

Ben R. Hodges, Ph.D.

Associate Professor
Environmental and Water Resources Engineering
Department of Civil, Architectural & Environmental Engineering
University of Texas at Austin
<http://www/ce.utexas.edu/prof/hodges>

RESEARCH INTERESTS

Environmental fluid mechanics and hydraulics.
Improving numerical algorithms for Computational Fluid Dynamics (CFD) in natural systems.
Coupled field and model investigations of hydrodynamics in lakes, rivers and estuaries.
Relationships between river hydraulics and instream flow for aquatic habitat.
Linkages between water quality and hydrodynamics in natural systems.

TEACHING EXPERIENCE

2006 – present Field Methods and Data Analysis in Environmental Fluid Mechanics (graduate).
2000 – present Elementary Fluid Mechanics, with laboratory (undergraduate).
2000 – present Hydraulic Engineering, with laboratory (undergraduate).
2001 – present Graduate: Environmental Fluid Mechanics (graduate).
2006 – Field Instrumentation and Data Analysis in Environmental Fluid Mechanics (graduate)

EDUCATION

Ph.D. 1997 Stanford University, Civil Engineering.
M.S. 1991 The George Washington University, Mechanical Engineering (Design), 1991.
B.S. 1984 U.S. Merchant Marine Academy, Marine Engineering and Nautical Science
(with highest honors).

ACADEMIC APPOINTMENTS

Associate Professor (Sept. 2006 - present) Department of Civil, Architectural & Environmental Engineering, University of Texas at Austin, Austin, Texas.
Assistant Professor (Aug. 2000 – Aug 2006), Department of Civil, Architectural & Environmental Engineering, University of Texas at Austin, Austin, Texas.
Post-doctoral Fellow (Mar. 1997 – Aug. 2000). Centre for Water Research, University of Western Australia (Advisor: Jörg Imberger, Stockholm Water Prize Laureate).
Research Assistant (Sept. 1991 – Mar. 1997), Department of Civil & Environmental Engineering, Stanford University (Advisor: Robert L. Street, NAE).

OTHER PROFESSIONAL EXPERIENCE

- 2006 Consulting: Texas Water Development Board, Development of vertical mixing model.
- 2006 Consulting: Doucet & Associates, Inc., Short course on sanitary and storm sewer lift station design.
- 2005 Consulting: USGS Review Panel for Salton Sea Modeling.
- 2002 Consulting: Texas Water Development Board, Analysis of hydraulic modeling for instream flow requirements.
- 2001 – 2002 Consulting: City of Austin, expert witness in *Ethel Spiller et al. V. Robert M. Walker et al.* Civil Action No. A 98 CA 255 SS, United States District Court. Review of *Environmental Assessment for Longhorn Pipeline*.
- 1986 – 1991 Senior Engineer, national defense contracting: M. Rosenblatt & Sons, Technology Applications Inc., Frontier Engineering Inc., Washington D.C.
- 1985 – 1986 Instrument Systems Engineer, Applied Industrial Controls, Sparks, NV.
- 1984 – 1985 Marine Engineer, offshore oil exploration platform, South China Sea, Sedco Inc.

HONORS AND AWARDS

Individual

- 2001 *Young Investigator Program Award*, Office of Naval Research.
- 1984 *Admiral Emory S. Land Medal* for excellence in naval architecture.
- 1984 *Pi Sigma Phi Award*, Propeller Club, for research scholarship, character and scholastic achievement in the areas of shipping, marine transportation, economics and foreign trade.
- 1984 *NSDAC Award* for outstanding academic achievement in the Marine Engineering./Nautical Science combined major.

For supervised graduate students

- 2005 Outstanding Poster Presentation, Graduate and Industry Networking Conference, University of Texas at Austin, Ms. Shipeng Fu.
- 2004 National Science Foundation Graduate Fellowship, Ms. Paula Kulis
- 2003 University Fellowship, Mr. Jordan Furnans.
- 2003 2nd Place Paper, Student University Forum, Texas Water Conference, Ms. Bridget Wadzuk.
- 2003 University Fellowship, Ms. Paula Kulis
- 2002 Fulbright Research Fellowship, Mr. Jordan Furnans, completed at the Centre for Water Research, University of Western Australia.
- 2000 Endowed Presidential Scholarship, Civil Engineering, Ms. Bridget Wadzuk.

PROFESSIONAL CONTRIBUTIONS

Editorial service

Associate Editor, *Journal of Hydraulic Engineering* – May 2003 to present.

National Committee Service

National Science Foundation, Earth Sciences – Hydrology proposal review panel, Sept. 2006.

Member, Fluids Committee, ASCE Engineering Mechanics Division, 2002 to present.

Chair, Student Paper Awards sub-committee, ASCE Engineering Mechanics Division, 2005.

Member, Student Paper Awards sub-committee, ASCE Engineering Mechanics Division, 2003 to 2004.

Organizer and chair for conference sessions:

Free-Surface Flows 15th U.S. National Congress of Theoretical and Applied Mechanics, Boulder, Colorado, June 25-30, 2006.

Fate and Transport of Nutrients and Contaminants, ASLO Aquatic Sciences meeting, Salt Lake City, February, 2005.

Free-Surface Flows, ASCE Mechanics and Materials Conference, Baton Rouge Louisiana, June 1-3, 2005.

Fluid Mechanics of Lakes and Reservoirs, 17th ASCE Engineering Mechanics Conference, Newark, Delaware, June 13-16, 2004.

Professional affiliations

ASCE – American Society of Civil Engineers

ASEE – American Society of Engineering Education

AGU – American Geophysical Union

ASLO – American Society of Limnology and Oceanography

ERF – Estuarine Research Federation

IAHR – International Association of Hydraulic Engineering and Research

TBII – Tau Beta Pi (national engineering honor society)

TRRMS – Texas River & Reservoir Management Society

Peer reviewer for journals (2000-2006)

Advances in Environmental Research

Hydrological Processes

Hydrobiologia

Journal of the American Water Resources Association

Journal of Atmospheric and Oceanic Technology

Journal of Engineering Mathematics

Journal of Engineering Mechanics

Journal of Environmental Engineering

Journal of Fluid Mechanics

Journal of Geophysical Research

PROFESSIONAL CONTRIBUTIONS (CONTINUED)

Peer reviewer for journals (2000-2006), continued

Journal of Hydraulic Engineering
Journal of Hydraulic Research
Journal of Physical Oceanography
Lakes & Reservoirs, Research and Management
Limnology and Oceanography
Water Resources Research

Miscellaneous peer review service

Pre-publication peer review of *Environmental Fluid Mechanics*, ASCE Press.
National Science Foundation proposal outside peer review (multiple).
National Institute of Water Resources proposal peer review (multiple).

Community service and outreach

Faculty collaborator for NSF-sponsored Research Experiences for Undergraduates through UT Environmental Science Institute, 2006.
Member, Board of Advisors, Underwater Admiralty Services, Inc., 501(c)3 registered non-profit corporation, 2003 to present.
Host for Tau Beta Pi undergraduate student fireside chat, 2004, 2005.
Chi Omega Professor Dinner, 2005.
Hydraulic flume demonstrations for "Explore UT" open house outreach to the community, 2002-2006.
Faculty mentor for freshman engineering students, Engineering Fall Gathering 2001-2002.

Workshop participation

"Texas Fluvial Environment Workshop," Texas Water Development Board, February 22, 2006.
"Introduction to Indicators of Hydrologic Alteration (IHA) Program," Texas State University, San Marcos, Nov 2, 2005.
"Flows for the Future: 2005 Environmental Flows Conference," The River Systems Institute, Texas State University, San Marcos, Oct. 31-Nov 1, 2005
"Coastal Ocean Circulation," Gordon Research Conference, Colby-Sawyer College, New Hampshire, June 5-10, 2005.
"Water Quality Modeling," ASCE, Austin, Texas, May 27-28, 2005.
"Academic Panel on Water Research in Texas," State Capitol, Austin, Texas, Nov. 17, 2004.
"Riparian Ecology and Functions," Texas Riparian Association, Texas Tech. University, Junction, Texas, Oct. 1-3, 2004.
"Workshop on Desalination in Texas," Texas Water Development Board, Austin, Texas, March 25, 2004.
"Workshop on Instream Flow Studies," Texas River & Reservoir Management Society, Texas A&M, College Station, Texas, Feb. 10, 2004.
"Coastal Ocean Modeling," Gordon Research Conference, Colby-Sawyer College, New Hampshire, July 2003.

PROFESSIONAL CONTRIBUTIONS (CONTINUED)

Workshop participation (continued)

- “Engineering Engineering Education,” Bucknell University (NSF-sponsored), 2002.
- “Colorado River Environmental Models Technical Scoping Session,” Lower Colorado River Authority, Austin, Texas, Sept. 29, 2001.
- “Advances in Numerical Grid Generation,” Center for Computational Field Simulation, Mississippi State University, April 1996.
- “Surface and subsea blow-out preventer qualification,” Sedco, Inc. Dallas, Texas; May 1985.
- “Stability and trim for semi-submersible oil drilling vessels,” Sedco, Inc. Dallas, Texas; December 1984.

UNIVERSITY OF TEXAS SERVICE

- Organized upgrade of hydraulics teaching lab with new \$100K flume (installed Dec., 2005).
- Member, Future Excellence of CAEE committee, Department of CAEE, 2006-present.
- Member, Curriculum Committee, Department of CAEE, 2002-present.
- Member, Computer Committee, Department of Civil Engineering, 2000-2005.
- Chair, ABET Program Objective 3 sub-committee, Department of CAEE, 2002-2003.
- Member, Scholastic Appeals Committee, College of Engineering, 2001-2002.
- Member, Graduate Admissions Committee, Environmental and Water Resources Engineering, 2000-present.
- Member, Distinguished Lecture Committee, Department of Civil Engineering, 2002-2005.
- Member, Integrated Watershed Sciences Working Group, Environmental Sciences Institute, 2003-present.

GRADUATE STUDENT DISSERTATIONS AND THESES

Doctoral dissertations supervised (completed)

- Jordan Furnans, PhD. (University of Texas, Dec. 2005). *Drifter Modeling and Error Assessment in Wind Driven Currents*. Present position: Hydrologic scientist with Texas Water Development Board.
- Bridget Wadzuk, PhD. (University of Texas, Dec. 2004) *Hydrostatic and Non-hydrostatic Internal Wave Models*. Present position: Asst. Professor at Villanova University.
- Bernard Laval, PhD. (University of Western Australia, 2002), co-supervised with Jörg Imberger, UWA. *Modelling Transport in Lakes and Estuaries*. Present position: Asst. Professor at University of British Columbia.

Doctoral dissertations in progress

- Shipeng Fu (started Sept. 2003; admitted to candidacy), topic: Subgrid-scale modeling for heterogeneous flow fields in coarsely-resolved models.
- Paula Kulis (started June 2005; admitted to candidacy), topic: Gravity-current induced stratification and wind-mixing in shallow embayments.

GRADUATE STUDENT DISSERTATIONS AND THESES (CONTINUED)

Doctoral dissertations in progress (continued)

Dharhas Pothina (started Aug. 2005; admitted to candidacy), topic: Modeling ship channels in a shallow embayment.

Master's theses supervised (completed)

Cedric David, (May 2006), *Deploying a microstructure profiler in Corpus Christi Bay.*

Laurent White (Dec. 2003), *River Bathymetry Analysis in the Presence of Submerged Large Woody Debris.*

Sarah Kelly Delavan (Aug. 2003), *Accumulation of Numerical Errors in Hydrostatic Models of Internal Waves.*

Jordan Furnans, (Dec. 2001), co-supervisor D. Maidment, *Integrated Geospatial Database for Total Maximum Daily Load Modeling of Lavaca Bay - Matagorda Bay Coastal Area.*

Master's degree supervised with departmental report (completed)

Paula Kulis (May 2005), *Modeling Approaches Reflecting the Interfacial Physics of Gravity Currents.*

Bridget Wadzuk (May 2002), *Evolution of Internal Waves in Hydrostatic Models: A Study of Dynamic Pressure.*

Master's theses (in progress)

Timothy Osting, topic: Hydraulic modeling for instream flow habitat analysis.

Subsequent employment of supervised graduate students

Jordan Furnans (Ph.D. 2005) – Hydrologic Scientist, Texas Water Development Board, Fall 2004.

Bridget Wadzuk (Ph.D. 2004) – Asst. Professor, Villanova University, Spring 2005.

Bernard Laval (Ph.D. 2002) – Asst. Professor, University of British Columbia, 2002.

Laurent White, (MS, 2003) – PhD student at Université catholique de Louvain, Belgium, 2004.

Sarah Kelly Delavan (MS. 2003) – Lecturer, Morrison Institute of Technology, Morrison, Illinois, 2004.

SPONSORED RESEARCH PROJECTS

- *An Environmental Information System for Hypoxia in Corpus Christi Bay: A WATERS Network Testbed*
National Science Foundation, 2006-2008 (\$135,682 - in collaboration with D. Maidment and P. Montagna).
- *Desalination Brine Discharge Model,*
Texas Water Development Board, 2005-2006 (\$50,000 - single investigator).
- *Fate of Desalination Brine in Texas Coastal Bays and Estuaries,*
Texas Advanced Technology Program, 2004-2006 (\$60,000 - single investigator).

SPONSORED RESEARCH PROJECTS (CONTINUED)

- *Hydrodynamic Modeling in Rivers with Submerged Large Woody Debris*,
Texas Water Development Board, 2003-2004 (\$25,000 - single investigator).
- *Identification of Woody Debris in Bathymetry Data Using Spectral Analysis*,
Texas Water Development Board, 2002-2003 (\$25,000 - single investigator).
- *Higher-Order Statistics in Transport and Evolution of Algae Blooms*,
Texas Water Resources Institute, 2002-2003 (\$5000 - single investigator).
- *Evolution of Internal Waves in Hydrostatic Models*,
Young Investigator Program Award, Office of Naval Research, 2001-2004 (\$342,771 - single investigator).
- *Transport Processes in the Highland Lakes of Central Texas*,
Research Grant, Office of the Vice President for Research, University of Texas, 2000-2001 (\$5796 - single investigator).
Summer Research Assignment, Office of the Vice President and Dean of Graduate Studies,
University of Texas, 2001 (\$18,738 - single investigator).

ARCHIVAL JOURNAL PUBLICATIONS (REFEREED)

Student co-author names are underlined below.

Submitted

18. Botelho, D., J. Imberger, C. Dallimore, and **B.R. Hodges** (2006), "A grid-switching strategy for computing high-frequency, high wave number motions embedded in geophysical flows," submitted to *International Journal for Numerical Methods in Fluids* (Sept., 2006).
17. **Hodges, B.R.** and F.J. Rueda (2006), "Linear Accuracy and Stability of Semi-Implicit Two-Level Predictor-Corrector Methods for Hydrostatic Barotropic/Baroclinic Flows," submitted to *International Journal of Numerical Methods in Fluids* (August, 2006).
16. Furnans, J.E., J. Imberger and **B.R. Hodges** (2006), "Including drag and inertia in drifter modeling," submitted to *Ocean Modelling*, (August, 2006).
15. Wadzuk, B.M., and **B.R. Hodges** (2006), "Hydrostatic and non-hydrostatic modeling of internal waves," submitted to *Journal of Engineering Mechanics*, (March, 2006).

In press

14. Rueda, F.J., E. Sanmiguel-Rojas, and **B.R. Hodges** (2006), "Baroclinic stability for a family of two-level, semi-implicit numerical methods for the 3D shallow water equations," *International Journal of Numerical Methods in Fluids* (in press, Sept., 2006).

ARCHIVAL JOURNAL PUBLICATIONS (REFEREED) - CONTINUED

In print

13. **Hodges, B.R.**, B. Laval, and B.M. Wadzuk (2006), "Numerical error assessment and a temporal horizon for internal waves in a hydrostatic model," *Ocean Modelling*, **13**(1):44-64.
doi:10.1016/j.ocemod.2005.09.005.
12. White, L., **B.R. Hodges**, B. Austin, and T. Osting (2006), "Identification of submerged large woody debris from single-beam echo soundings," *Journal of Hydroinformatics*, **8**(1):1-12.
11. White, L. and **B.R. Hodges** (2005), "Filtering the signature of submerged large woody debris from bathymetry data," *Journal of Hydrology*, **309**(1-4):53-65.
10. Merwade, V.M., D.R. Maidment and **B.R. Hodges** (2005), "Geospatial representation of river channels," *Journal of Hydrologic Engineering*, **10**(3):243-251.
9. Dallimore, C.J., J. Imberger and **B.R. Hodges** (2004), "Modeling a plunging underflow," *Journal of Hydraulic Engineering*, **130**(11):1068-1076.
8. **Hodges, B.R.** (2004), "Accuracy order of Crank-Nicolson discretization for hydrostatic free surface flow," *Journal of Engineering Mechanics*, **130**(8):904-910.
7. Dallimore, C., **B.R. Hodges**, J. Imberger (2003), "Coupling an underflow model to a 3D hydrodynamic model," *Journal of Hydraulic Engineering*, **129**(10):748-757.
6. Laval, B., **B.R. Hodges** and J. Imberger (2003a), "Reducing numerical diffusion effects with pycnocline filter" *Journal of Hydraulic Engineering*, **129**(3):215-224.
5. Laval, B., J. Imberger, **B.R. Hodges**, R. Stocker (2003b), "Modeling circulation in lakes: spatial and temporal variations," *Limnology and Oceanography*, **48**(3):983-994.
4. Chan, T.U., D.P. Hamilton, B.J. Robson, **B.R. Hodges**, and C. Dallimore (2002), "Impacts of hydrological change on phytoplankton succession in the Swan River, Western Australia," *Estuaries*, **25**(6B):1406-1415.
3. **Hodges, B.R.** and J. Imberger (2001), "Simple curvilinear method for numerical methods of open channels," *Journal of Hydraulic Engineering*, **127**(11):949-958.
2. **Hodges, B.R.**, J. Imberger, A. Saggio and K. Winters (2000), "Modeling basin-scale internal waves in a stratified lake," *Limnology and Oceanography*, **45**(7):1603-1620.
1. **Hodges, B.R.** and R.L. Street (1999), "On simulation of turbulent nonlinear free-surface flows," *Journal of Computational Physics*, **151**(2):425-457.

CONFERENCE PAPERS (REFEREED)

Student co-author names are underlined below.

17. Fu, S. and **B.R. Hodges** (2005a), "Grid-scale dependency of subgrid-scale structure effects in hydraulic models of rivers and streams," Mechanics and Materials Conference (McMat 2005), June 1-3, 2005, Louisiana State University, Baton Rouge, Electronic Proceedings (CD-ROM), 5 pgs.
16. Kulis, P.S. and **B.R. Hodges** (2005), "Improved techniques for gravity current modeling," Mechanics and Materials Conference (McMat 2005), June 1-3, 2005, Louisiana State University, Baton Rouge, Electronic Proceedings (CD-ROM), 4 pgs.

CONFERENCE PAPERS (REFEREED) - CONTINUED

15. Fu, S. and **B.R. Hodges** (2005b), "A hybrid RANS and LES model for studying the flow around large woody debris in a river," Graduate and Industry Networking Engineering Student Research Conference, University of Texas at Austin, April 28, 2005, 4 pgs.
14. **Hodges, B.R.** and S. K. Delavan (2004), "Numerical diffusion and dissipation in hydrostatic models in internal waves," 17th ASCE Engineering Mechanics Conference, June 13-16, 2004, University of Delaware, Newark, Electronic Proceedings (CD-ROM), 7 pgs.
13. Wadzuk, B.M. and **B.R. Hodges** (2004), "Isolation of hydrostatic regions within a basin," 17th ASCE Engineering Mechanics Conference, June 13-16, 2004, University of Delaware, Newark, Electronic Proceedings (CD-ROM), 6 pgs.
12. Furnans, J.E., **B.R. Hodges** and J. Imberger (2004), "Lake Kinneret surface circulation with particle tracking," 17th ASCE Engineering Mechanics Conference, June 13-16, 2004, University of Delaware, Newark, Electronic Proceedings (CD-ROM), 5 pgs.
11. **Hodges, B.R.** (2003), "A second-order correction for semi-implicit shallow water methods," 16th ASCE Engineering Mechanics Conference, July 16-18 2003, University of Washington, Seattle, Electronic Proceedings (CD-ROM), 4 pgs.
10. Wadzuk, B.M. and **B.R. Hodges** (2003a), "Comparing hydrostatic and nonhydrostatic Navier-Stokes models of internal waves," 16th ASCE Engineering Mechanics Conference, July 16-18 2003, University of Washington, Seattle, Electronic Proceedings (CD-ROM), 4 pgs.
9. Wadzuk, B.M. and **B.R. Hodges** (2003b), "The Limitation of the Hydrostatic Approximation for Nonlinear Internal Waves." Proceedings of Texas Water, April 1-4, 2003, Corpus Christi, TX, 3 pgs.
8. Wadzuk, B.M. and **B.R. Hodges** (2001), "Model bathymetry for sinuous, dendritic reservoirs," *6th Workshop on Physical Processes in Natural Waters*, University of Girona, Catalonia-Spain, 27-29 June 2001, pp. 205-209.
7. Hamilton, D.P., T.U. Chan, B.J. Robson and **B.R. Hodges** (2000), "The effects of freshwater flows and salinity on phytoplankton biomass and composition in an urban estuary, the Swan River, Western Australia," in *Proceedings, 3rd International Hydrology and Water Resources Symposium*, Nov. 2000, Vol 1, pp. 114-119.
6. **Hodges, B.R.** (2000), "Recirculation and equilibrium displacement of the thermocline in a wind-driven stratified lake," in *Fifth International Symposium on Stratified Flows*, Vancouver, Canada, July 7-11, 2000, pp. 327-330.
5. Laval, B., **B.R. Hodges**, and J. Imberger (2000), "Numerical diffusion in stratified lake models," in *Fifth International Symposium on Stratified Flows*, Vancouver, Canada, July 7-11, 2000, pp. 343-348.
4. **Hodges, B.R.**, J. Imberger, B. Laval, J. Appt (2000), "Modeling the hydrodynamics of stratified lakes," Proceedings of Hydroinformatics 2000 (CD-ROM), Iowa Institute for Hydraulic Research, University of Iowa, July 23-27, 2000, 14 pgs.
3. **Hodges, B.R.** and R.L. Street (1998), "Wave-induced enstrophy and dissipation in a sheared turbulent current," in *Proceedings of the 13th Australasian Fluid Mechanics Conference*, Monash University, Melbourne, Australia, pp. 717-721, (1998).
2. **Hodges, B.R.** and R.L. Street (1996), "Three-dimensional, nonlinear, viscous wave interactions in a sloshing tank," in *Proceedings of the Fluids Engineering Summer Meeting*, Vol. 3, FED-Vol. 238, ASME, pp. 361-367.

CONFERENCE PAPERS (REFEREED) - CONTINUED

1. **Hodges, B.R.**, R.L. Street and Y. Zang (1996), "A method for simulation of viscous, nonlinear, free-surface flows," in *Twentieth Symposium on Naval Hydrodynamics*, National Academy Press, pp. 791-809.

CONFERENCE PROCEEDINGS (PUBLISHED ABSTRACT ONLY)

Student co-author names are underlined below

15. Kulis, P.S., J. Furnans and Ben R. Hodges (2006), "Modeling a gravity current in Corpus Christi Bay using a sigma coordinate model," 15th U.S. National Congress on Theoretical and Applied Mechanics, June 25-30, 2006, University of Colorado at Boulder, Electronic Proceedings (CD-ROM) .
14. Furnans, J., C.G. Guthrie, and **B. Hodges** (2006), "Salinity induced hypoxia in a south Texas bay mimics potential impacts of desalination activities in coastal waters," Proceedings of the ASLO Summer Meeting, Victoria, British Columbia, Canada, June 4-9, 2006.
13. **Hodges, B.R.** (2006), "Microstructure profiling for insight into turbulence and mixing," Texas River and Reservoir Management Society Conference and Symposium, University of Texas at Austin, May 18-19, 2006.
12. Wadzuk, B.M., and **B.R. Hodges** (2005), "Identification of Non-hydrostatic Behavior for Internal Waves," Mechanics and Materials Conference (McMat 2005), June 1-3, 2005, Louisiana State University, Baton Rouge, Electronic Proceedings (CD-ROM).
11. **Hodges, B.R.**, L. White, B.N. Austin, and T. Osting (2005), "Identifying and filtering the large woody debris signature in river bathymetry data," Texas River and Reservoir Management Society Conference and Symposium, Baylor University, May 16-17, 2005.
10. **Hodges, B.R.**, and S. Fu (2005), "Flow impact of large woody debris in streams and rivers," Proceedings of the ASLO Aquatic Sciences Spring meeting, February 20-25, 2005, Salt Lake City, Utah.
9. **Hodges, B.R.** (2003), "Open issues in 3D modeling of inland waters," Proceedings of ASLO spring meeting, February 9-14, 2003, Salt Lake City, Utah.
8. Chan, T.U., D.P. Hamilton, B.J. Robson, **B.R. Hodges**, and C. Dallimore (2001), "Impacts of hydrological change on phytoplankton succession in the Swan River, Western Australia," Proceedings of 16th Biennial Conference of the Estuarine Research Federation, St. Pete Beach, Florida, November 4-8, 2001.
7. Oldham, C.E., **B.R. Hodges** and E. Gale (2000), "The effects of decreasing water levels on the hydrodynamics of shallow wetlands," Proceedings of the 6th International Wetland Symposium, Quebec, Aug. 2000.
6. Hamilton, D.P., **B.R. Hodges**, B.J. Robson, P. Kelsey (2000), "Why a freshwater blue-green algal bloom occurred in an estuary: the Microcystis bloom in the Swan River Estuary in 2000" Proceedings of the West Australian Marine Science Conference, April, 2000, Perth, Australia.
5. Hamilton, D.P., T. Chan, **B.R. Hodges**, B.J. Robson, A.J. Bath and J. Imberger (1999), "Animating the interactions of physical, chemical and biological processes to understand the dynamics of the Swan River estuary," Proceedings of the Australian-New Zealand Limnology Conference, Lake Taupo, New Zealand, Dec. 1999.

CONFERENCE PROCEEDINGS (PUBLISHED ABSTRACT ONLY) - CONTINUED

4. Herzfeld, M., **B.R. Hodges**, and D. Hamilton (1998), "Modeling the Swan River on small temporal and spatial scales," Proceedings of the Swan Canning Estuary Conference, York, Australia, Apr. 1998.
3. **Hodges, B.R.**, M. Herzfeld, K. Winters, and D. Hamilton (1998), "Coupling of hydrodynamics and water quality in numerical simulations," EOS Trans. AGU, 79(1), Ocean Sciences Meet. Suppl. OS11P-1, 1998.
2. **Hodges, B.R.**, M. Herzfeld, and D. Hamilton (1997), "Coupling of hydrodynamics and biology in numerical simulations of the Swan River," 2nd International Symposium on Engineering the Environment, Fremantle, Australia, Nov. 1997.
1. Herzfeld, M., D. Hamilton, and **B.R. Hodges** (1997), "Reality vs. management: the role of ecological numerical models," 2nd International Symposium on Engineering the Environment, Fremantle, Australia, Nov. 1997.

CONFERENCE POSTERS

Student co-author names are underlined below.

3. Fu, S. and **B.R. Hodges** (2005), "The Grid Scale Problem in Numerical Modeling of Flow Around Large Woody Debris in Rivers." 2005 University of Texas Graduate Research Conference.
2. Delavan, S.K. and **B.R. Hodges** (2003), "Limitations of the shallow water equations for modeling stratified water bodies," ASLO Spring Meeting, February 9-14, 2003, Salt Lake City, Utah.
1. Wadzuk, B. and **B.R. Hodges** (2001), "Model bathymetry for sinuous, dendritic reservoirs," 6th Workshop on Physical Processes in Natural Waters, University of Girona, Catalonia-Spain, 27-29 June 2001.

SEMINAR AND WORKSHOP PRESENTATIONS (UNPUBLISHED ABSTRACTS)

Student co-author names are underlined below.

14. **Hodges, B.R. (2004)**, "Hydrostatic and non-hydrostatic modeling of internal waves," Ocean Engineering Seminar, Dept. of Civil Engineering, Texas A&M University, October 28, 2004.
13. **Hodges, B.R. (2004)**, "Environmental fluid mechanics – improving models of real-world flow," seminar, Dept. of Civil and Environmental Engineering, Montana State University, April 2, 2004.
12. **Hodges, B.R. (2004)**, "Baroclinic and barotropic numerical errors in hydrostatic models," Office of Naval Research Progress Review Southeast Region, University of South Florida, St. Petersburg, May 10-13, 2004.
11. Furnans, J.E. and **B.R. Hodges** (2003), "Dispersion and mixing processes in Texas coastal embayments," Integrated Watershed Sciences Symposium, University of Texas at Austin, Environmental Science Institute, Nov. 12, 2003.
10. **Hodges, B.R. (2003)**, "Trading plankton nutrient stores – the problem with existing transport models," Gulf Estuarine Research Society spring meeting, 17-19 April 2003.
9. Katz, L., **B.R. Hodges**, and H. Liljestr and (2002), "Characteristics of Mercury and Other Metals" Invited lecture at "The Environmental Forum on Texas TMDLs," February 7-8, 2002, University of Texas at Austin, <http://www.texasmdl.org>.

SEMINAR AND WORKSHOP PRESENTATIONS (UNPUBLISHED ABSTRACTS) - CONTINUED

8. **Hodges, B.R.** (2001), "3D modeling of lakes and estuaries," seminar, University of Texas Marine Science Institute, Port Aransas, Texas, March 2001.
7. **Hodges, B.R.** (2001), "Beneath the surface: physical processes in stratified lakes," Environmental and Water Resources Seminar, University of Maryland, Feb. 26, 2001.
6. **Hodges, B.R.**, "Modeling basin-scale motions in Lake Kinneret, Israel," Vanderbilt University, Dept. of Civil and Environmental Eng., April 17, 2000.
University of Texas at Austin, Dept. of Civil Eng., March 30, 2000.
5. **Hodges, B.R.** (1999), "Basin-scale motions in a stratified lake," Dept. of Civil and Environmental Engineering seminar, Massachusetts Institute of Technology, Feb 1999.
4. Imberger, J., D. Hamilton, **B.R. Hodges**, and M. Herzfeld (1998), "How does the estuary work", presentation at the Western Australia Estuarine Research Foundation Community Forum, July 1998.
3. **Hodges, B.R.** (1998), "Hydrodynamics of differential heat absorption," Environmental Fluid Mechanics Laboratory seminar, Dept. of Civil Eng., Stanford University, Feb. 1998.
2. **Hodges, B.R.** (1997), "Interactions of surface gravity waves and a sheared turbulent current," Environmental Dynamics Seminar, Centre for Water Research, Univ. of Western Australia, Aug.
1. **Hodges, B.R.** (1997), "Numerical simulation of free-surface flows... from a single wave to the ecosystem of a lake," Dept. of Naval Arch. and Marine Eng., University of Michigan, June 1997.

TECHNICAL REPORTS AND THESES

Student co-author names are underlined below

12. **Hodges, B.R.** (2006), *A hypoxic episode in southeastern Corpus Christi Bay during July 11 - 16, 2006*, CRWR Online Report 06-09 Center for Research in Water Resources, University of Texas at Austin, ?? pages, <http://www.crwr.utexas.edu/online.html>.
11. David, C.H. and **B.R. Hodges** (2006), *Deploying a microstructure profiler in Corpus Christi Bay*, CRWR Online Report 06-07, Center for Research in Water Resources, University of Texas at Austin, 81 pages, <http://www.crwr.utexas.edu/online.html>.
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2. **Hodges, B.R.** (1997), *Numerical simulation of nonlinear free-surface waves on a turbulent open-channel flow*, Ph.D. dissertation, Stanford University, Dept. of Civil Engineering, 235 pages.
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GRADUATE STUDENT SUPERVISION SUMMARY

Supervisor, Doctoral Students at UT, Civil Engineering

Name	Started studies under my supervision	Admitted to candidacy	Graduation (Ph.D)	Total years supervised
Bridget Wadzuk	Fall 2000	Fall 2002	Dec 2004	4-1/2
Jordan Furnans	Spring 2002	Spring 2002	Dec 2005	4
Shipeng Fu	Fall 2003	Spring 2004	In progress	3
Paula Kulis	Fall 2003	Spring 2005	In progress	3
Dharhas Pothina	Fall 2005	Fall 2005	In progress	1

Supervisor, Master's Students at UT, Civil Engineering

Name	Started studies under my supervision	Graduation (M.S)	Years supervised for M.S.
Bridget Wadzuk	Fall 2000	Summer 2002	2
Sarah Kelly Delavan	Fall 2001	Summer 2003	2
Laurent White	Fall 2002	Fall 2003	1-1/2
Paula Kulis	Fall 2003	Spring 2005	2
Cedric David	Fall 2004	Spring 2006	2
Tim Osting	Spring 2001	Expected Fall 2006	5 (part-time student)

Co-supervisor, Master's Students at UT, Civil Engineering (EWRE)

Name	Co-supervisor	Started studies under my co-supervision	Graduation (M.S)	Years co-supervised for M.S.
Jordan Furnans	D. Maidment	Spring 2001	Fall 2002	1

GRADUATE STUDENT SUPERVISION SUMMARY (CONTINUED)

Co-supervisor, Doctoral students at University of Western Australia, Department of Environmental Engineering

Student Name	Co-supervisor	Started studies under my co-supervision	Graduation (Ph.D)	Total years co-supervised
Daniel Botelho	J. Imberger	Spring 2002	In progress	4
Bernard Laval	J. Imberger	Fall 1999	Dec 2002	3-1/2

Member, Doctoral Committees (Ph.D's granted)

Student	Department	Proposal Defense	Dissertation Defense	Supervisor
Hua Gu	Civil Eng./EWRE	Spring 2005	Summer 2006	S. Kinnas
Masatsugu Takamatsu	Civil Eng./EWRE	Spring 2005	Summer 2006	R. Charbeneau
Sergio Martinez	Civil Eng./EWRE	Spring 2005	Spring 2006	D. Maidment
Jordan Furnans	Civil Eng./EWRE	Fall 2003	Fall 2005	myself
Carlos Patino	Civil Eng./EWRE	Spring 2005	Fall 2005	D. Maidment
Oscar Robayo	Civil Eng./EWRE	Spring 2004	Spring 2005	D. Maidment
Bridget Wadzuk	Civil Eng./EWRE	Spring 2003	Fall 2004	myself
Tim Whiteaker	Civil Eng./EWRE	Spring 2003	Spring 2004	D. Maidment
Venkatesh Merwade	Civil Eng./EWRE	Spring 2002	Spring 2004	D. Maidment
Vadym Aizinger	Applied Math/TICAM	Spring 2003	Fall 2003	C. Dawson

Member, Doctoral Committees (in progress)

Student	Ph.D. Candidate	Department	Proposal Defense	Supervisor
Vimal Viniyan	Yes	Civil Eng./EWRE	TBD	S. Kinnas
Hong Sun	Yes	Civil Eng./EWRE	TBD	S. Kinnas
Yi-Hsiang Yu	Yes	Civil Eng./EWRE	TBD	S. Kinnas
Shipeng Fu	Yes	Civil Eng./EWRE	TBD	myself
Paula Kulis	Yes	Civil Eng./EWRE	TBD	myself
Dharhas Pothina	Yes	Civil Eng./EWRE	TBD	myself
Jaehak Jeong	Yes	Civil Eng./EWRE	TBD	R. Charbeneau

GRADUATE STUDENT SUPERVISION SUMMARY (CONTINUED)**Member, Ph.D. Qualifying Exam Committees**

Student	Department	Qualifying Exam Date	Supervisor
Cedric David	Civil Eng./EWRE	Summer 2006	myself
Dharhas Pothina	Civil Eng./EWRE	Fall 2005	myself
Jaehak Jeong	Civil Eng./EWRE	Spring 2005	R. Charbeneau
Paula Kulis	Civil Eng./EWRE	Fall 2004	myself
Vimal Viniyan	Civil Eng./EWRE	Summer 2004	S. Kinnas
Shipeng Fu	Civil Eng./EWRE	Spring 2004	myself
Masatsugu Takamatsu	Civil Eng./EWRE	Fall 2003	R. Charbeneau
Hong Sun	Civil Eng./EWRE	Fall 2003	S. Kinnas
Yi-Hsiang Yu	Civil Eng./EWRE	Fall 2003	S. Kinnas
Bridget Wadzuk	Civil Eng./EWRE	Fall 2002	myself
Jordan Furnans	Civil Eng./EWRE	Spring 2002	myself
Carlos Patino	Civil Eng./EWRE	Spring 2002	D. Maidment
Hua Gu	Civil Eng./EWRE	Spring 2002	S. Kinnas
Oscar Robayo	Civil Eng./EWRE	Spring 2002	D. Maidment
Jong Wook Lee	Civil Eng./EWRE	Spring 2002	myself
Sivaramkrishnan Srinivasan	Civil Eng./Transportation	Fall 2001	R. Machemehl
Tim Whiteaker	Civil Eng./EWRE	Fall 2001	D. Maidment

Member, Master's Committees (M.S. granted)

Student	Department	Thesis or Report	Date completed	Supervisor
W. Shane Walker	Civil Eng./EWRE	Thesis	Summer 2006	D. Maidment
Cedric David	Civil Eng./EWRE	Thesis	Spring 2006	myself
Alicia Fogg	Civil Eng./EWRE	Thesis	Spring 2005	D. Maidment
Donghyun Rim	Civil Eng./EWRE	Thesis	Spring 2005	R. Charbeneau
Paula Kulis	Civil Eng./EWRE	Report	Spring 2005	myself
Katherine Benson	Civil Eng./EWRE	Thesis	Spring 2004	R. Charbeneau
Laurent White	Civil Eng./EWRE	Thesis	Fall 2003	myself
Sarah Kelly Delavan	Civil Eng./EWRE	Thesis	Summer 2003	myself
Jun Xi	Civil Eng./EWRE	Thesis	Summer 2003	R. Charbeneau
Andrew Henderson	Civil Eng./EWRE	Thesis	Spring 2003	R. Charbeneau
Karan Kakar	Civil Eng./EWRE	Thesis	Summer 2002	S. Kinnas
Ryan Murdock	Civil Eng./EWRE	Thesis	Spring 2002	R. Charbeneau
Bridget Wadzuk	Civil Eng./EWRE	Report	Spring 2002	myself
Jordan Furnans	Civil Eng./EWRE	Thesis	Fall 2001	D. Maidment, myself
Imad Elias Feghali	Civil Eng./EWRE	Thesis	Fall 2000	R. Charbeneau

GRADUATE STUDENT SUPERVISION SUMMARY (CONTINUED)

Member, Master's Committees (in progress)

Student	Department	Thesis or Report	Supervisor
Tim Osting	Civil Eng./EWRE	Thesis	myself

CONTACT INFORMATION

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