Curriculum Vitae
David H. Richter

Education

2007-2011	Ph.D. Mechanical Engineering, Stanford University
2006-2007	M.S. Mechanical Engineering, Stanford University
2002-2006	B. S. Mechanical Engineering, University of Massachusetts, Amherst

Appointments/Positions

2014-present	Concurrent Assistant Professor, Department of Aerospace and Mechanical Engineering, University of Notre Dame, Notre Dame, IN
2013-present	Assistant Professor, Department of Civil & Environmental Engineering and Earth Sciences, University of Notre Dame, Notre Dame, IN
2011-2013	Advanced Study Program Postdoctoral Fellow, National Center for Atmospheric Research, Boulder, CO
2006-2011	Research Assistant, Mechanical Engineering Department, Stanford University, Stanford, CA
2005-2006	Undergraduate Research Assistant, Mechanical Engineering Department, University of Massachusetts, Amherst, MA
2005	Summer Engineering Intern, National Center for Atmospheric Research, Boulder, CO

Awards and Memberships

Advanced Study Program Postdoctoral Fellowship	2011-2013
Stanford Graduate Fellowship	2008-2011
School of Engineering Graduate Fellowship, Stanford University	2006-2007
Graduated *Cum Laude* from University of Massachusetts	2006
Member, American Physical Society	2007-present
Member, American Geophysical Union	2012-present
Member, American Meteorological Society	2013-present

Refereed Publications

Richter, D.H., Stern, D.P., 2014, Evidence of spray-mediated air-sea enthalpy flux within tropical cyclones, *Geophysical Research Letters*, **41**, pp 2997-3003, doi: 10.1002/2014GL059746

Richter, D.H., Sullivan, P.P., 2014, The sea spray contribution to sensible heat flux. *Journal of the Atmospheric Sciences*, **71**, pp 640-654, doi: 10.1175/JAS-D-13-0204.1.

Richter, D.H., Sullivan, P.P., 2013, Momentum transfer in a turbulent, particle-laden Couette flow. *Physics of Fluids*, **25**, pp 053304, doi: 10.1063/1.4804391.

Richter, D.H., Sullivan, P.P., 2013, Sea surface drag and the role of spray. *Geophysical Research Letters*, **40**, pp 656-660, doi:10.1002/grl.50163.

Richter, D.H., Iaccarino, G., Shaqfeh, E.S.G.. 2012, Effects of viscoelasticity in the high Reynolds number cylinder wake. *Journal of Fluid Mechanics*, **693**, pp 297-318

Richter, D.H., Shaqfeh, E.S.G., Iaccarino, G., 2011, Numerical simulation of polymer injection in turbulent flow past a circular cylinder. *Journal of Fluids Engineering,* **133**, pp 104501-(1-5)

Richter, D.H., Shaqfeh, E.S.G., Iaccarino, G., 2010, Floquet stability analysis of viscoelastic flow over a cylinder. *Journal of Non-Newtonian Fluid Mechanics,* **166**, pp 554-565

Richter, D.H., Iaccarino, G., Shaqfeh, E.S.G., 2010, Simulations of three-dimensional viscoelastic flows past a circular cylinder at moderate Reynolds numbers. *Journal of Fluid Mechanics*. **651**, pp 415-442

Teixeira, R., Dambal, A., Richter, D.H., Shaqfeh, E.S.G., Chu, S., 2007, The individualistic dynamics of entangled DNA in solution. *Macromolecules,* **40**, pp 2461-2476

Bhardwaj, A., Richter, D.H., Chellamuthu, M., Rothstein, J.P., 2007, The effect of pre-shear on the extensional rheology of wormlike micelle solutions. *Rheologica Acta,* **46**, pp 1435-1528

Invited Presentations

"Spray-modified fluxes in the marine atmospheric boundary layer", presented at Brookhaven National Labs, Upton, NY, December 23, 2013

"Turbulent transport at the spray-laden air-sea interface", seminar at the Naval Research Labs, Monterey, CA, May 21, 2013

"Turbulent transport in the spray-laden, high-wind marine boundary layer", Mechanical & Aerospace Engineering Departmental Seminar, University of Florida, Gainesville, FL, April 16, 2013

"Sea-spray and its effects on near-surface turbulence", invited lecture at the Multiphase Turbulent Flows in the Atmosphere and Ocean Workshop at the National Center for Atmospheric Research, Boulder, CO, August 15, 2012

"Transition to turbulence in the viscoelastic bluff body wake", Department of Applied Math Departmental Seminar, University of California Davis, Davis, CA, October 20, 2010

Posters and Presentations

"Tropical cyclone air-sea enthalpy flux estimates from dropsonde profiles", presented at the American Meteorological Society Conference on Hurricanes and Tropical Meteorology, San Diego, CA, March 31, 2014

"Sensible heat flux at the spray-laden air-sea interface", presented at the American Geophysical Union Annual Meeting, San Francisco, CA, December 13, 2013

"Near-wall particle-laden turbulent transport", presented at the American Physical Society Division of Fluid Dynamics Meeting, Pittsburgh, PA, November 26, 2013

"Sea spray dynamics in the marine boundary layer", presented at the American Geophysical Union Annual Meeting, San Francisco, CA, December 3, 2012

"Near-surface sea spray dynamics via simulations of particle-laden, turbulent Couette flow", presented at the American Physical Society Division of Fluid Dynamics Meeting, San Diego, CA, November 19, 2012

"Turbulence and momentum flux modification in the presence of sea spray", presented at the American Meteorological Society's 18th Conference on Air-Sea Interaction, Boston, MA, July 10, 2012

"Sea spray dynamics in the marine boundary layer", poster at the Ocean Sciences Meeting, Salt Lake City, UT, February 21, 2012

"Simulations of high Reynolds number wake transition in the presence of viscoelasticity", presented at the American Physical Society Division of Fluid Dynamics Meeting, Long Beach, CA, November 23, 2010

"Simulations of wake stabilization in viscoelastic flow past a cylinder", presented at the American Institute of Chemical Engineers Annual Meeting, Salt Lake City, UT, November 8, 2010

"Effects of viscoelasticity on the inertial wake in flow past a circular cylinder", presented at the Society of Rheology Annual Meeting, Santa Fe, NM, October 26, 2010

"Simulations of wake stabilization in viscoelastic flow past a circular cylinder", presented at the International Workshop on Numerical Methods for Non-Newtonian Flows, Northampton, MA, June 14, 2010

"Numerical simulations of time-dependent, fully 3D viscoelastic flows past bluff bodies", presented at the American Physical Society Division of Fluid Dynamics Meeting, San Antonio, TX, November 24, 2008

"Numerical investigations of fully 3D, time-dependent viscoelastic flows past bluff bodies at moderate to high Reynolds numbers", presented at the International Congress of Rheology, Monterey, CA, August 8, 2008

"Numerical investigations of time-dependent viscoelastic flows in complex geometries", presented at the Thermal and Fluid Sciences Affiliates and Sponsors 2008 Conference, Stanford, CA, February 7, 2008

Patents

Semmer, S., Richter, D., Oncly, S., Delany, A., Schwenz, K., US Patent #8,182,613, "Radiometer including a cleaning system"