</i>
11:00-11:30 a.m.	<b>D. Crowdy</b> Imperial College London <i>Cusps, Threads and Steady Pinchoff in Free Surface Stokes Flow</i>	<b>M. Short</b> University of Illinois at Urbana-Champaign <i>Detonation Stability and Structure: A New Formulation for Condensed Phase Explosives</i>
11:30-12:00 noon	<b>A. Fokas</b> Cambridge University <i>On a New Nonlocal Formulation of Water Waves</i>	<b>A. Zlatos</b> University of Wisconsin-Madison <i>Diffusion and Mixing in Fluid Flow</i>
12:00-12:30 p.m.	<b>P. Hall</b> Imperial College London <i>Braided Rivers and Stability Theory</i>	<b>J. Quirk</b> Los Alamos National Laboratory <i>Document Engineering and Computational Fluid Dynamics</i>

12:30-2:00 p.m.	Lunch and Poster Session Removal of posters	GITC 3700 Lobby GITC 3720
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2:00-3:00 p.m.

**Plenary Lecture IV**

GITC 3730

**G. Barenblatt**, University of California-Berkeley  
*Incomplete Similarity in Continuum Mechanics*

3:00-3:30 p.m.

Coffee Break

GITC 3700 Lobby

<b>MINISYMPOSIA IV</b>		
	<b>COMPUTATIONAL FLUID DYNAMICS</b> GITC 3730	<b>INSTABILITY AND MIXING</b> GITC 3710
3:30-4:00 p.m.	<b>A-K. Tornberg</b> Courant Institute of Mathematical Sciences <i>Fluid-Structure Interactions: Suspensions of Fibers and Beyond</i>	<b>J. Zhang</b> Courant Institute of Mathematical Sciences <i>Free Solid Boundaries in Thermal Convection</i>
4:00-4:30 p.m.	<b>J-G. Liu</b> University of Maryland <i>Stability and Convergence of Efficient Navier-Stokes Solvers via a Commutator Estimate</i>	<b>P. Milewski</b> University of Wisconsin <i>Stability, Breaking Waves, and Mixing in Stratified Flows</i>
4:30-5:00 p.m.	<b>W. Ren</b> Courant Institute of Mathematical Sciences <i>The Moving Contact Line Problem</i>	<b>N. Aubry</b> New Jersey Institute of Technology <i>Microfluidic Mixing in Channels of Simple Geometry</i>
5:00-5:30 p.m.	<b>J. Blawdziewicz</b> Yale University <i>Stepwise Drainage of Thin Liquid Films Stabilized by Colloidal Particles</i>	<b>H. Huang</b> York University <i>Moisture Transport and Diffusive Instability during Bread Baking</i>

End of conference