

## JOHANNA ROSMAN

Institute of Marine Sciences, University of North Carolina at Chapel Hill  
jrosman@unc.edu; 252 726 6841 ext. 224  
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### (a) Professional Preparation

Ph.D., Civil and Environmental Engineering, Stanford University, 2007  
M.S., Environmental Fluid Mechanics and Hydrology, Stanford University, 2000  
B.S./B.E. (1<sup>st</sup> class Honours), Physics/Environmental Engineering, University of Western Australia, 1998

### (b) Appointments

2017-present Research Associate Professor, Institute of Marine Sciences, UNC Chapel Hill  
2009-2017 Research Assistant Professor, Institute of Marine Sciences, UNC Chapel Hill  
2013-present Joint Appointment, Institute for the Environment, UNC Chapel Hill  
2007-2009 Postdoctoral Scholar, Environmental Fluid Mechanics Laboratory, Stanford University  
1998-1999 Research Assistant, Environmental Engineering, University of Western Australia

### (c) Products

*Top ten peer-reviewed journal articles* (\* = postdoc, \*\* = graduate student, \*\*\* = undergraduate advisee)

\*Yu, X., **J.H. Rosman**, and J.L. Hench, in press, Interaction of waves with idealized high-relief bottom roughness, *J. Geophys. Res.*

**Rosman, J.H.**, and G.P. Gerbi, 2017, Interpreting fixed-location observations of turbulence advected by waves: Insights from spectral models, *J. Phys. Oceanogr.* 47: 909-931.

\*\*\*Housego, R.M., and **J.H. Rosman**, 2016, A Model for understanding the effects of sediment dynamics on oyster reef development, *Estuaries and Coasts* 39(2): 495-509.

Hench, J.L., and **J.H. Rosman**, 2013, Observations of spatial flow patterns at the coral colony scale on a shallow reef flat, *J. Geophys. Res.*, 118(C3): 1142-1156.

Kirincich, A. and **J.H. Rosman**, 2011, A comparison of methods for estimating Reynolds stress from ADCP measurements in wavy environments, *J. Atmos. Oceanic Technol.* 28(11): 1539-1553.

**Rosman, J.H.** and J.L. Hench, 2011, A framework for understanding drag parameterizations for coral reefs, *J. Geophys. Res.* 116, C08025, doi:10.1029/2010JC006892.

**Rosman J.H.**, S.G. Monismith, M.W. Denny and J.R. Koseff, 2010, Currents and turbulence within a kelp forest (*Macrocystis pyrifera*): Insights from a dynamically scaled laboratory model, *Limnol. Oceanogr.* 55(3): 1145-1158.

**Rosman, J.H.**, J.L. Hench, J.R. Koseff, and S.G. Monismith, 2008, Extracting Reynolds stresses from acoustic Doppler current profiler measurements in wave-dominated environments, *J. Atmos. Oceanic Technol.* 25(2): 286-306.

Gaylord, B.P., **J.H. Rosman**, D.C. Reed, et al., 2007, Spatial patterns of flow and their modification within and around a giant kelp forest, *Limnol. Oceanogr.* 52(5): 1838-1852.

**Rosman, J.H.**, J.R. Koseff, S.G. Monismith and J. Grover, 2007, The Effects of a kelp forest (*Macrocystis pyrifera*) on coastal hydrodynamics and transport, *J. Geophys. Res.* 112: C02016, doi:10.1029/2005JC003430.

#### **(d) Synergistic Activities**

- Assistant Director, Institute for the Environment Morehead City Field Site, a semester-long interdisciplinary marine science undergraduate program that emphasizes field research, 2012-present.
- IMS Seminar series organizer, each fall, 2012-present.
- Session organizer, Connecting “roughness” and “bathymetry”: resolving the often-unresolved interactions between time-varying flow and topography, AGU Ocean Sciences meeting, Portland, OR, 2018.
- Technical review panelist for NSF Physical Oceanography program.
- Technical review panelist for Sea Grant core funding.
- Session organizer and chair, Measuring and understanding turbulence in the presence of surface waves, AGU Ocean Sciences meeting, Portland, OR, 2010.
- Manuscript reviewer (~6/yr).
- Proposal reviewer (~4/yr).
- Hands-on demonstrations and talks about ocean circulation and oceanography careers for K-12 teachers and students at museums and aquaria, local middle and high schools, summer camps, and school groups visiting UNC-IMS, several times per year.

#### **(e) Collaborators and Other Affiliations**

##### *Collaborators*

Peter Berg (UVA); Mark Denny (Stanford); Gregory Gerbi (Skidmore); James Hench (Duke); Gianluca Iaccarino (Stanford); Anthony Kirincich (WHOI); Jeffrey Koseff (Stanford); Richard Luettich (UNC-CH); Stephen Monismith (Stanford); Charles Peterson (UNC-CH); Alberto Scotti (UNC-CH); Christine Voss (UNC-CH).

##### *Advisors*

Postdoc: Stephen Monismith (Stanford).

PhD: Jeffrey Koseff (Stanford).

##### *Postdoctoral scholars supervised*

Xiao Yu (UF).

##### *Graduate students advised*

Jana Haddad (co-advised, UNC-CH), David Marshall (UNC-CH),

##### *Undergraduate students advised*

Honors: Nathalie Eegholm, Katharine Krovetz, Rachel Housego.

Other Independent Research: Patrick Combe, Roy Tian, Kyle Hinson, Elizabeth Paul, Adam Balfour, Christopher Cook, Jeremy Pivor, Shelby Marshall.