

GFD Newsletter 2008

Faculty of Walsh College



The 2008 GFD Photograph.

A Sketch of the Summer

The GFD Program in 2008 ran with a special theme, in view of the 50th anniversary of the beginning of the program. The first two weeks of Principal Lectures dealt with “Perspectives and Challenges” of the subject, and we commemorated by having ten different lecturers with a diversity of viewpoints and opinions. Though the lectures thereby took less of a pedagogical flavour, each afternoon we saw the fellows grill the lecturers in informal afternoon tutorials.

Also by way of celebration, the Oceanographic Institution threw a 50th anniversary Party in honour of the Program and the “Founding Fathers.” This was held on one of the lawns in front of Walsh Cottage on Friday, June 27th. We saw a variety of familiar faces, some from the very first years of the Program, others from more recent summers. George Veronis and Jack Whitehead read short pieces about the past fifty years, including the unveiling of the “2008 AGU Award for Excellence in Geophysical Education” awarded to the Program by the American Geophysical Union.

The party continued (less seriously) with a rendition of the “GFD Ballad”, entitled “What do we do with a

desperate fellow?” and sung to the tune of a popular song written about inebriated seafarers (including lines such as “Spin ’em around until they’re quasigeostrophical”, “shear them out ’til their levels go critical” and “Fix ’em up with some asymptotics”). Ray Pierrehumbert provided a musical background for the ballad and more by masterfully playing an accordion. The party was skillfully organized by Janet Fields and uniformly enjoyed by all.

The anniversary summer also coincided with a celebration in honour of Joe Pedlosky. In week eight, several past students, postdocs and collaborators of Joe gathered for a selection of talks held in Redfield Auditorium, and stayed around afterwards to enjoy the discussions on the porch at Walsh. Other novelties at the 2008 program included Bill Dewar’s delivery of a seminar at Walsh in full Scottish regalia, kilt and all. Last, and of course most importantly, we had an industrious group of fellows who rose to the challenge of the Program and contributed tremendously to the anniversary.

As always, WHOI Education provided the administrative backbone to the summer, and Walsh Cottage was perfectly unchanged in its intimacy and rustic atmosphere. Jeanne Fleming, Penny Foster and Janet Fields contributed importantly to the smooth running of the program.



The seminar room was packed tightly during the principal lectures.

Schedule of Principal Lectures

Week 1:

Monday, June 16:

Steve Childress (New York University),
Dynamo Theory and GFD

Tuesday, June 17:

Stephan Fauve (Ecole Normale Superior),
Dynamo Theory and Experiments

Wednesday, June 18:

Charlie Doering (University of Michigan),
Convection, Stability and Turbulence

Thursday, June 19:

Chris Garrett (University of Victoria),
Ocean Mixing and Tidal Power

Friday, June 20:

Kerry Emanuel (M. I. T.),
Waves and vortices driven by interfacial fluxes

Week 2:

Monday, June 21:

Raffaele Ferrari (M. I. T.),
The ocean energy cycle

Tuesday, June 22:

Ray Pierrehumbert (University of Chicago),
Climate Dynamics

Wednesday, June 23:

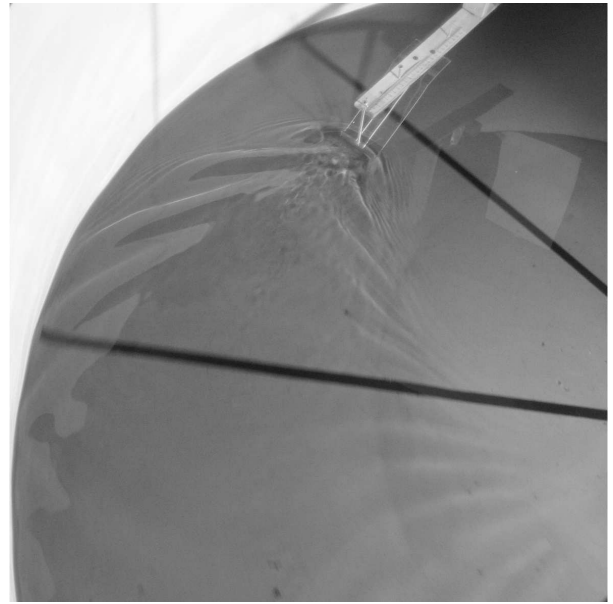
Herbert Huppert (University of Cambridge),
Geological Fluid Mechanics

Thursday, June 24:

John Marshall (M. I. T.),
GFD Experiments in Climate

Friday, June 25:

Timour Radko (Naval Postgraduate School),
Double Diffusion



Planing and skimming in the rotating tank – a snapshot from Ian Hewitt's summer experiments

Fellows' Reports

- Amrita Shrivastava (Oxford University)
Experiments on mixing induced by a horizontal disc
- Ian Hewitt (Oxford University)
Continual skipping - getting a kick from water
- Toby Wood (University of Cambridge)
(Huge) Problems with surface tension
- Chris Cawthorn
Close encounters of the viscous kind: first contact in a viscous fluid
- Sylvain Barbot (UCSD)
Models of volcanic tremor and singing icebergs
- Malte Jensen (MIT)
On the interaction of eddies with large-scale topography
- Yutian Wu (Columbia University)
Equilibria of diffusive moist static energy balance models
- Celine Guervilly (Universite de Grenoble)
Toy model of the solar radiative zone
- George Hagstrom (University of Texas)
Bounds on surface stress driven flows
- Christophe Gissinger (Ecole Normale)
Energy and dissipation in MHD systems



Scenes from the GFD 50th Party.



Musicians performing the GFD Ballad at the Party



The "founding fathers" at the GFD 50th Party



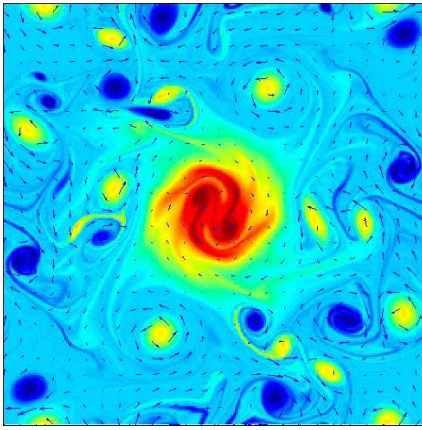
The fellows.

Softball Report

This year only one fellow, George Hagstrom, had any experience in softball, so it came as no surprise that we badly lost our first few games. But as in previous years, our performance improved quickly and before long we were competitive. We lost a heartbreaker to Facilities, scoring more than 20 runs in that game. And shortly afterwards, we actually did win 10 to 9, coming from behind in the last inning, against the Distributors; all but one of their runs were out-of-the-park home runs, reflecting our effective fielding. We had three French fellows this year, with Sylvain and Christophe wielding dangerous bats and Celine fielding as if she had played from childhood. Ian earned the left field position from the outset and Toby became a proficient center fielder. In the final game, George and Neil played on the fellows side and helped to pull off a 14 to 12 victory before we retired to Crooked Pond for some well-earned swimming and refreshments.



Herbert's gravity current demonstration



Eddies above a seamount, by Malte Jansen

The GFD Website

The summer's lectures notes and reports are available online at gfd.whoi.edu. The GFD website also contains:

- lecture and seminar schedules
- electronic versions of proceedings and newsletters
- lists of alumni and visitors
- application materials
- picture galleries
- useful information and links.

The Current GFD Faculty

Neil Balmforth *University of British Columbia*
 Oliver Buhler *New York University*
 Claudia Cenedese *W. H. O. I.*
 Eric Chassignet *University of Miami*
 Steve Childress *New York University*
 Charles Doering *University of Michigan*
 Glenn Flierl *M. I. T.*
 Karl Helfrich *W. H. O. I.*
 Lou Howard *M. I. T. and Florida State University*
 Joseph Keller *Stanford University*
 Norman Lebovitz *University of Chicago*
 Stefan Llewellyn Smith *U. C. S. D.*
 Willem Malkus *M. I. T.*
 Philip Morrison *University of Texas at Austin*
 Antonello Provenzale *ISAC-CNR, Torino*
 Edward Spiegel *Columbia University*
 Jean-Luc Thiffeault *University of Wisconsin*
 George Veronis *Yale University*
 John Wettlaufer *Yale University*
 Jack Whitehead *W. H. O. I.*
 William Young *Scripps Institution of Oceanography*

The Sears Public Lecture

In 2008 the Sears Public Lecture was delivered by Andy Ingersoll (Caltech) and entitled "Weather and Climates of Other Worlds: Lessons for Earth". Andy, a participant at the program for many years, described the insights that could be drawn regarding our own climate from observing those of the other planets in the solar system, observations made particularly clear and compelling by recent space missions. Over a hundred people gathered at Redfield for the lecture, many of whom paused afterwards to enjoy conversation and refreshment at the reception that followed.

Please send comments to njb@math.ubc.ca if you have any suggestions regarding this newsletter.

The GFD Program is funded by the National Science Foundation and the Office of Naval Research.

Contributions

The GFD program has an endowment fund which is administered by WHOI. Contributions by check (made payable to WHOI) can be mailed to

Woods Hole Oceanographic Institution
 GFD Fund, MS 40
 Woods Hole, MA 02543

Donations can also be made by credit card by calling the Development office at 508-289-4895.