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RESEARCH INTERESTS

Develop, adapt, and use numerical models of coupled hydrodynamics and biology---in conjunction with field investigations---to understand the physical-biological relationships governing variability in water quality and habitat function in surface water systems such as estuaries, lakes, and rivers.

EDUCATION

Stanford University, Palo Alto, California
Ph.D. in Civil and Environmental Engineering, Environmental Fluid Mechanics Program (1997)

Stanford University, Palo Alto, California
M.S. in Civil Engineering, Environmental Fluid Mechanics Program (1992)

University of Notre Dame, South Bend, Indiana
B.S. in Civil Engineering (1989), Graduated with Honors

RESEARCH AND PROFESSIONAL EXPERIENCE

ECOHYDRODYNAMICIST/RESEARCH ENGINEER, U.S. Geological Survey, Menlo Park, CA (April 2000-Present)

CONSULTING ASSISTANT PROFESSOR, Stanford University, Dept. of Civil and Environmental Engineering, Stanford, CA (October 2002-Present)

ASSOCIATE EDITOR, *Estuaries and Coasts* (formerly *Estuaries*), An International Journal of Coastal Science Published by the Coastal and Estuarine Research Federation (October 2005-Present)

NRC POSTDOCTORAL RESEARCH ASSOCIATE, U.S. Geological Survey, Menlo Park, CA (May 1998-April 2000)

VISITING SCIENTIST, Stanford University, Dept. of Civil and Environmental Engineering, Stanford, CA (September 1997-October 2002)

HYDROLOGIST, U.S. Geological Survey, Menlo Park, CA (July 1997-April 1998)

RESEARCH ASSISTANT, Stanford University, Dept. of Civil and Environmental Engineering, Stanford, CA (January 1992-June 1997)

TEACHING ASSISTANT, Stanford University, Dept. of Civil and Environmental Engineering, Stanford, CA (September 1992-June 1996)

STRUCTURAL ENGINEER, Badger Engineers, Inc., Cambridge, MA (August 1989-July 1991)

HIGHLIGHTS

- Recipient (with co-authors) of Estuarine Research Federation's Donald W. Pritchard Award, for the best estuarine geophysics paper published in the journal *Estuaries & Coasts* during the previous 2 years (November 2007)
- Recipient of Estuarine Research Federation's Peer Review Award (November 2007)
- Invited Lecturer for Pan-American Advanced Studies Institute short-course on "Contemporary Issues in Estuarine Physics, Transport, and Water Quality", Puerto Morelos, Mexico (August 2007)
- Selected as Lecturer for U.S.G.S. Water Resources Discipline Research Lecture Series (2005)
- Recipient of Estuarine Research Federation's Cronin Early Career Award (September 2003)
- Elected Secretary of the Estuarine Research Federation (September 2003)
- U.S. Dept. of Interior Star Award (September 2000, June 2001, November 2001, December 2004, September 2006)
- NRC Postdoctoral Fellowship (1998-2000)
- U.S. Department of Agriculture Postdoctoral Fellowship (1998, declined)
- Josephine de Karman Fellowship (1995)
- Stanford Fellowship for Masters Study (1991-1992)
- McCarthy Scholarship (1988) and Sidney-Kelsey Outstanding Scholar Award (1989), for top Notre Dame Civil Engineering Junior and Senior, respectively
- Notre Dame Scholar

TECHNICAL PUBLICATIONS

Lucas, L.V. 2009. Implications of estuarine transport for water quality, in: Contemporary Issues in Estuarine Physics, ed. A. Valle-Levinson. Cambridge University Press, in press.

Lucas, L.V., J.K. Thompson, and L.R. Brown. 2009. Why are diverse relationships observed between phytoplankton biomass and transport time? *Limnology and Oceanography* 54(1):381-390.

Lucas, L.V., J.R. Koseff, S.G. Monismith, and J.K. Thompson. 2009. Shallow water processes govern system-wide phytoplankton bloom dynamics: A Modeling Study. *Journal of Marine Systems* 75:70-86.

Thompson, J.K., J.R. Koseff, S.G. Monismith, and L. V. Lucas. 2008. Shallow water processes govern system-wide phytoplankton bloom dynamics: A Field Study. *Journal of Marine Systems* 74:153-166.

Brown, L.R., J.K. Thompson, K. Higgins, and L.V. Lucas. 2007. Population density, biomass, and age-class structure of an invasive clam *Corbicula fluminea* in rivers of the lower San Joaquin River watershed, California. *Western North American Naturalist* 67(4):572-586.

Lucas, L. V., D. M. Sereno, J. R. Burau, T. S. Schraga, C. B. Lopez, M. T. Stacey, K. V. Parchevsky, V. P. Parchevsky. 2006. Intra-daily variability of water quality in a shallow tidal lagoon: mechanisms and implications. *Estuaries and Coasts* 29(5): 711-730.

Lopez, C. B., J. E. Cloern, T. S. Schraga, A. J. Little, L. V. Lucas, J. K. Thompson, and J. R. Burau. 2006. Ecological values of shallow-water habitats: implications for restoration of disturbed ecosystems. *Ecosystems* 9: 422-440.

May, C., J. R. Koseff, L. V. Lucas, J. E. Cloern, and D. H. Schoellhamer. 2003. Effects of spatial and temporal variability of turbidity on phytoplankton blooms. *Marine Ecology Progress Series* 254: 111-128.

Lucas, L.V., J.E. Cloern, J.K. Thompson, and N. E. Monsen. 2002. Functional variability of habitats in the Sacramento-San Joaquin Delta: restoration implications. *Ecological Applications* 12(5): 1528-1547.

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- Lucas, L.V., T. Schraga, C.B. Lopez, J.R. Burau, and A.D. Jassby. 2002. Pulsey, Patchy Water Quality in the Delta: Implications for Meaningful Monitoring. Newsletter, Interagency Ecological Program for the Sacramento-San Joaquin Estuary 15(3): 21-27.
- Lucas, L.V. and J.E. Cloern. 2002. Effects of tidal shallowing and deepening on phytoplankton production dynamics: a modeling study. *Estuaries* 25(4A): 497-507.
- Monsen, N. E., J. E. Cloern, L. V. Lucas, and S. G. Monismith. 2002. A comment on the use of flushing time, residence time and age as transport time scales. *Limnology and Oceanography* 47(5): 1545-1553.
- Lucas, L.V., J.R. Koseff, J.E. Cloern, S.G. Monismith, and J.K. Thompson. 1999. Processes Governing Phytoplankton Blooms in Estuaries. I: The Local Production-Loss Balance. *Marine Ecology Progress Series* 187: 1-15.
- Lucas, L.V., J.R. Koseff, S.G. Monismith, J.E. Cloern, and J.K. Thompson. 1999. Processes Governing Phytoplankton Blooms in Estuaries. II: The Role of Horizontal Transport. *Marine Ecology Progress Series* 187: 17-30.
- Lucas, L.V., J.E. Cloern, J.R. Koseff, S.G. Monismith, and J.K. Thompson. 1998. Does the Sverdrup Critical Depth Model Explain Bloom Dynamics in Estuaries? *Journal of Marine Research* 56: 375-415.
- Lucas, L.V. 1997. A Numerical Investigation of Coupled Hydrodynamics and Phytoplankton Dynamics in Shallow Estuaries. Ph.D. Dissertation, Stanford University.
- Cloern, J.E., C. Grenz, and L.V. Lucas. 1995. An empirical model of the phytoplankton chlorophyll/carbon ratio -- the conversion factor between productivity and growth rate. *Limnology and Oceanography* 40(7): 1313-1321.
- Vidergar, L.L., J.R. Koseff, and S.G. Monismith. 1993. Numerical models of phytoplankton dynamics for shallow estuaries, in: *Hydraulic Engineering '93*, ed. H.W. Shen, S.T. Su, and F. Wen. ASCE, 1025-1030.