Modern Developments in Computational Fluid Dynamics and Computational Plasma Physics

Symposium to celebrate the 70th birthday of Prof. C. K. Chu

Department of Applied Physics and Applied Mathematics
Fu Foundation School of Engineering and Applied Science
Columbia University

Schapiro Center for Engineering and Physical Sciences Research
(C. P. Davis Auditorium)

Thursday, May 14, 1998

8:30 AM  Registration
9:00 AM  Welcome
          Michael Crow, Vice-Provost and
          Zvi Galil, Dean of the Fu Foundation School of Engineering and
          Applied Science

Session 1
(Chairman: Michael Mauel)

9:15 AM  Stephen H. Schneider
          "Incorporating uncertainty and surprise into integrated assessment
          of global change"

9:45 AM  Chjian Lim (Contributed)
          "Vortex dynamics on a sphere"

10:15 AM  Paul Garabedian
          "Mathematical Theory of Equilibrium and Stability for
          Stellerators"

10:45 AM  Break

11:00 AM  Wonchull Park
          "3D Simulations of Plasmas using Multilevel Physics Models"

11:30 AM  Kun Xu (Contributed)
          "Gas-Kinetic Scheme for Flow Equations"

12:00 AM  David Gottlieb
          "On the direct Fourier method for computer tomography"
12:30 - 1:30 PM Lunch

Session 2
(Chairman: Da Hsuan Feng)

1:30 PM       Bjorn Engquist
2:00 PM       Roy Gould
              "Non-Neutral Plasmas"
2:30 PM       Xiaolin Li (Contributed)
              "A Numerical Study of 3-D Fluid Interface Instabilities through
              Grid Based Front Tracking Method"
3:00 PM       Break
3:15 PM       Joseph Wright (Contributed)
              "Numerical Instability due to Varying Time Steps in Explicit Wave
              Propagation and Mechanics Calculations"
3:45 PM       Thomas Y. Hou
              "Numerical Study of Fluid Interfaces Using Boundary Integral
              Methods"
4:15 PM       Amitava Bhattacharjee
              "Finite-time Singularity in a Highly Symmetric Euler Flow"
4:45 PM       S. T. Yau

Gala Banquet

Thursday Evening, May 14
Peking Park 100 Park Ave. (40th Street) Phone: 212-725-5570

6:30 PM Reception
7:15 PM Dinner
Friday, May 15, 1998

Session 3

(Chairman: Duong Hong Phong)

9:00 AM    Heinz Otto Kreiss
"A numerical investigation of the interaction between the large and small scales of the two- and three-dimensional incompressible Navier-Stokes equations"

9:30 AM    Theodore Wu
"Nonlinear Water Waves"

10:00 AM   Grafton W H Hui
"A Unified Coordinate System for Computational Fluid Dynamics"

10:30 PM   Kunio Kuwahara
"Simulation of high-Reynolds-number flows by multi-directional finite-difference method"

11:00 AM   Break

11:15 AM   Stanley Osher
"Recent results on computing multiphase flow via the level set approach"

11:45 AM   C. K. Chu
"Practical Ways for Making Mathematical Waves"

12:15 AM   Symposium Close (Michael Mauel)