

**Cvd LABORATORY PROJECTS IN
GEOPHYSICAL FLUID DYNAMICS LABORATORY**

Under the informal supervision of John A. Whitehead since 1972
Jointly with Karl R. Helfrich since 1987 and Claudia Cenedese since 2000

Investigator	Year	Topic of Study	Main Source of Support
Frank Richter	1972	Benard Convection	NSF GA-36132X
Barry Parsons	1972	Benard Convection	NSF GA-36132X
D. Fitzjarrald	1973	Two-Phase Convection	GFDSS
Ryuji Kimura	1973	Boundary Jet in Annulus	GFDSS
Laurence Armi	1974	β -plane Jets	GFDSS
Kenneth Brink	1974	β -plane Rectification	GFDSS
M. McCartney	1974	Inertial Taylor Column Map	DIRECT/WHOI Postdoc
Barry Parsons	1975	Convection with Shear	GFDSS
Angus McEwan	1975	Geostrophic Turbulence, Internal Waves	WHOI Rossby Fellow
Wm. Facinelli	1975	Geostrophic Adjustment	GFDSS
Kirk Hansen	1975	Planetary Vortices	GFDSS
Edmund Sambuco	1975	Wide Weir Critical Flow	DIRECT
Laura Garwin	1975	Double Diffusive Layer Formation	WHOI SSF
Toshio Yamagata	1975	Flows by Cylinder in β -plane	GFDSS
David Porter	1976	Axisymmetric Critical Flow	DIRECT and NSF OCE 75-2167
Alain Colin De-Verdiere	1976	Geostrophic Turbulence	ONR N00014-74-C-262
John Skilbeck	1976	Benard Convection	NSF-EAR 76-01767
Alan Faller	1977	Turbulent Ekman Layer	University of Maryland
Akira Masuda	1977	Taylor Columns	GFDSS
John Loder	1977	Grid-Stirring of Stratified Fluid	GFDSS
Ralph Keeling	1977	Double-Diffusion/ Geostrophic Adjustment	WHOI SSF
Melvin Stern	1978-9	Inertial-Rotational Instability	U.R.I.
Thomas Keffer	1979	Laboratory Chimneys	GFDSS
Bert Rudels	1979	Rotating Double Diffusion	GFDSS
Stewart Turner	1979	Layer Formation	GFDSS
T. Sugimoto	1979	Shelf Circulation	Japanese Government
Andrew Jessup	1979	Rotating River Plume	WHOI SSF
Neil Gershenfeld	1980	Selective Withdrawal	WHOI SSF
Ross Griffiths	1980	Inertial Adjustment	GFDSS
Paul Linden	1981	Inertial Adjustment	U. Cambridge and OCE 80-18322
Sartoru Honda	1981	Particle Dispersion by Convection	GFDSS/CAMS
Evan Fishbein	1981	Convection Roll-Roll Interaction	GFDSS
Bruce Long	1981	Spin-up with Canyon	GFDSS
Paul Mangelsdorf	1981	Lab Experiments – Physics Course	NSF Sr. Faculty Development Award
Lawrence Pratt	1982-3	Rotating Hydraulics	URI/ONR
Andrey Zatsepin	1983	Rotating Eddy Stability	GFDSS/U. Moscow
Sergey Voropaev	1983	Isolated Eddies	GFDSS/U. Moscow
Mathieu Mory	1983	Isolated Eddies	GFDSS
Ross Kerr	1985	Viscous Convection	WHOI Postdoc

TABLE 1 (Continued)

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Kevin Speer	1985	Differential heating of a rotating fluid	WHOI/MIT Joint Program
Wendy Smith	1986	Rotating double-diffusion	WHOI/MIT Joint Program
Karl Helfrich	1986	Baroclinic instability of hydrothermal plumes	WHOI Postdoc
Barry Klinger	1987	Current separation and eddies	WHOI/MIT Joint Program
Tom Battisti	1988	Baroclinic eddies	WHOI SSF
Andy Trivett	1989	Vent convection field	WHOI/MIT Joint Program
Andrew Woods	1990	Volcanic plumes	GFDSS
Chris Bradley	1990	Elastic waves	WHOI/MIT Joint Program
Tom Wagner	1990	Non-Newtonian fluids	WHOI/MIT Joint Program
Dave Bercovicci	1990	Non-Newtonian fluids	WHOI Postdoc
Gwyneth Hufford	1991	Hydrothermal plumes	WHOI SSF
Stan Hart	1991	Thermal conduits	Mellon Award
Eric Hauri	1991	Thermal conduits, rotating convection	Mellon Award
Kelsey Jordahl	1993	Reactive-diffusive cementation	WHOI/MIT Joint Program
Garrett Ito	1993	Cooling Wax Instability	WHOI/MIT Joint Program
Karen Borenas	1993	Separation of controlled flow	U. Goteborg/Sweden
Einat Aharonov	1993	Reactive-diffusive instability	WHOI/MIT Joint Program
Gwyneth Hufford	1994	Rotating convection	WHOI/MIT Joint Program
Richard Wardle	1995	Forced eddies	WHOI/MIT Joint Program
Melvin Stern and Eric Chassignet	1995	Coastal separation	GFDSS
Young Gyu Park	1994	Rotating Ocean convection	WHOI/MIT Joint Program
Kwok Lin Lee and Peter Kelemen	1995	Dissolution channels	WHOI/MIT Joint Program
Greg Lawson	1996	Doubly Driven Flow	WHOI SSF
Elinor Carter	1997	β -plane with topography	WHOI SSF
Onno Bokhove	1997	Rossby-shelfwave interaction	WHOI Postdoc
Jeff Parsons	1997	Coastal separation	GFDSS
Claudia Cenedese	1997	Peninsula separation	GFDSS
Mary Louise Timmermans	1997	Mixing driven convection	GFDSS
Sergei Bulgakov	1997	Differential heated circulation	NSF HMJ 97-24P25
Amy Shen	1998	Non-Newtonian fluid	GFDSS
Jon Wylie	1998	Index of refraction/porus flow	WHOI Postdoc
Franceso Paparella	1998	Double-diffusion	WHOI Postdoc
Panuda	1998	Dam break experiment	
Astri Kuassnass	1999	Shear planes of melt	WHOI/MIT Joint Program
Amy Draut	1999	β -plane circulation	WHOI/MIT Joint Program
Heather Deese	1999	Chaotic advection	WHOI/MIT Joint Program
Sergey Bulgakov	1999	Doubly-driven flow	NSF International
Melvin Stern	1999	PV intrusion	NSF OCE 97-26584 NSF OCE 98-10599
J. F. Medina	1999	Doubly-driven flow	NSF International

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A. M. Zatarain	1999	Doubly-driven flow	NSF International
Steve Lentz	2000	Buoyancy density current over a slope	NSF OCE 00-95059
Allan Faller	2001	“Rototillation”	Emeritus
Lianke te Raa	2001	Multiple state flows	GFDSS
John Marshall	2001	Baroclinic transport	MIT/NSF OCE 00-95427
Tommaso Ascarelli	2001	Gravity current down a slope	WHOI/SSF
Jesús Pineda	2001	Particle advection in gravity currents	NSF OCE 00-83976 NSF OCE 00-95059
Mitch Ohiwa	2002	Gravity current down a slope	WHOI/MIT Joint Program
Michael Braun	2002	Dissolution channeling in porous media	WHOI/MIT Joint Program
Judith Wells	2002	Localized boundary mixing	WHOI/MIT Joint Program
Louis Howard	2002	Wave work	GFDSS
Ulrike	2002	Multiple state flows	GFDSS
Riemenschneider			
Rich Kerswell and Neil Balmforth	2002	Sand dam break	GFDSS
Alan Faller	2002	Buoyancy study of Edgar Allan Poe’s descent into the maelstrom	Emeritus
Claudia Adduce	2002	Eddy collision with islands	NSF OCE 00-81756
Emily Van Ark	2002	Sheared plume tank project	WHOI/MIT Joint Program
Dave Sutherland	2002	Circumpolar current	NSF OCE 00-95427
Gianluca Cesarei	2003	Eddy collision with coastal current	NSF OCE 00-81756
Igino Ascarelli	2003	Flow through archipelago	Guest Student
Christopher Wolfe	2003	Buoyant current stability	GFDSS
Julia Mullarney	2003	Rotating gravity current in a channel	GFDSS
Andrew Thompson	2003	Instability in a stable setup	GFDSS
Shreyas Mandre	2003	Roll waves	GFDSS
Christina Kaba	2003	Solute-Crystal Instability	WHOI/MIT Joint Program
Marshall Ward	2004	Double Diffusion	GFDSS
Danielle Wain	2004	Plume Eddies	GFDSS
Claudia Adduce	2004	Dense Current Mixing	NSF
Bill Dewar/Rachel Bueno de Mesquita	2004	Seamount Rectification	NSF
Dan Carlson	2004	Europa Convection	WHOI Study Award
Peter Lamb	2004	Upstream Basin Circulation	WHOI/MIT Joint Program
Stephanie Waterman	2004	Beta Boat-Rectification	WHOI/MIT Joint Program
Ian Stevenson	2005	Turbulent Mixing in Stratified Fluids	WHOI SSF/Rice University
Neil Balmforth	2005	Elastic Buckling of a Surface	GFDSS
Andrew Belmont	2005	Membrane by a Gravity Current	
Benjamin Akers	2005	Hydraulic Flow through a Contraction	GFDSS
Aya Tanabe	2005	Flow Past Island Chains	GFDSS
Marshall Ward	2005	Density Diffusion Studies	
Caleb Mills	2005	Lava Channel Development	WHOI/MIT Joint Program
Peter Lamb	2005	Basin Flows	WHOI/MIT Joint Program
Wei Wang	2005	Turb. Mixing in Stratified Fluid	Republic of China
Valentina Dore	2005	Plume Interactions	GS: NSF OCE 03-50891
Michela	2005	Flow Through a Gap with	GS: NSF OCE 03-50891
DeDominicis		Topography	
Christie Woods	2005	Two Currents Interaction	WHOI/MIT Joint Program

Numerous students of the WHOI/MIT Joint Program do small projects

NOTE: GFDSS = Geophysical Fluid Dynamics Summer School at WHOI

WHOI SSF = WHOI Summer Student Fellow (WHOI Undergraduate Study Program)