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Education

- 1979-1983 Stanford University, Stanford, California.
Ph.D. Civil Engineering, Water Resources Engineering
Minor in Mechanical Engineering
- 1977-1978 Stanford University, Stanford, California.
M.S. Civil Engineering, Water Resources Engineering
- 1973-1976 University of the Witwatersrand, Johannesburg, South Africa.
B.Sc. Civil Engineering

Professional Experience

At Stanford University

- 2006 – present The William Alden Campbell and Martha Campbell Professor of Engineering
- 2005 - present The Michael Forman University Fellow in Undergraduate Education
- 2004 – present Perry L. McCarty Director, Woods Institute for the Environment
- 1999- 2002 Senior Associate Dean of Engineering, School of Engineering
- 1996- present Professor, Department of Civil and Environmental Engineering
- 1995-1999 Chair, Department of Civil and Environmental Engineering
- 1994-1995 Associate Chair, Department of Civil Engineering
- 1991-1996 Associate Professor, Department of Civil Engineering
- 1991-1996 Director, Environmental Fluid Mechanics Laboratory,
Department of Civil Engineering
- 1985-1991 Associate Director, Environmental Fluid Mechanics Laboratory,
Department of Civil Engineering
- 1984-1991 Assistant Professor, Department of Civil Engineering
- 1983-1984 Acting Assistant Professor, Department of Civil Engineering
- 1979-1983 Research Assistant, Hydromechanics Laboratory,
Department of Civil Engineering
Conducted research on the characteristics of the flow in a lid-driven cavity with and without variable-density effects. Also conducted a comparative study of the laser-Doppler anemometer.

- 1979-1980 Laboratory Instructor, Department of Civil Engineering
Lectured and supervised laboratory section of an undergraduate course in fluid mechanics (Eng 21). Served on committee to re-organize and revise laboratory course material.
- 1978-1979 Teaching Assistant, Department of Civil Engineering
Assisted in graduate and undergraduate courses in hydrology, hydraulics, and sedimentation engineering.

Non-Stanford

- 7/78-10/78 Engineer, Watermeyer, Legge, Piesold and Uhlmann,
1977 Johannesburg, South Africa
*Implemented finite-element analysis of cooling tower structures.
Performed hydraulic design and layout of water reticulation systems for chemical and power plants.*
- 11/75-2/76 Student Engineer, Watermeyer, Legge, Piesold and Uhlmann,
 Johannesburg, South Africa.
Finite-element analysis of cooling tower structures.

Awards and Honors/Professional Affiliations

Honors and Awards

- Robert T. Knapp Award given by the Fluids Engineering Division of the American Society of Mechanical Engineers, 1985
- American Society of Civil Engineers Award for Outstanding Service, 1986-87
- Stanford University School of Engineering Tau Beta Pi Award for Excellence in Undergraduate Teaching, 1989
- Leavell Family Faculty Scholar, Stanford University School of Engineering, 1989-92
- Gledden Visiting Senior Fellow, University of Western Australia, 1991
- ASSU Outstanding Teaching Award, 1991-92
- Lillian and Thomas B. Rhodes Award for Excellence in Undergraduate Teaching, 1993
- University Fellow, Stanford University, 1994-1996
- Bing Teaching Fellowship, Stanford University, 1995-1998
- Eugene L. Grant Award for Excellence in Undergraduate Teaching, 1995
- Associated Students of Stanford University, Teacher of the Year – Honorable Mention, 2007
- Eugene L. Grant Award for Excellence in Undergraduate Teaching, 2011

Society Memberships

- American Society of Civil Engineers
- American Society of Mechanical Engineers

American Geophysical Union

American Physical Society

External Service & Scholarly Activities

1994-present Member, ASCE Technical Committee on Hydraulic Measurements and Experimentation

1992-present Member, ASCE Technical Committee on Turbulence

1990-1994 Member, ASCE Technical Subcommittee for developing an Album of Transport Processes

1992-1995 Member, ASCE Technical Committee for developing a Research Advocacy for Hydraulics and Hydrology

1989-1992 Member, Technical Advisory Committee to the San Francisco Estuary Project

Reviewerships

Journal of Fluids Engineering, ASME

Journal of Hydraulic Engineering, ASCE

National Science Foundation - Fluid Mechanics

- Physical Oceanography

- Biological Oceanography

- Instrumentation Development

Journal of Fluid Mechanics

Environmental Fluid Mechanics

Department of Energy - Basic Energy Sciences

International Journal of Heat and Fluid Flow

Experiments in Fluids

Physics of Fluids

Journal of Atmospheric and Oceanic Technology

Journal of Computational Physics

International Journal for Numerical Methods in Fluids

Research Experience and Interests

Upwelling in coastal systems

Transport and mixing processes in estuarine and near-coastal systems

The nature of turbulence in stratified environments

Numerical techniques for simulating estuarine and geophysical flows

The hydrodynamics of benthic grazing by bivalve feeders

The effects of coherent structures on mixing in the upper layers of large water-bodies

The hydrodynamics of chemical sensing in marine environments

Mass and momentum transfer in coral-reef and kelp-forest systems

Teaching

Fluid Mechanics; Water Resources Engineering; Environmental Fluid Mechanics; Open Channel Flow; Numerical Methods; Transport and Mixing Processes in Surface Water Flows; Modeling Environmental Flows.

Papers in Refereed Journals

- Weitzman, J.S., Aveni-Deforge, K., Koseff, J.R., and Thomas, F.I.M., Uptake of dissolved inorganic nitrogen by shallow seagrass communities exposed to wave-driven unsteady flow," *Marine Ecology Progress Series*, Vol. 475, doi: 10.3354/meps09965, 65-83, 2013.
- Dunckley, J.F., Koseff, J.R., Steinbuck, J.V., Monismith, S.G., and Genin, A., "Comparison of mixing efficiency and vertical diffusivity models from temperature microstructure," *Journal of Geophysical Research*, 117, C10, doi:10.1029/2012JC007967, 2012
- Kline, D.I., Teneva, L. Schneider, K. Miard, T., Chai, A., Marker, M., Headley, K., Opdyke, B., Nash, M., Valetich, M., Caves, J.K., Russell, B.D., Connell, S.D., Kirkwood, B.J., Brewer, P., Peltzer, E., Silverman, J., Caldeira, K., Dunbar, R.B., Koseff, J.R., Monismith, S.G., Mitchell, B.G., Dove, S., and Hoegh-Guldberg, O., "A short-term in situ CO₂ enrichment experiment on Heron Island," *Scientific Reports*, Vol. 2, Article No. 413, DOI: 10.1038/srep00413 Published: MAY 21 2012
- Steinbuck, J.V., Koseff, J.R., Genin, A., Stacey, M.T., and Monismith, S.G., "Horizontal dispersion of ocean tracers in internal wave shear," *Journal of Geophysical Research*, Vol. 116, C11031, doi:10.1029/2011JC007213, 2011.
- Venayagamoorthy, S.K., Ku, H., Fringer, O.B., Chiu, A., Naylor, R.L., and Koseff, J.R., "Numerical modeling of aquaculture dissolved waste transport in a coastal embayment," *Environmental Fluid Mechanics*, Vol. 11, 4, 2011, pp. 329-352.
- Hult, E. L., Troy, C.D., and Koseff, J.R., "The mixing efficiency of interfacial waves breaking at a ridge: 2. Local mixing processes," *Journal of Geophysical Research*, 116, C02004, doi:10.1029/2010JC006488, 2011.
- Hult, E. L., Troy, C.D., and Koseff, J.R., "The mixing efficiency of interfacial waves breaking at a ridge: 1. Overall mixing efficiency," *Journal of Geophysical Research*, 116, C02003, doi:10.1029/2010JC006485., 2011.
- Rosman, J.H., Monismith, S.G., Denny, M.W., and Koseff, J.R., "Currents and turbulence within a kelp forest (*Macrocystis pyrifera*): Insights from a dynamically scaled laboratory model," *Limnology and Oceanography*, 55: 1145-1158, 2010.
- Steinbuck J. V., Genin A., Monismith S.G., Koseff J.R., Holzman R., and Labiosa R.G., "Turbulent mixing in fine-scale phytoplankton layers: Observations and inferences of layer dynamics," *Continental Shelf Research*, 30(5): 442-455, 2010.
- Hult, E.L., Troy, C.D., and Koseff, J.R., "Harmonic generation of interfacial waves at a submerged bathymetric ridge," *Journal of Geophysical Research-Oceans*, 115, CO2001, 2010.
- Hult, E.L., Troy, C.D., and Koseff, J.R., "The breaking of interfacial waves at a submerged bathymetric ridge," *Journal of Fluid Mechanics*, 637, 45-71, 2010.
- Genin, A., Monismith, S.G., Reidenbach, M.A., Yahel, G., and Koseff, J.R., "Intense benthic grazing of phytoplankton in a coral reef," *Limnology and Oceanography*, 54: 938-951, 2009.
- Reidenbach, M. A., Koseff, J.R., and Koehl, M. A. R., "Hydrodynamic forces on larvae affect their settlement on coral reefs in turbulent, wave-driven flow," *Limnology and Oceanography*, 54(1), 318-330, 2009.

- Lucas, L.V., Koseff, J.R., Monismith, S.G., and Thompson, J.K., "Shallow water processes govern system-wide phytoplankton bloom dynamics: A modeling study," *Journal of Marine Systems*, 75, 70-86, 2009.
- Rosman, J.H., Hensch, J.L., Koseff, J.R., and Monismith, S.G., "Extracting Reynolds stresses from acoustic Doppler current profiler measurements in wave-dominated environments", *Journal of Atmospheric and Oceanic Technology*, 25, 2, Feb. 2008, 286-306.
- Ivey, G.N., Winters, K.B., and Koseff, J.R., "Density stratification, turbulence, but how much is mixing," *Annual Review of Fluid Mechanics*, 40, 2008, 169-184.
- Thompson, J.K., Koseff, J.R., Monismith, S.G., and Lucas, L.V., "Shallow water processes govern system-wide phytoplankton bloom dynamics: A field study," *Journal of Marine Systems*, Volume 74, Issues 1-2, November, 2008, 153-166.
- Lowe, R.J., Shavit, U., Falter, J.L., Koseff, J.R., and Monismith, S.G., "Modeling flow in coral communities with and without waves: A synthesis of porous media and canopy flow approaches," *Limnology and Oceanography*, 53(6), 2668-2680, 2008.
- Reidenbach M.A., Koseff J.R., and Monismith S.G., "Laboratory experiments of fine-scale mixing and mass transport within a coral canopy", *Physics of Fluids*, 19, 2007, 075107.
- Gaylord, B., Rosman, J.H., Reed, D.C., Koseff, J.R., Fram, J., MacIntyre, S., Arkema, K., McDonald, C., Brzezinski, M. A., Largier, J.L., Monismith, S.G., Raimondi, P.T., Mardian, B., "Spatial patterns of flow and their modification within and around a giant kelp forest", *Limnology and Oceanography*, 52(5), September, 2007, 1838-1852.
- Koehl, M.A.R., Strother, J.A., Reidenbach, M.A., Koseff, J.R., and Hadfield, M.G., "Individual-based model of larval transport to coral reefs in turbulent, wave-driven flow: behavioral responses to dissolved settlement inducer", *Marine Ecology-Progress Series*, 335, 2007, 1-18.
- Lowe, R. J., Falter, J.L., Koseff, J.R., Monismith, S.G., and Atkinson, M.J., "Spectral wave flow attenuation within submerged canopies: Implications for wave energy dissipation," *Journal of Geophysical Research*, 112, C05018, 2007, doi:10.1029/2006JC003605.
- Crimaldi, J.P., Koseff, J.R., and Monismith, S.G., "Structure of mass and momentum fields over a model aggregation of benthic filter feeders," *Biogeosciences*, 4(3), 2007, 269-282.
- Rosman, J. H., Koseff, J.R., Monismith, S.G., and Grover, J. , "A field investigation into the effects of a kelp forest (*Macrocystis pyrifera*) on coastal hydrodynamics and transport", *Journal of Geophysical Research*, 112, C02016, 2007, doi:10.1029/2005JC003430.
- Falter, J. L., Atkinson, M.J., Lowe, R.J., Monismith, S.G., and Koseff, J.R., "Effects of nonlocal turbulence on the mass transfer of dissolved species to reef corals", *Limnology and Oceanography*. 52, 2007, 274-285.
- Crimaldi, J.P., and Koseff, J.R., "Structure of turbulent plumes from a momentumless source in a smooth bed", *Environmental Fluid Mechanics* 6 (6), December, 2006, 573-592.
- Hult, E.L, Troy, C.D., and Koseff, J.R., "Laboratory images of breaking internal waves," *Physics of Fluids*, 18, September, 2006, 091107.
- Crimaldi, J.P., Koseff, J.R., and Monismith, S.G., "A mixing-length formulation for the turbulent Prandtl number in wall-bounded flows with bed roughness and elevated scalar sources," *Physics of Fluids*, 18 (9), September, 2006, 095102-095110.

- Reidenbach, M. A., Monismith, S.G., Koseff, J.R., Yahel, G., and Genin, A., "Boundary layer turbulence and flow structure over a fringing coral reef." *Limnology and Oceanography*, 51, 2006, 1956-1968
- Falter, J.L., Atkinson, M.J., Fleming, J.H., Bos, M., Lowe, R.J., Koseff, J.R., and Monismith, S.G., "A new mesocosm for simulating the effects of wave-driven water motion on the biogeochemistry of benthic reef communities, *Limnology and Oceanography: Methods*, 4, 2006, 68-79.
- Troy, C.D., and Koseff, J.R., "The viscous decay of progressive interfacial waves," *Physics of Fluids*, 18, 2006, 026602.
- McDonald, C. B., Koseff, J.R., and Monismith, S.G., "Effects of the depth to coral height ratio on drag coefficients for unidirectional flow over coral," *Limnology and Oceanography*, 51, 2006, 1294-1301.
- Monismith, S.G., Genin, A., Reidenbach, M.A., Yahel, G., and Koseff, J.R., "Thermally Driven Exchanges Between a Coral Reef and the Adjoining Ocean", *Journal of Physical Oceanography*, Vol. 36, No. 7, 2006, 1332-1347.
- Reidenbach M.A., Koseff J.R., Monismith S.G., Steinbuck J.V., and Genin A., "The effects of waves and morphology on mass transfer within branched reef corals", *Limnology and Oceanography*, 51(2), 2006, 1134-1141.
- Troy, C.D., and Koseff, J.R., "The generation and quantitative visualization of breaking internal waves," *Experiments in Fluids*, 38(5), May, 2005, pp. 549-562
- Troy, C.D., and Koseff, J.R., "The instability and breaking of long internal waves," *Journal of Fluid Mechanics*, 543, 2005, pp. 107-136.
- Lowe, R.J., Koseff, J.R., and Monismith, S.G., "Oscillatory flow through submerged canopies Part 1. Velocity structure," *Journal of Geophysical Research*, 110, C10016, 2005, doi:10.1029/2004JC002788
- Lowe, R.J., Koseff, J.R., Monismith, S.G., and Falter, J.L., "Oscillatory flow through submerged canopies. Part 2. Canopy mass transfer," *Journal of Geophysical Research*, 110, C10017, 2005, doi:10.1029/2004JC002789
- Lowe, R.J., Falter, J.L., Bandet, M.D., Pawlak, G., Atkinson, M.J., Monismith, S.G., and Koseff, J.R., "Spectral wave dissipation over a barrier reef", *Journal of Geophysical Research-Oceans*, 110, C04001, 2005, doi:10.1029/2004JC002711
- Holzman, R., Reidenbach, M.A., Monismith, S.G., Koseff, J.R., and Genin, A., "Near-bottom depletion of zooplankton over a coral reef: II. Relationships with zooplankton swimming ability", *Coral Reefs*, 24,1, 2005, pp. 87-94.
- Shih, L.H., Koseff, J.R., Ivey, G.N., and J.H. Ferziger, "Parameterization of turbulent fluxes and scales using homogeneous sheared stably- stratified turbulence simulations", *Journal of Fluid Mechanics*, 525, 2005, pp. 193-214.
- Rehmann, C.R. and Koseff, J.R., "Mean potential energy change in weakly and strongly stratified turbulent flow," *Dynamics Atmospheres and Oceans*, 37, 2004, pp. 271-294.
- Venayagamoorthy, S.K., Koseff, J.R., Ferziger, J.H, and L.H. Shih, 2003. Testing of RANS turbulence models for stratified flows based on DNS data, Center for Turbulence Research, Stanford University, Annual Research Briefs - 2003, pp. 127-138.

- Mead, K.S., Wiley, M.B., Koehl, M.A.R., and Koseff, J.R., "Fine-scale patterns of odor encounter by the antennules of Mantis Shrimp tracking turbulent plumes in wave-affected and unidirectional flow", *Journal of Experimental Biology*, 206, 1, 2003, pp. 181-193.
- May, C.L., Koseff, J.R., Lucas, L.V., Cloern, J.E., and Schoellhammer, D.H., "Effects of spatial and temporal variability of turbidity on phytoplankton blooms", *Marine Ecology Progress Series*, 254, 2003, pp. 111-128.
- Genin, A., Yahel, G., Reidenbach, M.A., Monismith, S.G., and Koseff, J.R., "Intense benthic grazing on phytoplankton in coral reefs revealed using the Control Volume approach", *Oceanography*, 15, 2, 2002, pp. 90-96.
- Ferziger, J.H., Koseff, J.R., and Monismith, S.G., "Numerical simulation of geophysical turbulence," *Computers & Fluids*, v31(#4-7), pp. 557-568, May- Sept 2002.
- Crimaldi, J.P., Thompson, J.K., Rosman, J.H., Lowe, R.J., and Koseff, J.R., "Hydrodynamics of larval settlement: the influence of turbulent stress events at potential recruitment sites," *Limnology and Oceanography*, 47, 2002, pp. 1137-1151.
- Crimaldi, J.P., Koehl, M.A.R., and Koseff, J.R., "Effects of the resolution and kinematics of olfactory appendages on the interception of chemical signals in a turbulent odor plume," *Environmental Fluid Mechanics*, 2, 2002, pp. 35-63.
- Crimaldi, J.P., Wiley, M.B., and Koseff, J.R., "The relationship between mean and instantaneous structure in turbulent passive scalar plumes," *Journal of Turbulence*, 3 (014) 2002, <http://stacks.iop.org/JoT/3/014>
- Koehl, M.A. R., Koseff, J.R., Crimaldi, J.P., McCay, M.G., Cooper, T., Wiley, M. B., and Moore, P.A., "Lobster Sniffing: Antennule Design and Hydrodynamic Filtering of Information in an Odor Plume," *Science*, Volume 294, pages 1948-1952, November 30, 2001.
- Calhoun, R.J., Street, R.L., and Koseff, J.R., "Turbulent Flow over a Wavy Surface. Part 2: Stratified Case," *Journal of Geophysical Research*, 106, C5, May 15, 2001, pp. 9295-9310.
- Crimaldi, J.P., and Koseff, J.R., "High-Resolution Measurements of the Spatial and Temporal Scalar Structure of a Turbulent Plume," *Experiments in Fluids*, 31-1, 2001, pp 90-102.
- Garg, R. P., Ferziger, J. H., Monismith, S. G., and Koseff, J. R., "Stably Stratified Turbulent Channel Flows. Part I: Stratification Regimes and Turbulence Suppression Mechanisms," *Physics of Fluids*, 12,10, 2000, pp. 2569-2594.
- Stacey, M.T., Cowen, E.A., Powell, T.M., Monismith, S.G., Koseff, J.R., and Dobbins, E., "Plume Dispersion in a Stratified, Near Coastal Flow: Measurements and Modeling," *Continental Shelf Research*, 20(6), 2000, pp. 637-663.
- Shih, L.H., Koseff, J.R., Ferziger, J.H., and Rehmann, C.R., "Scaling and Parameterization of Stratified Homogeneous Turbulent Shear Flow," *Journal of Fluid Mechanics*, 412, 1-20,2000.
- Lucas, L.V., Koseff, J.R., Monismith, S.G., Cloern, J.E., and Thompson, J.K., "Processes Governing Phytoplankton Blooms in Estuaries. I: The Local Production-Loss Balance," *Marine Ecology Progress Series*, 187, 1-15, 1999.
- Lucas, L.V., Koseff, J.R., Monismith, S.G., Cloern, J.E., and Thompson, J.K., "Processes Governing Phytoplankton Blooms in Estuaries. II: The Role of Horizontal Transport," *Marine Ecology Progress Series*, 187, 17-30, 1999.

- Gross, E.S., Koseff, J.R., and Monismith, S.G., "Three-Dimensional Salinity Simulations of South San Francisco," *Journal of Hydraulic Engineering*, 125,11, 1199-1209, 1999.
- Gross, E.S., Koseff, J.R., and Monismith, S.G., "An Evaluation of Advective Schemes for Estuarine Salinity Simulations," *Journal of Hydraulic Engineering*, 125,1, 32-46, 1999.
- Lin, C-L., Koseff, J.R., Ferziger, J.H., and Monismith, S.G., "Direct Numerical Simulation of Wave-Mean Flow and Wave-Wave Interactions: A Brief Perspective," *Physical Processes in Lakes and Oceans* (ed. J. Imberger), American Geophysical Union, 271-284, 1998.
- Ivey, G.N., Imberger, J., and Koseff, J.R., "Buoyancy Fluxes in a Stratified Fluid," *Physical Processes in Lakes and Oceans* (ed. J. Imberger), American Geophysical Union, 377-388, 1998.
- Lucas, L.V., Cloern, J.E., Koseff, J.R., Monismith, S.G., and Thompson, J.K., "Does the Sverdrup Critical Depth Model Explain Bloom Dynamics in Estuaries," *Journal of Marine Research*, 56,2, 375-415, 1998.
- Gross, E.S., Casulli, V., Bonaventura, L., and Koseff, J.R., "A Semi-Implicit Method for Vertical Transport in Multidimensional Models," *International Journal for Numerical Methods in Fluids*, 28, 157-186, 1998.
- Briggs, D.A., Ferziger, J.H., Koseff, J.R., and Monismith, S.G., "Turbulent Mixing in a Shear-Free Stably Stratified Two-Layer Fluid," *Journal of Fluid Mechanics*, 354, 175-208, 1998.
- Jassby, A.D., Koseff, J.R., and Monismith, S.G., "Processes Underlying Phytoplankton Variability in San Francisco Bay," *San Francisco Bay, The Ecosystem*, (ed. T Hollibaugh), Pacific Division of AAAS, 325-350, 1996.
- Johnson, P.A., Brooks, N.H., French, R.H., Koseff, J.R., Maidment, D.R., Monismith, S.G., Parker, S., "Environmental hydraulics: New research directions for the 21st century," *Journal of Hydraulic Engineering-ASCE*, 122(4), April, 1996, 180-183.
- O'Riordan, C.A., Monismith, S.G., Koseff, J.R., "The Effect Near-Bed Hydrodynamics on Model Bivalve Filtration Rates," *Arch. Hydrobiol. Spec. Issues Advanc. Limnol.*, 47, 247-254, February, 1996.
- Prasad, A.K., and Koseff, J.R., "Combined Forced and Natural Convection Heat Transfer in a Deep Lid-Driven Cavity Flow," *International Journal of Heat and Fluid Flow*, 17,5, 460-467, 1996.
- Briggs, D.A., Ferziger, J.H., Koseff, J.R., and Monismith, S.G., "Entrainment in a Shear-Free Turbulent Mixing Layer," *Journal of Fluid Mechanics*, 310, 215-241, 1996.
- Johnson, P.A., N.H. Brooks, R.A. French, J.R. Koseff, D.R. Maidment, S.G. Monismith, and S. Parker (ASCE Task Committee on Hydraulic Engineering Research Advocacy), Environmental Hydraulics: New research directions for the 21st Century," *ASCE J. Hydr. Eng.* 122(4), pp. 180-183, 1996.
- O'Riordan, C.A., Monismith, S.G., Koseff, J.R., "The Effect of Bivalve Excurrent Jet Dynamics on Mass Transfer in a Benthic Boundary Layer," *Limnology and Oceanography*, 40, 2, 330-344, 1995.
- Lin, C-L., Koseff, J.R., and Ferziger, J.H., "On Triad Interactions in a Linearly Stratified Ocean," *Journal of Physical Oceanography*, 27, 1, 153-167, 1995.
- McDonald, E.T., and Koseff, J.R., "The Internal Structure of Lateral Intrusions in a Continuously Stratified Heat/Salt System," *Physics of Fluids*, 6,12, 3870-3883, 1994.

- Zang, Y., Street, R.L., and Koseff, J.R., "A Non-Staggered Grid, Fractional Step Method for Time-Dependent Incompressible Navier-Stokes Equations in General Curvilinear Coordinate Systems," *Journal of Computational Physics*, 114, 18-33, 1994.
- Koseff, J.R., Holen, J.K., Monismith, S.G., and Cloern, J.E., "Coupled Effects of Vertical Mixing and Benthic Grazing on Phytoplankton Populations in Shallow, Turbid Estuaries," *J. Marine Res.*, 51,4, 1993, pp. 1-26.
- O'Riordan, C.A., Monismith, S.G., Koseff, J.R., "A Study of Concentration Boundary Layer Formation over a Bed of Model Bivalves," *Limnology and Oceanography*, 38(8), 1993, pp. 1712-1729.
- Zang, Y., Street, R.L., Koseff, J.R., "A Dynamic Mixed Subgrid-Scale Model and its Application to Turbulent Recirculating Flows," *Physics of Fluids A*, 5 (12), 1993, pp.3186-3196.
- Itsweire, E.C., Koseff, J.R., Briggs, D.A., and Ferziger, J.H., "Turbulence in Stratified Shear Flows: Implications for Interpreting Shear-Induced Mixing in the Ocean," *Journal of Physical Oceanography*, 23(7), 1993, pp. 1508-1522.
- Lin, C-L., Ferziger, J.H., Koseff, J.R., and Monismith, S.G., "Simulation and Stability of Two-Dimensional Internal Gravity Waves in a Stratified Shear Layer," *Dynamics of Atmospheres and Oceans*, 19, 1993, pp. 325-366.
- Holt, S.E., Koseff, J.R., and Ferziger, J.H., "A Numerical Study of the Evolution & Structure of Homogeneous Stably Stratified Sheared Turbulence," *Journal of Fluid Mechanics*, 237, 1992, pp. 449-539.
- Schladow, S.G., Thomas, E., and Koseff, J.R., "The Dynamics of Lateral Intrusions in a Thermohaline Stratification," *Journal of Fluid Mechanics*, 237, 1992, pp. 127-165.
- Monismith, S.G., Koseff, J.R., Thompson, J., O'Riordan, C., and Nepf, H.M., "A Study of Model Bivalve Siphon Currents," *Limnology and Oceanography*, 35(3), 1990, pp. 680-696.
- Koseff, J.R., Prasad, A.K., Perng, C-Y., and Street, R.L., "Complex Cavities: How Many Dimensions are Sufficient for Simulation?" *Physics of Fluids*, 2(4), April 1990, pp. 619-622.
- Prasad, A.K., and Koseff, J.R., "Reynolds Number and End-Wall Effects on a Lid-Driven Cavity Flow," *Physics of Fluids, A*, Vol. 1, No. 2, pp. 208-218, 1989.
- Koseff, J.R., and Street, R.L., "Circulation Structure in a Stratified Lid-Driven Cavity Flow," *Jour. Hydr. Div.*, ASCE, 111(2), February 1985.
- Freitas, C.J., Street, R.L., Findikakis, A.N., and Koseff, J.R., "A Successful Numerical Simulation of a Three-Dimensional Cavity Flow," *International Journal for Numerical Methods in Fluids*, 5, pp. 561-575, 1985.
- Rhee, H., Koseff, J.R., and Street, R.L., "Flow Visualization of a Recirculating Flow by Rheoscopic and Liquid Crystal Techniques," *Experiments in Fluids*, 2, pp. 57-64, 1984.
- Koseff, J.R., and Street, R.L., "Visualization Studies of a Shear Driven Three-Dimensional Recirculating Flow," *Jour. Fluid Engineering*, ASME, 106, pp. 21-29, 1984.
- Koseff, J.R., and Street, R.L., "The Lid-Driven Cavity Flow: A Synthesis of Qualitative and Quantitative Observations," *Jour. Fluids Eng.*, ASME, 106, December, pp. 390-389, 1984.
- Koseff, J.R., and Street, R.L., "On End-Wall Effects in a Lid-Driven Cavity Flow," *Jour. Fluids Eng.*, ASME, 106, December, pp. 385-389, 1984.

Cheung, T.K., and Koseff, J.R., "Simultaneous Backward-Scatter Forward-Scatter Laser-Doppler Anemometer Measurements in an Open Channel Flow," *DISA Information*, 28, pp. 3-9, 1983. (Also ASCE EMD Specialty Conference on Measurement Techniques and Prediction Methods in Turbulent Flow, Purdue, May 23-25, 1983.)

Papers in Refereed Conference Proceedings

Hult, E.L., Koseff, J.R., and Troy, C.D., "Richardson number measurements in breaking internal waves," *ASCE Conference on Hydraulic Measurements and Experimental Methods*, Lake Placid, September 10-12, 2007.

Hult, E.L., Troy, C.D., and Koseff, J.R., "Laboratory Investigation of Progressive Internal Wave Interactions with Topography," *Proc. 6th Int. Symp. Strat. Flows*, Perth, Australia, Dec. 10-14, 2006, 636-641.

Troy, C.D., Hult, E.L., and Koseff, J.R., "Experiments on a strongly-stratified turbulent patch with periodic forcing," *Proc. 6th Int. Symp. Strat. Flows*, Perth, Australia, Dec. 10-14, 2006.

Crimaldi, J.P. and J.R. Koseff. The structure of passive scalar plumes in turbulent boundary layers. Proceedings of the 2nd International Symposium on Turbulence and Shear Flow Phenomena, vol. I, pp. 115-120. Stockholm, Sweden, June 27-29, 2001.

Koehl, M.A., Hadfield, M.D., Cooper, T., Reidenbach, M.A., and Koseff, J.R., "Can larvae of benthic animals use dissolved chemical cues in wave-driven flow", *American Zoologist*, v40(#6), pp. 1089, December, 2000.

Wiley, M.B., Mead, K.S., Koseff, J.R., and Koehl, M.A.R., "Odor Plume Structures Encountering '*Hemisquilla Ensiferas*' Sensors and Subsequent Tracking Behavior in a Wave-Influenced Environment," Sensors and Sensing in the Natural and Fabricated Worlds, Second International Symposium on the Mechanics of Plants, Animals and their Environments, Castelvecchio Pascoli, Italy, June 11-16, 2000.

Crimaldi, J.P., Koseff, J.R., and Wiley, M.B., "A Laboratory Investigation of the Structure of Turbulent Odor Plumes," Sensors and Sensing in the Natural and Fabricated Worlds, Second International Symposium on the Mechanics of Plants, Animals and their Environments, Castelvecchio Pascoli, Italy, June 11-16, 2000.

Cowen, E.A., Monismith, S.G., and Koseff, J.R. (1995), "Digital Particle Tracking Velocimetry Measurements Very Near a Free-Surface," *Air Water Transfer. Selected Papers from the Third International Symposium on Air-Water Gas Transfer*, ed. B. Jahne and E.C. Monahan, Aeon Verlag and Studio, 135-144.

Zang, Y., Street, R.L., and Koseff, J.R., "Large Eddy Simulation of Turbulent Cavity Flow Using a Dynamic Subgrid-Scale Model," *Engineering Applications of Large Eddy Simulations* (edited by S. A. Ragab and U. Piomelli), ASME Fluids Engineering Conference, Washington, D.C., June 20-24, pp 121 - 126, 1993.

Zang, Y., Street, R.L., and Koseff, J.R., "Three-Dimensional Composite-Multigrid Computations of Incompressible Flows in Complex Geometries," *Computational Mechanics*, (Lee & Leung, Eds.), Balkema Press, 1991, pp. 1379-1384.

Zang, Y., Street, R.L., and Koseff, J.R., "A Composite-Multigrid Method for Solving Unsteady Incompressible Navier-Stokes Equations in Complex Geometries," *Proc. of the Seventh International Conference on Numerical Methods in Laminar and Turbulent Flow*, Stanford University, July 15-19, 1991, pp. 1485-1495.

- Holt, S., Koseff, J.R., and Ferziger, J.H., "The Evolution of Turbulence in the Presence of Mean Shear and Stable Stratification," *Proc. Seventh Symposium on Turbulent Shear Flows*, Stanford University, Stanford, CA, Aug. 21-23, 1989, pp. 12.2.1-12.2.6.
- Prasad, A.K., and Koseff, J.R., "Mixed-Convection Heat Transfer in a Deep Lid-Driven Cavity Flow," *Heat Transfer in Convective Flow*, ASME, HTD-Vol 107, pp. 155-162, 1989.
- Prasad, A.K., Perng, C-Y., and Koseff, J.R., "Some Observations on the Influence of Longitudinal Vortices in a Lid-Driven Cavity Flow," *Proc. First National Fluid Dynamics Congress*, Cincinnati, Ohio, July 24-28, 1988, pp. 288-295.
- Holt, S., and Koseff, J.R., "Plume-Underflow Interaction in Natural Enclosures," *Proc. National Conference on Hydraulic Engineering*, Williamsburg, Aug. 3-7, 1987, pp. 128-134.
- Jiang, J-Y., Prasad, A.K., Koseff, J.R., Cheung, T.K., Street, R.L., and Klotz, S.P., "Can Reliable Phase Measurements be made by Laser-Doppler Anemometry?" *Proc. 3rd Int'l Laser Doppler Anemometry Symposium*, ASME, FED-Vol. 55, pp. 59-62, 1987.
- Rhee, H.-S., Koseff, J.R. and Street, R.L., "Simultaneous Flow and Temperature Field Visualization in a Mixed-Convection Flow," *Proc. 4th Int'l Symp. on Flow Visualization*, Paris, Aug. 26-29, 1986.
- Rhee, H.-S., Koseff, J.R., and Street, R.L., "Visualization of Natural and Mixed-Convection Flow in a Cavity," *Int'l Symp. on Refined Flow Modeling and Turbulence Measurements*, University of Iowa, Iowa City, Iowa, pp. I11 1-9, September, 1985.
- Meakin, R.L., Rhee, H.-S., Koseff, J.R., and Street, R.L., "Computer-Based Data Acquisition, Analysis and Control: A Minicomputer System," *Proceedings of ASCE 1985 Hydraulics Division Specialty Conference*, Orlando, Florida, August 13-16, pp. 1059-1064, 1985.
- Meakin, R. L., Koseff, J.R., and Street, R.L., "A Fiber Optical Link for Modular Two Component LDA Optics and Argon-Ion Lasers," *Proc. of Second International Symposium on Applications of Laser Anemometry to Fluid Mechanics*, Lisbon, Portugal, July 2-4, Sect. 10.2, pp. 1-5, 1984.
- Koseff, J.R., Rhee, H., and Street, R.L., "Mixing in a Stratified Recirculating Flow," *Proc. of Conf. on Frontiers in Hydraulic Engineering*, Mass. Inst. Tech., Aug. 9-12, pp. 1-6, 1983.
- Koseff, J.R., Street, R.L., Gresho, P.M., Upson, C.D., Humphrey, J.A.C., and To, W.-M., "A Three-Dimensional Lid-Driven Cavity Flow: Experiment and Simulation," *Proc. of Third Int'l Conf. on Numerical Methods in Laminar and Turbulent Flow*, Univ. Washington, Aug. 8-11, pp. 564-581, 1983.
- Koseff, J.R., Street, R.L., and Rhee, H., "Velocity Measurements in a Lid-Driven Cavity Flow," ASME Symposium on Numerical and Experimental Investigations of Confined Recirculating Flows, preprint No. 83-FE-12, Houston, June 20-22, 1983.
- Koseff, J.R., and Street, R.L., "Visualization Studies of a Shear-Driven, Three-Dimensional Recirculating Flow," *Three-Dimensional Turbulent Shear Driven Flows*, ASME, pp. 23-31, 1982.

Papers in Conference Proceedings

- Chua, V.P., Fringer, O.B., Fong, D.A., Monismith, S.G., and Koseff, J.R., "Modeling the Impact of Sea-Level Rise on Salinity Intrusion in San Francisco Bay," (Abstract ID: 9460), TOS/ASLO/AGU Ocean Sciences Meeting, Salt Lake City, February 19-24, 2012.
- Moore, C.D., Hult, E.L., and Koseff, J.R., "Conditions for bolus formation from breaking internal waves on shelf slopes," (Abstract ID: 9520), TOS/ASLO/AGU Ocean Sciences Meeting, Salt Lake City, February 19-24, 2012.
- Zeller, R. B., Weitzman, J. S., Abbett, M. E., Fringer, O. B., and Koseff, J. R., "Seagrass blade dynamics in unidirectional, oscillatory, and combined flows," (Abstract ID: 9801), TOS/ASLO/AGU Ocean Sciences Meeting, Salt Lake City, February 19-24, 2012.
- Dunckley, J.F., Koseff, J.R., Geniin, A., Monismith, S.G., Woodson, C.B., Lindemann, Y., and Zarubin, M., "The fine-scale hydrodynamics of a sloping coral reef: Eilat Israel," (Abstract ID: 11471), TOS/ASLO/AGU Ocean Sciences Meeting, Salt Lake City, February 19-24, 2012.
- Alnajjar, M.W., Woodson, C.B., Monismith, S.G., Koseff, J.R., Genin, A., Litvin, S., Moniz, R.J., Walter, R.K., Dunckley, J., and Leary, P.R., "Hydrodynamics of a Headland Kelp Forest," (Abstract ID: 12826), TOS/ASLO/AGU Ocean Sciences Meeting, Salt Lake City, February 19-24, 2012.
- Dunckley, J.F., Steinbuck, J.V., and Koseff, J.R., "Comparison of Mixing Efficiency and Vertical Scalar Diffusivity Models calculated from microstructure," Proceedings of the VII International Symposium on Stratified Flows, Rome, August 22-26, 2011.
- Moore, C., Hult, E., and Koseff, J.R., "Characteristics of Bolus Formation from Breaking Internal Waves on Shelf Slopes," Proceedings of the VII International Symposium on Stratified Flows, Rome, August 22-26, 2011.
- Steinbuck, J.V., Koseff, J.R., Genin, A., Stacey, M.T., and Monismith, S.G., "Horizontal dispersion of ocean tracers in internal wave shear," *Eos Trans. AGU*, 91(26), Ocean-Sci. Meeting Suppl., Abstract IT45A-06, 2010.
- Weitzman, J.S., Aveni-Deforge, K., Koseff, J.R., and Thomas, F.I., "Wavy turbulence in Florida Bay seagrass canopies," *Eos Trans. AGU*, 91(26), Ocean-Sci. Meeting Suppl., Abstract PO45H-09, 2010.
- Fleischfresser, J.D., Hench, J.L., Walter, L.M., Monismith, S.G., and Koseff, J.R., "Evolution of a reef pass jet from microstructure profiles," *Eos Trans. AGU*, 91(26), Ocean-Sci. Meeting Suppl., Abstract PO45K-05, 2010.
- Hult, E.L., Troy, C.D., and Koseff, J.R., "Spatial and Temporal Variability of Internal Wave Mixing at a Submerged Ridge," *Eos Trans. AGU*, 91(26), Ocean-Sci. Meeting Suppl., Abstract PO25K-09, 2010.
- Lee, S., Brennan, M., Crooks, S., Orr, M., Koseff, J.R., and Monismith, S.G., "Modeling the effect of wind-waves on the evolution of marshplains and mudflats," *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract OS23A-1242, 2008.
- Hult, E.L., Troy, C.D., and Koseff, J.R., "Wave instability criteria for interfacial waves breaking over a ridge," AGU/ASLO/TOS/ERF Ocean Sciences Meeting, Orlando, Florida, March 2-7, 2008, Abstract ID:806.
- Genin, A., Koseff, J.R., Monismith, S.G., Steinbuck, J.V., Vaknin, R., and Holtzman, R., "In situ Lagrangian measurements of phytoplankton production and mortality: a net heterotrophic state of

the upper oligotrophic water column," AGU/ASLO/TOS/ERF Ocean Sciences Meeting, Orlando, Florida, March 2-7, 2008, Abstract ID:1300.

Steinbuck, J.V., Genin, A., Monismith, S.G., Koseff, J.R., and Holtzman, R., " Observations of a planktonic layer in its physical environment," AGU/ASLO/TOS/ERF Ocean Sciences Meeting, Orlando, Florida, March 2-7, 2008, Abstract ID:1392.

Venayagamoorthy, S.K., Fringer, O.B., Koseff, J.R., and Naylor, R.L., " Simulations of Mixing and Transport of Dissolved Waste Discharged from near-coastal aquaculture pen," AGU/ASLO/TOS/ERF Ocean Sciences Meeting, Orlando, Florida, March 2-7, 2008, Abstract ID:1533.

Rosman, J.H., Koseff, J.R., and Monismith, S.G., "Flow development and turbulence generation within a kelp forest (*Macrosystis Pyrifera*): lessons from a small scale laboratory model," AGU/ASLO/TOS/ERF Ocean Sciences Meeting, Orlando, Florida, March 2-7, 2008, Abstract ID:2260.

Weitzman, J.S., Aveni-Deforge, K., Koseff, J.R., and Thomas, F.I., " The coupling of hydrodynamics and nutrient exchange in natural seagrass canopies, Part I: flow conditions," AGU/ASLO/TOS/ERF Ocean Sciences Meeting, Orlando, Florida, March 2-7, 2008, Abstract ID:3065

Aveni-Deforge, K., Weitzman, J.S., Koseff, J.R., and Thomas, F.I., " The coupling of hydrodynamics and nutrient exchange in natural seagrass canopies, Part II: canopy characteristics and nutrient uptake," AGU/ASLO/TOS/ERF Ocean Sciences Meeting, Orlando, Florida, March 2-7, 2008, Abstract ID:3107.

Venayagamoorthy, S.K., Fringer, O.B., Koseff, J.R., and Naylor, R.L., " Simulations of Mixing and Transport of Dissolved Waste Discharged from a submerged aquaculture pen," *Eos Trans. AGU*, 88(23), Jt. Assem. Suppl., Abstract OS23G-02, 2007

Gaylord, B.P., Rosman, J.H., Koseff, J.R., Reed, D., Largier, J., McDonald, C., MacIntyre, S., Monismith, S.G., Brzezinski, M., Arkema, K., Raimondi, P., and Mardian, B., "Spatial Patterns of Flow in and Around Giant Kelp Forests: Kelp Beds as Permeable Filters of Nearshore Waters", AGU/ASLO/TOS 2006 Ocean Sciences Meeting, Honolulu, Hawaii, OS12E-02, Feb 20-24, 2006.

Rosman, J.H., Koseff, J.R., Monismith, S.G., Gaylord, B.P., and Grover, J., "Across-shore and Vertical Transport in a Giant Kelp Forest", AGU/ASLO/TOS 2006 Ocean Sciences Meeting, Honolulu, Hawaii, OS12E-04, Feb 20-24, 2006

Troy, C.D., Hult, E.L., and Koseff, J.R., "Scalar microstructure associated with breaking internal waves over topographic ridges", AGU/ASLO/TOS 2006 Ocean Sciences Meeting, Honolulu, Hawaii, OS14J-03, Feb 20-24, 2006

Hult, E.L., Troy, C.D., and Koseff, J.R., "Breaking Classification for Internal Waves Over Topographic Features", AGU/ASLO/TOS 2006 Ocean Sciences Meeting, Honolulu, Hawaii, OS15A-16, Feb 20-24, 2006

Reidenbach, M. A., Koehl, M.A., and Koseff, J.R., "The Effect of Localized Shear and Fine-Scale Turbulent Mixing on Larval Settlement in Coral Reefs", AGU/ASLO/TOS 2006 Ocean Sciences Meeting, Honolulu, Hawaii, OS15L-02, Feb 20-24, 2006

Warren, J., Boehm, A.B., Fringer, O., and Koseff, J.R., "Recreational Beach Visitor Perceptions of Health Risk and Impact of Water-Borne Pathogens in Orange County, CA", AGU/ASLO/TOS 2006 Ocean Sciences Meeting, Honolulu, Hawaii, OS25M-04, Feb 20-24, 2006

- Jones, N.L., Monismith, S.G., Thompson, J.K., and Koseff, J.R., "Observations of wave-current interactions in a shallow estuarine embayment", AGU/ASLO/TOS 2006 Ocean Sciences Meeting, Honolulu, Hawaii, OS46H-17, Feb 20-24, 2006
- Lowe, R.J., Koseff, J.R., Monismith, S.G., and Falter, J. L., "Wave Driven flow and mass transfer through coral reef canopies," ASLO 2005 Aquatic Sciences Meeting, Salt Lake City, Utah, Feb 20-25, 2005
- Koseff, J.R., Reidenbach, M.A., and Monismith, S.G., "The effect of wave action on mixing and mass transfer in coral communities," ASLO 2005 Aquatic Sciences Meeting, Salt Lake City, Utah, Feb 20-25, 2005
- Reidenbach, M.A., Koseff, J.R., Monismith, S.G., Genin, A., Dunbar, R., and Zerbe, L., "Interaction between CO₂, calcification and hydrodynamics on coral reefs," ASLO 2005 Aquatic Sciences Meeting, Salt Lake City, Utah, Feb 20-25, 2005
- Genin, A., Monismith, S.G., Yahel, G., Reidenbach, M.A.R, and Koseff, J.R., "Intense phytoplankton growth in coral reefs sustained by strong turbulence over rough bottom topography," Abstract Book of the 2004 ASLO/TOS Ocean Research Conference, Honolulu, Hawaii, February 15-20, 2004, p. 56.
- Koehl, M.A.R., Koseff, J.R, Reidenbach, M.A., Strother, J.A., Crimaldi, J.P., Wiley, M.B., and Hadfield, M.G., "How animals of different sizes encounter chemical cues in turbulent ambient water flow," Abstract Book of the 2004 ASLO/TOS Ocean Research Conference, Honolulu, Hawaii, February 15-20, 2004, p. 82.
- Koseff, J.R., Lucas, L.V., Cloern, J.E., Monismith, S.G., and Thompson, J.K., "Modeling and field observations of algal blooms in South San Francisco Bay, 1: Philosophy and Initial Approaches," Abstract Book of the 2004 ASLO/TOS Ocean Research Conference, Honolulu, Hawaii, February 15-20, 2004, p. 83.
- May, C.L., Koseff, J.R., Lucas, L.V., Cloern, J.E., and Shoellhammer, D.H., "Modeling and field observations of algal blooms in South San Francisco Bay, 2: Spatial and Temporal variability in light," Abstract Book of the 2004 ASLO/TOS Ocean Research Conference, Honolulu, Hawaii, February 15-20, 2004, p. 103.
- Lucas, L.V., Koseff, J.R., Cloern, J.E., Monismith, S.G., and Thompson, J.K., "Modeling and field observations of algal blooms in South San Francisco Bay, 3: Intratidal Physical Processes," Abstract Book of the 2004 ASLO/TOS Ocean Research Conference, Honolulu, Hawaii, February 15-20, 2004, p. 96.
- Reidenbach, M.A.R, Koseff, J.R., Genin, A., and Monismith, "The effect of coral morphology and flow on mass transfer in coral communities," Abstract Book of the 2004 ASLO/TOS Ocean Research Conference, Honolulu, Hawaii, February 15-20, 2004, p. 129.
- Shih, L.H., Koseff, J.R., Ivey, G.N., and Ferziger, J.H., "Parameterizing turbulent diffusivity using homogeneous shear flow simulations and laboratory data," Abstract Book of the 2004 ASLO/TOS Ocean Research Conference, Honolulu, Hawaii, February 15-20, 2004, p. 145.
- Strother, J.A., Koehl, M.A.R., Reidenbach, M.A., Koseff, J.R, and Hadfield, M.G., "Effects of turbulence and behavior on larval settlement in wave-driven flow," Abstract Book of the 2004 ASLO/TOS Ocean Research Conference, Honolulu, Hawaii, February 15-20, 2004, p. 155.
- Thompson, J.K., Koseff, J.R., Monismith, S.G., and Lucas, L.V., "Modeling and field observations of algal blooms in South San Francisco Bay, 4: Integration of Numerical Models and Field Observations,"

Abstract Book of the 2004 ASLO/TOS Ocean Research Conference, Honolulu, Hawaii, February 15-20, 2004, p. 160.

Wiley, M.B., Koseff, J.R., Mead, K.S, and Koehl, M.A.R., "The effects of oscillatory motion on chemical plumes and how stomatopods use these plumes to find the chemical's source" Abstract Book of the 2004 ASLO/TOS Ocean Research Conference, Honolulu, Hawaii, February 15-20, 2004, p. 173.

Mead, K.S, Wiley, M.B., Koehl, M.A.R., and Koseff, J.R., "Visualizing the small-scale distribution of odors encountered by olfactory antennules of benthic crustaceans in turbulent, wave-driven flows," Abstract Book of the 2004 ASLO/TOS Ocean Research Conference, Honolulu, Hawaii, February 15-20, 2004, p. 150.

Reidenbach, M.A., Koseff, J.R., Monismith, S.G., Yahel, G., and Genin, A., "Turbulence and Mixing in the bottom boundary layers of coral reefs," 12th AGU Ocean Sciences Meeting, Portland, Oregon, January 26-30, 2004

Lowe, R. J., Falter, J. L., Bandet, M. D., Pawlak, G., Monismith, S.G., Koseff, J.R., and Atkinson, M.J., "Wave transformation and circulation on a barrier reef in Kaneohe Bay, Oahu, Hawaii," 12th AGU Ocean Sciences Meeting, Portland, Oregon, January 26-30, 2004

Rosman, J., Koseff, J.R., Monismith, S.G., Storlazzi, C., Shaw, W., and Gaylord, B., "The nature of flow in and around Giant kelp forests," 12th AGU Ocean Sciences Meeting, Portland, Oregon, January 26-30, 2004

Strother, J.A., Koehl, M.A.R., Reidenbach, M.A., Hadfield, M.G., and Koseff, J.R., "Which aspects of the response of marine larvae to dissolved chemical cues affects their settlement in turbulent, wave-driven flow?", Proceedings of The Society for Integrative and Comparative Biology 2004 Meeting, New Orleans, LA., January 5-9, 2004.

Koehl, M.A.R., Koseff, J.R., Crimaldi, J.P., and Wiley, M.B., "Hydrodynamics of Sniffing by Lobsters", Proceedings of The Society for Integrative and Comparative Biology 2004 Meeting, New Orleans, LA., January 5-9, 2004.

May, C.L., Koseff, J.R., Lucas, L.V., and Cloern, J.E., "Modeling phytoplankton blooms in shallow turbid estuaries: a generic study", Proceedings of the 8th International Conference on Estuarine and Coastal Modeling, Monterey, CA., November 3, 2003.

Koseff, J.R., " Beyond the Reynolds Number: Bridging the Spatial and Temporal Gap between Physical and Biological Processes using Time-Scales and Dimensionless Numbers", Estuarine Research Federation, Seattle, Washington, September 16, 2003 (invited).

Troy, C.D., and Koseff, J.R., " The mixing of breaking internal waves", 2002 AGU Fall Meeting, Paper OS52D-0253, San Francisco, CA, Dec 6-10, 2002.

Reidenbach, M.A., Koseff, J.R., Monismith, S.G., Genin, A., and Yahel, G., "Shear stress and turbulent mixing in the bottom boundary layer over a fringing coral reef", 2002 AGU Fall Meeting, Paper OS71A-0265, San Francisco, CA, Dec 6-10, 2002.

Fringer, O.B., Troy, C.D., Street, R.L., and Koseff, J.R., " Laboratory and Numerical Experiments on Breaking Interfacial Waves, " 2002 Ocean Sciences Meeting, Paper Number OS41E-68, Honolulu, Hawaii, Feb 11-15, 2002.

Koehl, M.A., Hadfield, M.D., Reidenbach, M.A., and Koseff, J.R., "Behavioral Responses to Instantaneous Patterns of Water-Borne Chemical Cues Encountered by Microscopic Larvae in Turbulent Wave-Driven Flow Affect Larval Settlement," 2002 Ocean Sciences Meeting, Paper Number OS32N-06, Honolulu, Hawaii, Feb 11-15, 2002.

- Crimaldi, J.P., Koseff, J.R., and Koehl, M.A.R., "Size does matter: The effect of sensor morphology and kinematics on perception," *Making Connections in the 21st Century*, 2001 ASLO Aquatic Sciences Meeting, Albuquerque, New Mexico, February 12-16, 2001, p. 40.
- Wiley, M.B., Mead, K.S, Koseff, J.R., and Koehl, M.A.R., "How do benthic crustaceans find odor sources in waves?: Integrating animal behavior and fluid mechanics," *Making Connections in the 21st Century*, 2001 ASLO Aquatic Sciences Meeting, Albuquerque, New Mexico, February 12-16, 2001, p. 96.
- Monismith, S.G., Reidenbach, M.A., Genin, A., and Koseff, J.R., "The role of thermal cycling in supplying nutrients to coral reefs," *Making Connections in the 21st Century*, 2001 ASLO Aquatic Sciences Meeting, Albuquerque, New Mexico, February 12-16, 2001, p. 100.
- Reidenbach, M.A., Koseff, J.R., and Koehl, M.A.R., "A Laboratory Study of Fine-Scale Mixing and Mass Transport Above a Coral Reef," *Proceedings of 9th International Coral Reef Symposium*, Bali, Indonesia, October 23-27, 2000.
- Monismith, S.G., Reidenbach, M.A., Koseff, J.R., Genin, A. "Boundary Layer Mixing and Circulation over Rough Topography: Flow over Coral Reefs," *Proceedings of 9th International Coral Reef Symposium*, Bali, Indonesia, October 23-27, 2000.
- Koehl, M.A.R., M. G. Hadfield, M.G., Cooper, T., Reidenbach, M.A., and Koseff, J.R., "Can Larvae of Benthic Animals Use Dissolved Chemical Cues in Wave-Driven Flow?" *American Zoologist*, V40 (#6), 2000, p. 1089.
- Horner, A., Fong, D., Koseff, J.R., Maxworthy, T., and Monismith, S.G., "The Control of Coastal Current Transport," *Proceedings of 5th International Symposium on Stratified Flows*, University of British Columbia, Vancouver, Canada, July 10-13, 2000, pp. 865-870.
- Troy, C., Koseff, J.R., and Rehmann, C.R., "A Laboratory Investigation of Breaking Internal Waves," *Proceedings of 5th International Symposium on Stratified Flows*, University of British Columbia, Vancouver, Canada, July 10-13, 2000.
- Zhou, H., Monismith, S.G., Ferziger, J.H., and Koseff, J.R., *Numerical Simulations of Langmuir Circulation in a Wavy Domain*, AGU Ocean Science meeting, January 24-28, 2000 San Antonio, Texas.
- Lucas, L.V., Cloern, J.E., Koseff, J.R., and Monismith, S.G., "A 'Building-Block' Approach to Models of Transport, Phytoplankton, and Nutrient Dynamics in Estuaries." *15th Biennial International Conference of the Estuarine Research Federation*, Sept. 25-30, p. 64, 1999.
- Thompson, J.K., O'Riordan, C.A., Koseff, J.R. and Monismith, S.G., "Concentration Boundary Layers Over Infaunal Bivalves: Predictive Relationships Developed Through Laboratory and Field Studies." *15th Biennial International Conference of the Estuarine Research Federation*, Sept. 25-30, p. 104, 1999.
- Lucas, L.V., Cloern, J.E., Koseff, J.R., and Monismith, S.G., "Physical Influences on Bloom Development in Shallow Tidal Systems: What Time Scales are Important?" *Limnology and Oceanography: Navigating into the Next Century*, ASLO Meeting, Santa Fe, New Mexico, February 1-5, 1999, p. 112.
- Crimaldi, J.P., Wiley, M.B., and Koseff, J.R., "Design and Quantification of a Laboratory Odor Plume for Use in Biological Studies of Chemical Sensing and Tracking Algorithms," *Limnology and Oceanography: Navigating into the Next Century*, ASLO Meeting, Santa Fe, New Mexico, February 1-5, 1999, p. 51.

- Zhou, H., Monismith, S.G., Ferziger, J.H., and Koseff, J.R., "Numerical Simulation of Langmuir Circulation and Its Comparison with the Craik-Leibovich Theory," APS Fluid Dynamics Division Meeting, LC.02, Philadelphia, November 22-25, 1998.
- Shih, L., Koseff, J.R., Ferziger, J.H., and Rehmann, C.R., "Scaling of Homogeneous Sheared Stratified Turbulence," APS Fluid Dynamics Division Meeting, DG.03, Philadelphia, November 22-25, 1998.
- Troy, C.D., Koseff, J.R., and Rehmann, C.R., "Experiments on Breaking Internal Waves at a Sharp Density Interface," 1998 Ocean Sciences Meeting, Paper OS42E-02, Feb. 8-12, 1998.
- Powell, T.M., Stacey, M.T., Cowen, E.A., Dobbins, L., Monismith, S.G., and Koseff, J.R., "Plume Dispersion Modeling in Coastal Waters," 1998 Ocean Sciences Meeting, Paper OS12N-04, Feb. 8-12, 1998.
- Cowen, E.A., Stacey, M.T., Dobbins, L., Monismith, S.G., Powell, T.M., and Koseff, J.R., "Plume Measurements in Shallow Coastal Waters at Scales of Several Hundred Meters," 1998 Ocean Sciences Meeting, Paper OS22N-05, Feb 8-12, 1998.
- Stacey, M.T., Cowen, E.A., Dobbins, L., Monismith, S.G., Powell, T.M., and Koseff, J.R., "Identification of Plume Source Location in Coastal Waters," Proceedings of 12th Engineering Mechanics Conference, ASCE, May 17-20, San Diego, CA., pp. 1669-1672, 1998.
- Crimaldi, J.P., and Koseff, J.R., "Nonintrusive Measurements of Turbulent Scalar Fluxes Using a Combined LDA/LIF Probe," Proceedings of 12th Engineering Mechanics Conference, ASCE, May 17-20, San Diego, CA., pp. 1836-1839, 1998.
- Lucas, L.V., Thompson, J.K., Koseff, J.R., Monismith, S.G., and Cloern, J.E., "Modeling the Interaction of Horizontal Transport and Horizontal Variability in Phytoplankton Population Growth in a Shallow Estuary," 14th Biennial Estuarine Research Federation International Conference, Providence, Rhode Island, October 12-16, 1997.
- Crimaldi, J.P., and Koseff, J.R., "Turbulent Scalar Flux Measurements over Model Bivalves," Proceedings of 27th IAHR Congress, San Francisco, California, Aug 10-15, 1997, p. 161.
- Piccirillo, P., Street, R.L., and Koseff, J.R., "Using Wavelets for Study Mixing in a Stably Stratified Turbulent Flow," 12th Symposium on Boundary Layers and Turbulence, Vancouver, Canada, Paper 9.4, July 29, 1997.
- Rehmann, C.R., and Koseff, J.R., "Effects of Molecular Diffusivity on Mixing in a Stratified Fluid: Experiment and Time Scale Analysis," 12th Symposium on Boundary Layers and Turbulence, Vancouver, Canada, Paper 6.13, July 29, 1997.
- Thompson, J.K., Lucas, L.V., Koseff, J.R., Monismith, S.G., "The Relative Importance of Benthic Grazing Rates and Hydrodynamics on Phytoplankton Dynamics in San Francisco Bay, CA," 25th Annual Benthic Ecology Meeting, April 3-6 1997, Portland, ME, p.92.
- Crimaldi, J.P.; Thompson, J.K.; Koseff, J.R.; Monismith, S.G., "The Role of Hydrodynamics in the Recruitment of Benthic Fauna," 25th Annual Benthic Ecology Meeting, April 3-6 1997, Portland, ME, p. 33.
- Lin, C-L., Koseff, J. R., Ferziger, J. H., and Monismith, S. G., "A Study of Internal Wave Energy Transfer Using Direct Numerical Simulation," 1996 Ocean Sciences Meeting, Paper OS51H-09, EOS, Vol. 76 No. 3, January 16, 1996, p. 206.
- Rehmann, C.E. and Koseff, J. R., "Effects of Stratification on the Mixing Efficiency of Decaying Turbulence," 1996 Ocean Sciences Meeting, Paper OS41E-03, EOS, Vol. 76 No. 3, January 16, 1996, p. 150.

- Lucas, L. V., Thompson, J. K., Koseff, J. R., Monismith, S. G., and Cloern, J. E., "Numerical Modeling of Coupled Hydrodynamics and Phytoplankton Dynamics in Shallow Estuaries," 1996 Ocean Sciences Meeting, Paper OS32J-10, EOS, Vol. 76 No. 3, January 16, 1996, p. 133.
- Crimaldi, J.P., Thompson, J. K., Koseff, J. R., and Monismith, S. G., "Hydrodynamics of Recruitment in Benthic Fauna," 1996 Ocean Sciences Meeting, Paper OS22K-06, EOS, Vol. 76 No. 3, January 16, 1996, p. 88.
- Thompson, J.K., Lucas, L.V., Koseff, J. R., and Monismith, S. G., "The Effect of Benthic Grazing on Phytoplankton Bloom Development in San Francisco Bay, California: How Benthic Community Spatial Scales can Affect Estimates of Benthic Grazing Rates," 1996 Ocean Sciences Meeting, Paper OS21L-07, EOS, Vol. 76 No. 3, January 16, 1996, p 67.
- Garg, R. P., Ferziger, J. H., Monismith, S. G., and Koseff, J. R., "Numerical Studies of Stably Stratified Channel Flows," 1996 Ocean Sciences Meeting, Paper OS11J-02, EOS, Vol. 76 No. 3, January 16, 1996, p. 16.
- Briggs, D., Koseff, J.R., Ferziger, J., Monismith, S., "Turbulent Entrainment in a Stably Stratified, Shear-Free Mixing Layer," 1996 Ocean Sciences Meeting, Paper OS41E-4, EOS, Vol. 76 No. 3, January 16, 1996, p. 150.
- Lucas, L.V., Thompson, J.K, Koseff, J.R., and Monismith, S.G., "Numerical Modeling of Coupled Hydrodynamics and Phytoplankton Dynamics in Shallow Estuaries," presented at 13th Biennial International Conference of the Estuarine Research Foundation, Corpus Christi, November 12-16, 1995. (See p.80 of Abstracts)
- Thompson, J.K, Lucas, L.V., and Koseff, J.R, "Benthic Grazing by Bivalves as a Control on South San Francisco Bay, Ca (UASA) Phytoplankton Biomass: Field Observations in Support of a Numerical Model," presented at 13th Biennial International Conference of the Estuarine Research Foundation, Corpus Christi, November 12-16, 1995. (See p.133 of Abstracts)
- Lin, C-L., Koseff, J.R., Ferziger, J.H., and Monismith, S.G., "Direct Numerical Simulation of Wave-Mean Flow and Wave-Wave Interactions: A Brief Perspective," IUTAM Conference on Physical Limnology, Broome, Western Australia, Sept 9-14, 1995.
- Ivey, G.N., Imberger, J., and Koseff, J.R., "Buoyancy Fluxes in a Stratified Fluid," IUTAM Conference on Physical Limnology, Broome, Western Australia, Sept 9-14, 1995.
- Lucas, L.V., J.K. Thompson, J.R. Koseff, and S.G. Monismith. "To Bloom, or Not to Bloom? A Happy Marriage between Numerical Modeling and Field Work." March 1995. Biological Fluid Mechanics Workshop, Hopkins Marine Station, Monterey, California.
- Rehmann, C.R., and Koseff, J.R., "Mixing Efficiency of Decaying Grid Turbulence in a Stratified Fluid," Proceedings of the Fourth International Symposium on Stratified Flows, Grenoble, France, June 29 - July 2, 1994, Vol. 2, Paper No. 119.
- Briggs, D. A., Ferziger, J. H., Koseff, J. R., and Monismith, S. G., "Entrainment in a Turbulent Mixing Layer," AGARD Conference Proceedings, Application of Direct and Large Eddy Simulation to Transition and Turbulence, April 18-21, 1994.
- Rehmann, C.R., and Koseff, J.R., 1994, "Towed Grid Experiments on Mixing in a Stratified Flow," 1994 Ocean Sciences Meeting, Paper O31I-4, EOS, Vol 75, Jan. 18, 1994, p. 118.
- Briggs, D. A., Ferziger, J. H. and Koseff, J. R., 1994, "Entrainment in a Turbulent Mixing Layer," 1994 Ocean Sciences Meeting, Paper O22N-10, EOS, Vol. 75, Jan 18., 1994, p. 101.

- Briggs, D. A., Ferziger, J. H. and Koseff, J. R., 1993, "Entrainment in a Turbulent Mixing Layer," presented at the 46th annual meeting of the American Physical Society, Division of Fluid Dynamics, November 21-23, Albuquerque, New Mexico, Paper No. DC-8.
- O'Riordan, C.A., Monismith, S.G., and Koseff, J.R., "An Experimental Study of Bivalve Siphonal Jets in a Turbulent Boundary Layer Crossflow," *Hydraulic Engineering '93*, Vol. 1, ASCE, 1993, pp. 1007-1012.
- Vidergar, L.L, Koseff, J.R., and Monismith, S.G., "Numerical Models of Phytoplankton Dynamics for Shallow Estuaries," *Hydraulic Engineering '93*, Vol. 1, ASCE, 1993, pp. 1025-1030.
- Zang, Y., Street, R.L., and Koseff, J.R., "Structure of Coastal Upwelling on a Sloping Bottom," *Hydraulic Engineering '93*, Vol. 2., ASCE, 1993, pp. 2184-2189.
- Bureau J., Koseff, J.R., and Monismith, S.G., "Comparison of Advective Transport Algorithms with an Application in Suisun Bay, a Sub-Embayment of San Francisco Bay, California," *Hydraulic Engineering '93*, Vol. 2, ASCE, 1993, pp. 1628-1634.
- Koseff, J.R., Monismith, S.G., Vidergar, L.L., Holen, J.K., and Cloern, J.E., "The Effects of Vertical Mixing, Benthic Grazing, and Lateral Exchange on Estuarine Phytoplankton Dynamics," presented at ASLO 1993 Annual Meeting, Edmonton, Canada, June, 1993.
- O'Riordan, C.A., Monismith, S.G., and Koseff, J.R., "An Experimental Study of Siphonal Jets in a Turbulent Boundary Layer Crossflow," Presented at the 72nd AGARD Fluid Dynamics Symposium, Winchester, UK, 1993, pp. 14.1-14.11.
- Zang, Y., Street, R.L., and Koseff, J.R., "Application of Subgrid-Scale Model to Turbulent Recirculating Flows," Center for Turbulence Research, *Annual Research Briefs - 1992*, 1993, pp. 85-95.
- Ivey, G., Koseff, J.R., Briggs, D.A., Ferziger, J.H., "Mixing in a Stratified Shear Flow: Energetics and Sampling," Center for Turbulence Research, *Annual Research Briefs - 1992*, 1993, pp. 335-344.
- Koseff, J.R., Itsweire, E.C., Ferziger, J.H., and Briggs, D.A., "Direct Simulation of Stably-Stratified Sheared Turbulence: Implications for Interpreting Mixing in the Ocean," presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA, *EOS*, 73, No. 43, p. 320, 1992.
- Thomas McDonald, E., and Koseff, J.R., "On Self-Propagation of Thermohaline Intrusions," presented at the Tenth Symposium on Energy Engineering Sciences, Argonne National Laboratory, Argonne, IL, May 11-13, 1992, pp. 60-67.
- Monismith, S.G., Koseff, J.R., Holen, J.K., Cloern, J.E., and O'Riordan, C.A., "Hydrodynamic Influences on Benthic Grazing of Estuarine Phytoplankton," presented (invited) at ASLO 1992 Aquatic Sciences Meeting, Santa Fe, New Mexico, Feb. 1992.
- O'Riordan, C.A., Monismith, S.G., and Koseff, J.R., "A Study of Concentration Boundary Layer Formation over a Bed of Model Siphonate Bivalves," presented at ASLO 1992 Aquatic Sciences Meeting, Santa Fe, New Mexico, Feb. 1992.
- Thomas McDonald, E., and Koseff, J.R., "The Structure of Lateral Intrusions in a Two Component Continuously Stratified Heat/Salt System," presented at the AGU Ocean Sciences Meeting, Paper No. 011B-11, New Orleans, LA, 1992.
- Koseff, J.R., "Hydrodynamics of Benthic-Bivalve Feeding," presented at the State of the Estuary Conference, Oakland, CA, 30 May 1991. [Abstract, *State of the Estuary Conference*, p. 22]

- Lin, C.-L., Ferziger, J.H., Koseff, J.R., and Monismith, S.G., "Numerical Study of the Critical Layer Process," presented at the Forty Fourth Meeting of the American Physical Society, Division of Fluid Dynamics, Phoenix, AZ, Feb. 24-26, 1991.
- O'Riordan, C.A., Monismith, S.G., and Koseff, J.R., "An Experimental Study of the Behavior of Bivalve Siphonal Currents in the Boundary Layer Flows," presented at the 11th Biennial International Estuarine Research Conference, San Francisco, CA, November 10-14, 1991.
- O'Riordan, C.A., Monismith, S.G. and Koseff, J. R., "Flume Modeling of Bivalve Siphonal Currents in Boundary Layer Flows," *EOS*, 71, No. 43, p. 1359, 1990.
- Koseff, J.R., Holt, S.E., Itsweire, E.C. and Ferziger, J.H., "Direct Simulation of Stably-Stratified Sheared Turbulence," *EOS*, 71, No. 43, p. 1360, 1990.
- Schladow, S.G., Thomas, E., and Koseff, J.R., "Structure of Thermohaline Intrusions--A Comparison of Numerical and Experimental Results," *EOS*, 71, No. 43, p. 1360, 1990.
- Itsweire, E.C., Holt, S.E., Koseff, J.R., and Ferziger, J.H., "Direct Numerical Simulations of Stably-Stratified Sheared Turbulence: Implications for Oceanic Mixing," *Proc. of the 1990 Summer Program*, Center for Turbulence Research, NASA Ames-Stanford University, pp.163-180.
- O'Riordan, C.A., Koseff, J.R., and Monismith, S.G., "Hydraulic Modeling of Benthic Suspension Feeding Bivalves in Shallow Estuaries," *Proc. of Int'l Conf. on Physical Modeling of Transport and Dispersion*, Mass. Inst. Tech., Aug 7-10, 1990, pp. 6A.19-24.
- Thomas, E., Schladow, S.G., and Koseff, J.R., "Thermohaline Intrusions in a Two Component Density Stratified System," *Proc. of Int'l Conf. on Physical Modeling of Transport and Dispersion*, Mass. Inst. Tech., Aug 7-10, 1990, pp. 8C.7-12.
- Koseff, J.R., O'Riordan, C., and Monismith, S.G., "Some Effects of Boundary Layer Flows on Bivalve Siphon Currents," presented at the AGU Ocean Sciences Meeting, Paper No. 0531C-11, New Orleans, LA, 1990.
- Thomas, E., Schladow, S.G., and Koseff, J.R., "Thermohaline Intrusions in a Two-Component, Density Stratified System," AGU Fall Meeting, Paper No. 051A-11, San Francisco, CA, 1989, p. 1167.
- Thomas, E., Schladow, S.G., and Koseff, J.R., "The Formation of Lateral Intrusions in a Thermohaline Stratification," *Proc. Seventh Symposium on Energy Engineering Sciences*, Argonne National Laboratory, June 19-21, 1989, pp. 137-144.
- Koseff, J.R., Monismith, S.G., and Nepf, H.M., "A Model Study of Bivalve Currents," AGU Fall Meeting Paper No. AS12B-68, San Francisco, CA, 1988, p. 1087.
- Thomas, E., Schladow, S.G., and Koseff, J.R., "An Experimental Study of Convective Intrusions in a Two-Component, Density Stratified System," AGU Fall Meeting Paper No. O41B-10, San Francisco, CA, 1988, p. 1265.
- Roberts, P V., and Koseff, J.R., "Research Directions in Physical Processes – Water," *Proceedings of the Association of Environmental Engineering Professors, Conference on Fundamental Research Directions in Environmental Engineering*, Washington, D.C., Nov. 13-15, 1988.
- Koseff, J.R., and Katz, G., "The Use of Personal Computers in Civil Engineering Education," *Proc. IBM ACIS University Conference*, Boston, Mass., June 27-30, 1987, pp. 274-283.
- Koseff, J.R., Street, R.L., Freitas, C.J., and Rhee, H., "An Examination of Mixed and Natural Convection in a Cavity," *Proc. Third Symposium on Energy Engineering Sciences*, Penn State University, Oct. 8-10, pp. 75-83, 1985.

Koseff, J.R., Rhee, H., and Street, R.L., "Flow Visualization and Heat Flux Measurements in a Three-Dimensional Recirculating Flow," *Proc. of Symp. on Nonlinear Problems in Energy Engineering*, Argonne National Laboratory, Argonne, IL, April 26-28, pp. 90-95, 1983.

Invited Technical Lectures

"Internal Wave Breaking on Submerged Topographic Features", University of California, Davis, November 7, 2011

"The breaking and mixing of interfacial waves at a bathymetric ridge", Coordinated Mathematical Modeling of Internal Waves BIRS, Banff, Canada, April 5, 2010

"Internal Wave Breaking on Submerged Topographic Features", MIT, December 7, 2009.

"The Water-Energy Nexus: California's Next Grand Challenge", California Council on Science and Technology, May 21, 2008.

"Internal Wave Breaking on Submerged Topographic Features", Cornell University, October 25, 2007

"Internal Wave Breaking on Submerged Topographic Features", The Israel Institute of Technology, Haifa, Israel, June 5, 2007.

"South San Francisco Bay in 2050: Speculating Hydrodynamically" South Bay Salt Pond Restoration Charette, Bodega Bay, California, Feb 27, 2005.

"Mass and Momentum Transfer in Coral Reef Systems", Fluid Mechanics Colloquium, Stanford University, April 19, 2005.

"Physical and Ecological Processes in the Gulf of Aqaba", Cornell University, September 29, 2004.

"Coral Reefs: Complex, Challenging and... Cool!", Bio-X Seminar Series, Stanford University, April 5, 2004.

"Physical and Ecological Processes in the Gulf of Aqaba", Red-Sea Marine Peace Park Symposium, Aqaba, Jordan, December 4, 2003.

"Beyond the Reynolds Number: Bridging the Spatial and Temporal Gap between Physical and Biological Processes using Time-Scales and Dimensionless Numbers", Estuarine Research Federation, Seattle, Washington, September 16, 2003.

"Following Your Nose the Fluid Mechanical Way: Chemical Sensing in a Marine Environment," Center for Water Research, University of Western Australia, Perth, July 24, 2003.

"Following Your Nose the Fluid Mechanical Way: Chemical Sensing in a Marine Environment," United States Geological Survey, Menlo Park, CA, May 8, 2003.

"Turbulent Times in our Coral Reef Systems," Department of Civil and Environmental Engineering, University of California, Davis, CA, March 10, 2003.

"Following Your Nose the Fluid Mechanical Way: Chemical Sensing in a Marine Environment," Aeronautics and Mechanical Engineering, University of California, San Diego, CA, April 15, 2002.

"Turbulent Times in a Coral Reef System," Distinguished Seminar Series, Iowa Institute of Hydraulic Research, University of Iowa, Iowa City, IA, March 14, 2002.

- "Following Your Nose the Fluid Mechanical Way: Chemical Sensing in a Marine Environment," H. Steinitz Marine Biology Laboratory, Eilat, Israel, January 7, 2002.
- "Turbulent Times in a Coral Reef System," Department of Civil and Environmental Engineering, University of California, Berkeley, September 14, 2001.
- "Following Your Nose the Fluid Mechanical Way: Chemical Sensing in a Marine Environment," 50th Anniversary Fluid Mechanics Colloquium, Stanford University, October 17, 2000.
- "Some Turbulence Modeling Implications from Simulations of Stratified Turbulence," 5th International Symposium on Stratified Flows, University of British Columbia, Vancouver, Canada, July 12, 2000. (Plenary Talk)
- "Influence of Turbulence Structure on the Recruitment Process in Benthic Boundary Layers," University of Southern California, April 22, 1998.
- "To Bloom or not to Bloom: Numerical Modeling of Phytoplankton Dynamics in Shallow, Turbid Estuaries," University of California, Davis, April 28, 1997.
- "To Bloom or not to Bloom: Numerical Modeling of Phytoplankton Dynamics," California Institute of Technology, Pasadena, May 7, 1996.
- "Turbulence in Stratified Shear Flows: Some Observations on Interpreting Shear-Induced Mixing in the Ocean," Chemical Engineering Colloquium, Stanford University, Stanford, April 17, 1996.
- "Turbulence in Stratified Shear Flows: Some Observations on Interpreting Shear-Induced Mixing in the Ocean," Ocean Engineering Colloquium, University of California, Berkeley, January 31, 1996.
- "Clams, Algae, and San Francisco Bay," NASA-ASEE Stanford Seminar Series, Stanford, July 27, 1995.
- "To Bloom or not to Bloom: Numerical Modeling of Phytoplankton Dynamics," Massachusetts Institute of Technology, Boston, May 8, 1995.
- "Benthic Boundary Layers and Clams," University of Southern California, Los Angeles, April 12, 1995.
- "Some Observations on the Effects of Near-Bed Hydrodynamics on Benthic Bivalve Filtration Rates," University of California, Berkeley, October 28, 1994.
- "An Overview of Research on San Francisco Bay at Stanford's Environmental Fluid Mechanics Laboratory," ASCE Hydraulics Technical Group Meeting, San Francisco, June 24, 1993.
- "San Francisco Bay, Turbulent Boundary Layers and Clams," Xerox PARC Colloquium, May 6, 1993.
- "Numerical Models of Phytoplankton Dynamics in Shallow Estuaries," San Francisco Bay and Estuarine Association Meeting, April 21, 1993.
- "Direct Simulation of Stably-Stratified Sheared Turbulence," AMES Seminar Series, University of California, San Diego, May 1991.
- "Direct Simulation of Stably-Stratified Sheared Turbulence," Environmental Dynamics Seminar, Centre for Water Research, University of Western Australia, Nedlands, Australia, September 4, 1991.
- "Hydrodynamics of Benthic-Bivalve Feeding," State of the Estuary Conference, Oakland, CA, May 30, 1991.

- "Delta Outflows and Phytoplankton Bloom Dynamics in South Bay," Environmental Studies Seminar Series, University of California, Davis, April 1990.
- "Image Processing: The Key to Adaptive Computational Experimental Methodologies," ASME Winter Annual Meeting, San Francisco, CA, Dec. 11-15, 1989.
- "The Use of Optical Techniques in Complex Recirculating Flows," Symposium on Adaptive Computational and Experimental Methodologies, Lake Arrowhead, CA, Mar 3-5, 1989.
- "Research Directions in Physical Processes – Water," Conference on Fundamental Research Directions in Environmental Engineering, Washington, D.C., Nov. 13-15, 1988.
- "The Use of Personal Computers in Civil Engineering Education," IBM ACIS Regional Conference, Madison, Wisconsin, Oct. 4-6, 1987.
- "Lid-Driven Cavity Flow: An Overview of Flow Visualization Investigations," Lockheed Palo Alto Research Laboratory Colloquium, April 10, 1986.
- "Lid-Driven Cavity Flow: An Overview of Experimental and Numerical Investigations," Thermosciences Division, Department of Mechanical Engineering, Stanford University, Feb. 20, 1986.