

Gregory P. Chini

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Education

Ph.D.	Aerospace Engineering, Cornell University	Advisor Sidney Leibovich	1999
M.S.	Aerospace Engineering, Cornell University		1996
B.S.	Aerospace Engineering (w/Highest Distinction), The University of Virginia		1993

Professional

Assistant Professor of Mechanical Engineering, University of New Hampshire 1999-present
Research Theoretical & Computational Fluid Dynamics. Geophysical & Biological Flows.
Teaching Fluid Dynamics, Thermodynamics, Waves in Fluids, Viscous Flow.

Visiting Researcher Nottingham University, UK Spring 2001
Theoretical and computational studies of pulmonary fluid mechanics.

Graduate Research Assistant Cornell University, Ithaca, NY 1993-1999
Theoretical and computational studies of upper ocean (mixed-layer) fluid dynamics.

Visiting Researcher Naval Research Laboratory, Washington, D.C. Winter 1997
Remote sensing hydrodynamics.

Undergraduate Research Assistant The University of Virginia 1992-1993
Analytical investigation of thermally-induced vibrations of solar arrays.

Honors & Awards

- Nottingham University funding recipient (to support visiting research – 2000 GBP) 2001
- American Physical Society's Division of Fluid Dynamics (APS-DFD) Andreas Acrivos Best-Dissertation Award Nominee 2000
- UNH Faculty Development Grant (\$1000) 2000
- National Research Council (NRC) Postdoctoral Fellowship (did *not* accept this award) 1999
- National Defense Science and Engineering Graduate (NDSEG) Fellowship 1995–1998
- NASA Graduate Student Researchers Program Fellowship (did *not* accept this award) 1995
- Cornell University McMullen Fellowship 1993–1994
- The University of Virginia's Outstanding Student in Aerospace Engineering Award 1993
- Sigma Gamma Tau Aerospace Engineering Honor Society Member 1991
- Pi Tau Sigma Mechanical Engineering Honor Society Member 1991
- Barry Goldwater Scholarship Nominee 1991

Professional Organizations and Activities

Member APS, AGU, AIAA

Reviewer NSF proposals, technical papers for Springer–Verlag Proceedings

Publications

1. Resonant Langmuir cell–internal wave interaction. Part 1. Internal wave reflection (with S. Leibovich), submitted to the *Journal of Fluid Mechanics*.
2. Resonant Langmuir cell–internal wave interaction. Part 2. Langmuir cell instability (with S. Leibovich), submitted to the *Journal of Fluid Mechanics*.
3. On the use of the ‘Klemp & Durran’ internal-wave radiation boundary condition in numerical simulations of dissipative systems (with S. Leibovich), submitted to the *Journal of Physical Oceanography*.
4. *Resonant Interaction of Large-Scale Langmuir Circulation and Thermoclinic Internal Waves*. PhD Thesis, Cornell University, 1999.
5. Langmuir circulation dynamics above a deformable thermocline (with S. Leibovich), *Johns Hopkins Conference in Environmental Fluid Mechanics*, 56-57, 1998.
6. Thermally-induced vibrations of a self-shadowed split-blanket solar array (with E. A. Thornton and D. W. Gulick), *Journal of Spacecraft and Rockets*, 32: 302-311, 1995.

Presentations

1. 54th Annual Meeting of The American Physical Society’s Division of Fluid Dynamics, San Diego, CA November 2001. ‘The effect of surface-wave induced vortex forces on internal wave propagation and Ekman pumping’
2. Invited Lecture to the Theoretical Mechanics Division of Nottingham University’s School of Mathematical Sciences, Nottingham, UK, May 2001. ‘Resonant Langmuir cell–internal wave interaction’
3. ICTAM 2000, 20th International Congress of Theoretical and Applied Mechanics, Chicago, IL, September 2000. ‘Nonlinear Langmuir circulation–internal wave interactions’
4. 52nd Annual Meeting of The American Physical Society’s Division of Fluid Dynamics, New Orleans, LA, November 1999. ‘Dynamics of resonantly-interacting Langmuir cells and thermoclinic internal waves’
5. Invited Lecture to the Physical Acoustics Branch of the Naval Research Laboratory, Washington, D.C., March 1999. ‘Resonant interaction of large-scale Langmuir circulation and thermoclinic internal waves’
6. 51st Annual Meeting of The American Physical Society’s Division of Fluid Dynamics, Philadelphia, PA, November 1998. ‘Resonant interaction of near-critical Langmuir cells and thermoclinic internal waves’

7. American Geophysical Union/American Society of Limnology and Oceanography's Ocean Science Meeting, San Diego, CA, February 1998. 'Langmuir circulation dynamics above a deformable thermocline (linear theory)'
8. 50th Annual Meeting of The American Physical Society's Division of Fluid Dynamics, San Francisco, CA, November 1997. 'A consistent set of lower boundary conditions for ocean mixed layer computations'
9. Invited Lecture to the Remote Sensing Hydrodynamics Branch of the Naval Research Laboratory, Washington, D.C., March 1997. 'Reconstruction of mixed-layer profiles from Langmuir circulation surface signatures'