Stanford



# Oliver Fringer

Professor of Civil and Environmental Engineering and of Oceans

## Bio

### BIO

Fringer's research focuses on the development and application of numerical models and high-performance computational techniques to the study of fundamental processes that influence the dynamics of the coastal ocean, rivers, lakes, and estuaries.

### ACADEMIC APPOINTMENTS

- Professor, Civil and Environmental Engineering
- Professor, Oceans
- Member, Institute for Computational and Mathematical Engineering (ICME)
- Affiliate, Stanford Woods Institute for the Environment

### HONORS AND AWARDS

- Presidential Early Career Award for Scientists and Engineers, Department of Defense (2009)
- Young Investigator Award, Office of Naval Research (2008)
- Frederick A. Howes Scholar in Computational Science, Department of Energy (2003)
- South Africa Teaching Fellow, Department of African and African-American Studies, Stanford University (2002-2003)

### PROFESSIONAL EDUCATION

- PhD, Stanford University , Civil and Environmental Engineering (2003)
- MS, Stanford University , Aeronautics and Astronautics (1996)
- BSE, Princeton , Mechanical and Aerospace Engineering (1995)

### LINKS

- https://web.stanford.edu/~fringer/: https://web.stanford.edu/~fringer/

## Teaching

### COURSES

**2026-27**

- Computational Fluid Dynamics for Geophysical Flows: CEE 262C, OCEANS 262C (Win)
- Environmental Engineering Seminar: CEE 269 (Aut)
- Rivers, Streams, and Canals: CEE 162E, CEE 262E (Spr)

**2025-26**

- Ocean Modeling: CEE 363C, OCEANS 363C (Aut)
- Rivers, Streams, and Canals: CEE 162E, CEE 262E (Spr)
- Sediment Transport Physics and Modeling: CEE 262G, OCEANS 262G (Win)

**2024-25**

- Hydrodynamics: CEE 262A (Aut)
- Rivers, Streams, and Canals: CEE 162E, CEE 262E (Spr)
- Seminar in Fluid Mechanics: ENGR 298 (Spr)

**2023-24**

- Coastal Processes: CEE 162F (Win)
- Environmental Engineering Seminar: CEE 269A (Aut)
- Get to Know Your Oceans: OCEANS 300A (Aut)
- Hydrodynamics: CEE 262A (Aut)
- Introduction to PHD Studies in Civil and Environmental Engineering: CEE 379 (Aut)
- Ocean Modeling: CEE 363C (Spr)

### STANFORD ADVISEES

**Doctoral Dissertation Reader (AC)**

Sophie Bodek, Jayde Meng, Amanda Vanegas Ledesma

**Doctoral Dissertation Advisor (AC)**

Brooke Pauken

**Master's Program Advisor**

HAOWEN CHEN, Ray Chen, Evan Dwyer, Sufiyan Javed, Prakriti Lahiri, Lauren Owens, Diane Richard, Jaime Yu

**Postdoctoral Research Mentor**

Maria Barros Alcalde

**Doctoral (Program)**

Sarah Chang, Devin Dollery, Maya Eley, Cage Mitchell, Brooke Pauken

## Publications

### PUBLICATIONS

- **Drag enhancement by the addition of weak waves to a wave-current boundary layer over bumpy walls** *JOURNAL OF FLUID MECHANICS*
  Patil, A., Fringer, O.
  2022; 947

- **Particle-resolved simulations of four-way coupled, polydispersed, particle-laden flows** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS*
  Yao, Y., Biegert, E., Vowinckel, B., Koellner, T., Meiburg, E., Balachandar, S., Criddle, C. S., Fringer, O. B.
  2022

- **On Internal Tides Driving Residual Currents and Upwelling on an Island** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Rogers, J. S., Mayer, F. T., Davis, K. A., Fringer, O. B.
  2022; 127 (7)

- **On the Variability of Floc Characteristics in a Shallow Estuary** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Egan, G., Chang, G., Manning, A. J., Monismith, S., Fringer, O.
  2022; 127 (6)
- **A high-order spectral method for effective simulation of surface waves interacting with an internal wave of large amplitude** *OCEAN MODELLING*
  Hao, X., Wu, J., Rogers, J. S., Fringer, O. B., Shen, L.
  2022; 173
- **CFD-accelerated bioreactor optimization: reducing the hydrodynamic parameter space** *ENVIRONMENTAL SCIENCE-WATER RESEARCH & TECHNOLOGY*
  Yao, Y., Fringer, O. B., Criddle, C. S.
  2022
- **Long-Term Earth-Moon Evolution With High-Level Orbit and Ocean Tide Models** *JOURNAL OF GEOPHYSICAL RESEARCH-PLANETS*
  Daher, H., Arbic, B. K., Williams, J. G., Ansong, J. K., Boggs, D. H., Mueller, M., Schindelegger, M., Austermann, J., Cornuelle, B. D., Crawford, E. B., Fringer, O. B., Lau, H. C. P., Lock, et al
  2021; 126 (12)
- **Long-Term Earth-Moon Evolution With High-Level Orbit and Ocean Tide Models.** *Journal of geophysical research. Planets*
  Daher, H., Arbic, B. K., Williams, J. G., Ansong, J. K., Boggs, D. H., Müller, M., Schindelegger, M., Austermann, J., Cornuelle, B. D., Crawford, E. B., Fringer, O. B., Lau, H. C., Lock, et al
  2021; 126 (12): e2021JE006875
- **Seasonal particle responses to near-bed shear stress in a shallow, wave- and current-driven environment** *LIMNOLOGY AND OCEANOGRAPHY LETTERS*
  Chang, G., Egan, G., McNeil, J. D., McWilliams, S., Jones, C., Spada, F., Monismith, S., Fringer, O.
  2021
- **Competing flow and collision effects in a monodispersed liquid-solid fluidized bed at a moderate Archimedes number** *JOURNAL OF FLUID MECHANICS*
  Yao, Y., Criddle, C. S., Fringer, O. B.
  2021; 927
- **Comparison of the properties of segregated layers in a bidispersed fluidized bed to those of a monodispersed fluidized bed** *PHYSICAL REVIEW FLUIDS*
  Yao, Y., Criddle, C. S., Fringer, O. B.
  2021; 6 (8)
- **The effects of particle clustering on hindered settling in high-concentration particle suspensions** *JOURNAL OF FLUID MECHANICS*
  Yao, Y., Criddle, C. S., Fringer, O. B.
  2021; 920
- **Phase-Resolved Wave Boundary Layer Dynamics in a Shallow Estuary** *GEOPHYSICAL RESEARCH LETTERS*
  Cowherd, M., Egan, G., Monismith, S., Fringer, O.
  2021; 48 (8)
- **Cohesive Sediment Erosion in a Combined Wave-Current Boundary Layer** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Egan, G., Chang, G., McWilliams, S., Revelas, G., Fringer, O., Monismith, S.
  2021; 126 (2)
- **Improving Nonlinear and Nonhydrostatic Ocean Lee Wave Drag Parameterizations** *JOURNAL OF PHYSICAL OCEANOGRAPHY*
  Mayer, F. T., Fringer, O. B.
  2020; 50 (9): 2417–35
- **Bottom Drag Varies Seasonally With Biological Roughness** *GEOPHYSICAL RESEARCH LETTERS*
  Egan, G., Chang, G., Revelas, G., Monismith, S., Fringer, O.
  2020; 47 (15)
- **Sediment-Induced Stratification in an Estuarine Bottom Boundary Layer** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Egan, G., Manning, A. J., Chang, G., Fringer, O., Monismith, S.

2020; 125 (8)

- **Fate of Internal Waves on a Shallow Shelf** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Davis, K. A., Arthur, R. S., Reid, E. C., Rogers, J. S., Fringer, O. B., Decarlo, T. M., Cohen, A. L.
  2020; 125 (5)
- **CONNECTING PROCESS MODELS OF TOPOGRAPHIC WAVE DRAG TO GLOBAL EDDYING GENERAL CIRCULATION MODELS** *OCEANOGRAPHY*
  Arbic, B. K., Fringer, O. B., Klymak, J. M., Mayer, F. T., Trossman, D. S., Zhu, P.
  2019; 32 (4): 146–55
- **A framework for seamless one-way nesting of internal wave-resolving ocean models** *OCEAN MODELLING*
  Rogers, J. S., Rayson, M. D., Ko, D. S., Winters, K. B., Fringer, O. B.
  2019; 143
- **The future of coastal and estuarine modeling: Findings from a workshop** *OCEAN MODELLING*
  Fringer, O. B., Dawson, C. N., He, R., Ralston, D. K., Zhang, Y.
  2019; 143
- **Modeling Environmental DNA Transport in the Coastal Ocean Using Lagrangian Particle Tracking** *FRONTIERS IN MARINE SCIENCE*
  Andruszkiewicz, E. A., Koseff, J. R., Fringer, O. B., Ouellette, N. T., Lowe, A. B., Edwards, C. A., Boehm, A. B.
  2019; 6
- **Observations of Near-Bed Shear Stress in a Shallow, Wave- and Current-Driven Flow** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Egan, G., Cowherd, M., Fringer, O., Monismith, S.
  2019; 124 (8): 6323–44
- **Internal Wave Breaking Dynamics and Associated Mixing in the Coastal Ocean** *ENCYCLOPEDIA OF OCEAN SCIENCES, VOL 3: OCEAN DYNAMICS, 3RD EDITION*
  Masunaga, E., Arthur, R. S., Fringer, O. B.
  edited by Cochran, J. K., Bokuniewicz, H. J., Yager, P. L.
  2019: 548–54
- **The effects of intensive aquaculture on nutrient residence time and transport in a coastal embayment** *ENVIRONMENTAL FLUID MECHANICS*
  Wang, B., Cao, L., Micheli, F., Naylor, R. L., Fringer, O. B.
  2018; 18 (6): 1321–49
- **Three-Dimensional Modeling of Fine Sediment Transport by Waves and Currents in a Shallow Estuary** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Chou, Y., Nelson, K. S., Holleman, R. C., Fringer, O. B., Stacey, M. T., Lacy, J. R., Monismith, S. G., Koseff, J. R.
  2018; 123 (6): 4177–99
- **Modeling Sedimentation Dynamics of Sediment-Laden River Intrusions in a Rotationally-Influenced, Stratified Lake** *WATER RESOURCES RESEARCH*
  Scheu, K. R., Fong, D., Monismith, S. G., Fringer, O. B.
  2018; 54 (6): 4084–4107
- **A three-dimensional numerical study of river plume mixing processes in Otsuchi Bay, Japan** *JOURNAL OF OCEANOGRAPHY*
  Sasmal, K., Masunaga, E., Webb, A., Fringer, O. B., Gross, E. S., Rayson, M. D., Yamazaki, H.
  2018; 74 (2): 169–86
- **Resolving high-frequency internal waves generated at an isolated coral atoll using an unstructured grid ocean model** *OCEAN MODELLING*
  Rayson, M. D., Ivey, G. N., Jones, N. L., Fringer, O. B.
  2018; 122: 67–84
- **How we compute N matters to estimates of mixing in stratified flows** *JOURNAL OF FLUID MECHANICS*
  Arthur, R. S., Venayagamoorthy, S. K., Koseff, J. R., Fringer, O. B.
  2017; 831
- **Using an Isohaline Flux Analysis to Predict the Salt Content in an Unsteady Estuary** *JOURNAL OF PHYSICAL OCEANOGRAPHY*

Rayson, M. D., Gross, E. S., Hetland, R. D., Fringer, O. B.
2017; 47 (11): 2811–28

- **Dynamics and Energetics of Trapped Diurnal Internal Kelvin Waves around a Midlatitude Island** *JOURNAL OF PHYSICAL OCEANOGRAPHY*
  Masunaga, E., Fringer, O. B., Kitade, Y., Yamazaki, H., Gallager, S. M.
  2017; 47 (10): 2479–98
- **Historical Analysis of Hydraulic Bridge Collapses in the Continental United States** *JOURNAL OF INFRASTRUCTURE SYSTEMS*
  Flint, M. M., Fringer, O., Billington, S. L., Freyberg, D., Diffenbaugh, N. S.
  2017; 23 (3)
- **Sediment resuspension and the generation of intermediate nepheloid layers by shoaling internal bores** *JOURNAL OF MARINE SYSTEMS*
  Masunaga, E., Arthur, R. S., Fringer, O. B., Yamazaki, H.
  2017; 170: 31-41
- **Behavior of a wave-driven buoyant surface jet on a coral reef** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Herdman, L. M. M., Hench, J. L., Fringer, O., Monismith, S. G.
  2017; 122 (5): 4088–4109
- **Local versus volume-integrated turbulence and mixing in breaking internal waves on slopes** *JOURNAL OF FLUID MECHANICS*
  Arthur, R. S., Koseff, J. R., Fringer, O. B.
  2017; 815: 169-198
- **A coupled wave-hydrodynamic model of an atoll with high friction: Mechanisms for flow, connectivity, and ecological implications** *OCEAN MODELLING*
  Rogers, J. S., Monismith, S. G., Fringer, O. B., Koweek, D. A., Dunbar, R. B.
  2017; 110: 66-82
- **Modeling Intrajunction Dispersion at a Well-Mixed Tidal River Junction** *JOURNAL OF HYDRAULIC ENGINEERING*
  Wolfram, P. J., Fringer, O. B., Monsen, N. E., Gleichauf, K. T., Fong, D. A., Monismith, S. G.
  2016; 142 (8)
- **Time scales in Galveston Bay: An unsteady estuary** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Rayson, M. D., Gross, E. S., Hetland, R. D., Fringer, O. B.
  2016; 121 (4): 2268-2285
- **Strong turbulent mixing induced by internal bores interacting with internal tide-driven vertically sheared flow** *GEOPHYSICAL RESEARCH LETTERS*
  Masunaga, E., Fringer, O. B., Yamazaki, H., Amakasu, K.
  2016; 43 (5): 2094-2101
- **An observational and numerical study of river plume dynamics in Otsuchi Bay, Japan** *JOURNAL OF OCEANOGRAPHY*
  Masunaga, E., Fringer, O. B., Yamazaki, H.
  2016; 72 (1): 3-21
- **Transport by breaking internal gravity waves on slopes** *JOURNAL OF FLUID MECHANICS*
  Arthur, R. S., Fringer, O. B.
  2016; 789: 93-126
- **Three-dimensional wave-coupled hydrodynamics modeling in South San Francisco Bay** *COMPUTERS & GEOSCIENCES*
  Chou, Y., Holleman, R. C., Fringer, O. B., Stacey, M. T., Monismith, S. G., Koseff, J. R.
  2015; 85: 10-21
- **Mixing and sediment resuspension associated with internal bores in a shallow bay** *CONTINENTAL SHELF RESEARCH*
  Masunaga, E., Homma, H., Yamazaki, H., Fringer, O. B., Nagai, T., Kitade, Y., Okayasu, A.
  2015; 110: 85-99
- **Sediment transport dynamics near a river inflow in a large alpine lake** *LIMNOLOGY AND OCEANOGRAPHY*
  Scheu, K. R., Fong, D. A., Monismith, S. G., Fringer, O. B.
  2015; 60 (4): 1195-1211

- **Numerical investigation of split flows by gravity currents into two-layered stratified water bodies** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Cortes, A., Wells, M. G., Fringer, O. B., ARTHUR, R. S., Rueda, F. J.
  2015; 120 (7): 5254-5271
- **The formation and fate of internal waves in the South China Sea.** *Nature*
  Alford, M. H., Peacock, T., MacKinnon, J. A., Nash, J. D., Buijsman, M. C., Centuroni, L. R., Chao, S., Chang, M., Farmer, D. M., Fringer, O. B., Fu, K., Gallacher, P. C., Graber, et al
  2015; 521 (7550): 65-69
- **Modeling the tidal and sub-tidal hydrodynamics in a shallow, micro-tidal estuary** *OCEAN MODELLING*
  Rayson, M. D., Gross, E. S., Fringer, O. B.
  2015; 89: 29-44
- **The dynamics of breaking internal solitary waves on slopes** *JOURNAL OF FLUID MECHANICS*
  Arthur, R. S., Fringer, O. B.
  2014; 761
- **A nonhydrostatic, isopycnal-coordinate ocean model for internal waves** *OCEAN MODELLING*
  Vitousek, S., Fringer, O. B.
  2014; 83: 118-144
- **Improved parameterization of seagrass blade dynamics and wave attenuation based on numerical and laboratory experiments** *LIMNOLOGY AND OCEANOGRAPHY*
  Zeller, R. B., Weitzman, J. S., Abbett, M. E., Zarama, F. J., Fringer, O. B., Koseff, J. R.
  2014; 59 (1): 251-266
- **Mitigating horizontal divergence "checker-board" oscillations on unstructured triangular C-grids for nonlinear hydrostatic and nonhydrostatic flows** *OCEAN MODELLING*
  Wolfram, P. J., Fringer, O. B.
  2013; 69: 64-78
- **Numerical diffusion for flow-aligned unstructured grids with application to estuarine modeling** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS*
  Holleman, R., Fringer, O., Stacey, M.
  2013; 72 (11): 1117-1145
- **Dynamics of barotropic low-frequency fluctuations in San Francisco Bay during upwelling** *CONTINENTAL SHELF RESEARCH*
  Sankaranarayanan, S., Fringer, O. B.
  2013; 65: 81-96
- **Stability and consistency of nonhydrostatic free-surface models using the semi-implicit theta-method** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS*
  Vitousek, S., Fringer, O. B.
  2013; 72 (5): 550-582
- **Moving grid method for numerical simulation of stratified flows** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS*
  Koltakov, S., Fringer, O. B.
  2013; 71 (12): 1524-1545
- **Nearshore internal bores and turbulent mixing in southern Monterey Bay** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Walter, R. K., Woodson, C. B., Arthur, R. S., Fringer, O. B., Monismith, S. G.
  2012; 117
- **Examining Breaking Internal Waves on a Shelf Slope Using Numerical Simulations** *OCEANOGRAPHY*
  Venayagamoorthy, S. K., Fringer, O. B.
  2012; 25 (2): 132-139
- **REGIONAL MODELS OF INTERNAL TIDES** *OCEANOGRAPHY*
  Carter, G. S., Fringer, O. B., Zaron, E. D.

2012; 25 (2): 56-65

- **Frontogenesis and Frontal Progression of a Trapping-Generated Estuarine Convergence Front and Its Influence on Mixing and Stratification** *ESTUARIES AND COASTS*
  Giddings, S. N., Fong, D. A., Monismith, S. G., Chickadel, C. C., Edwards, K. A., Plant, W. J., Wang, B., Fringer, O. B., Horner-Devine, A. R., Jessup, A. T.
  2012; 35 (2): 665-681
- **Energetics of Barotropic and Baroclinic Tides in the Monterey Bay Area** *JOURNAL OF PHYSICAL OCEANOGRAPHY*
  Kang, D., Fringer, O.
  2012; 42 (2): 272-290
- **Modeling and Prediction of Internal Waves in the South China Sea** *OCEANOGRAPHY*
  Simmons, H., Chang, M., Chang, Y., Chao, S., Fringer, O., Jackson, C. R., Ko, D. S.
  2011; 24 (4): 88-99
- **Large-eddy simulation of starting buoyant jets** *ENVIRONMENTAL FLUID MECHANICS*
  Wang, R., Law, A. W., Adams, E. E., Fringer, O. B.
  2011; 11 (6): 591-609
- **Numerical modeling of aquaculture dissolved waste transport in a coastal embayment** *ENVIRONMENTAL FLUID MECHANICS*
  Venayagamoorthy, S. K., Ku, H., Fringer, O. B., Chiu, A., Naylor, R. L., Koseff, J. R.
  2011; 11 (4): 329-352
- **Three-dimensional, nonhydrostatic numerical simulation of nonlinear internal wave generation and propagation in the South China Sea** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Zhang, Z., Fringer, O. B., Ramp, S. R.
  2011; 116
- **Modeling Exposure Close to Air Pollution Sources in Naturally Ventilated Residences: Association of Turbulent Diffusion Coefficient with Air Change Rate** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Cheng, K., Acevedo-Bolton, V., Jiang, R., Klepeis, N. E., Ott, W. R., Fringer, O. B., Hildemann, L. M.
  2011; 45 (9): 4016-4022
- **Modeling and understanding turbulent mixing in a macrotidal salt wedge estuary** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Wang, B., Giddings, S. N., Fringer, O. B., Gross, E. S., Fong, D. A., Monismith, S. G.
  2011; 116
- **Sensitivity analysis of three-dimensional salinity simulations in North San Francisco Bay using the unstructured-grid SUNTANS model** *OCEAN MODELLING*
  Chua, V. P., Fringer, O. B.
  2011; 39 (3-4): 332-350
- **Analysis of stratified flow and separation over complex bathymetry in a field-scale estuarine model**
  Fringer, O., B., Wang, B.
  2011
- **Reconstruction of vector fields for semi-Lagrangian advection on unstructured, staggered grids** *OCEAN MODELLING*
  Wang, B., Zhao, G., Fringer, O. B.
  2011; 40 (1): 52-71
- **Physical vs. numerical dispersion in nonhydrostatic ocean modeling** *OCEAN MODELLING*
  Vitousek, S., Fringer, O. B.
  2011; 40 (1): 72-86
- **On the Calculation of Available Potential Energy in Internal Wave Fields** *JOURNAL OF PHYSICAL OCEANOGRAPHY*
  Kang, D., Fringer, O.
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- **A model for the simulation of coupled flow-bed form evolution in turbulent flows** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Chou, Y., Fringer, O. B.

2010; 115

- **Mechanistic Modeling of Broth Temperature in Outdoor Photobioreactors** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Bechet, Q., Shilton, A., Fringer, O. B., Munoz, R., Guieysse, B.
  2010; 44 (6): 2197-2203
- **Consistent discretization for simulations of flows with moving generalized curvilinear coordinates** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS*
  Chou, Y. J., Fringer, O. B.
  2010; 62 (7): 802-826
- **Simulations of shear instabilities in interfacial gravity waves** *JOURNAL OF FLUID MECHANICS*
  Barad, M. F., Fringer, O. B.
  2010; 644: 61-95
- **The Determination of Formation Number for Starting Buoyant Jets** *2nd International Symposium on Computational Mechanics*
  Wang, R., Law, A. W., Adams, E. E., Fringer, O. B.
  AMER INST PHYSICS.2010: 1636–1641
- **Buoyant formation number of a starting buoyant jet** *PHYSICS OF FLUIDS*
  Wang, R., Law, A. W., Adams, E. E., Fringer, O. B.
  2009; 21 (12)
- **Remotely sensed river surface features compared with modeling and in situ measurements** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*
  Plant, W. J., Branch, R., Chatham, G., Chickadel, C. C., Hayes, K., Hayworth, B., Horner-Devine, A., Jessup, A., Fong, D. A., Fringer, O. B., Giddings, S. N., Monismith, S., Wang, et al
  2009; 114
- **The variability of the large-amplitude internal wave field on the Australian North West Shelf** *CONTINENTAL SHELF RESEARCH*
  Van Gastel, P., Ivey, G. N., Meuleners, M. J., Antenucci, J. P., Fringer, O.
  2009; 29 (11-12): 1373-1383
- **High-resolution simulations of a macrotidal estuary using SUNTANS** *OCEAN MODELLING*
  Wang, B., Fringer, O. B., Giddings, S. N., Fong, D. A.
  2009; 26 (1-2): 60-85
- **Towards Nonhydrostatic Ocean Modeling with Large-eddy Simulation** *Workshop on Oceanography in 2025*
  Fringer, O. B.
  NATL ACADEMIES PRESS.2009: 81–83
- **Modeling dilute sediment suspension using large-eddy simulation with a dynamic mixed model** *PHYSICS OF FLUIDS*
  Chou, Y., Fringer, O. B.
  2008; 20 (11)
- **High-Resolution Simulations of Nonlinear Internal Gravity Waves in the South China Sea** *Conference on High Performance Computer Modernization Program*
  Fringer, O. B., Zhang, Z.
  IEEE COMPUTER SOC.2008: 43–46
- **Effects of grid resolution on the simulation of internal tides** *16th International Offshore and Polar Engineering Conference (ISOPE 2006)*
  Jachec, S. M., Fringer, O. B., Street, R. L., Gerritsen, M. G.
  INT SOC OFFSHORE POLAR ENGINEERS.2007: 105–11
- **On the formation and propagation of nonlinear internal boluses across a shelf break** *JOURNAL OF FLUID MECHANICS*
  Venayagamoorthy, S. K., Fringer, O. B.
  2007; 577: 137-159
- **Internal wave energetics on a shelf break** *16th International Offshore and Polar Engineering Conference (ISOPE 2006)*
  Venayagamoorthy, S. K., Fringer, O. B.
  INT SOC OFFSHORE POLAR ENGINEERS.2007: 22–29

- **Simulations of mixing and transport of dissolved wasted discharged from an aquaculture pen**
  Venayagamoorthy, S., K., Fringer, O., B., Koseff, J., R., Naylor, R., L.
  2007
- **Modeling Sediment Suspension in High Reynolds Number Flow Using Large Eddy Simulation**
  Chou, Y., J., Fringer, O., B.
  2007
- **Numerical simulations of shear instabilities in open-ocean internal gravity waves**
  Barad, M., F., Fringer, O., B.
  2007
- **Numerical simulations of the interaction of internal waves with a shelf break** *PHYSICS OF FLUIDS*
  Venayagamoorthy, S. K., Fringer, O. B.
  2006; 18 (7)
- **Numerical simulation of internal tides and the resulting energetics within Monterey Bay and the surrounding area** *GEOPHYSICAL RESEARCH LETTERS*
  Jachec, S. M., Fringer, O. B., Gerritsen, M. G., Street, R. L.
  2006; 33 (12)
- **Internal wave energetics on a shelf break** *16th International Offshore and Polar Engineering Conference (ISOPE 2006)*
  Venayagamoorthy, S. K., Fringer, O. B.
  INTERNATIONAL SOCIETY OFFSHORE& POLAR ENGINEERS.2006: 473–480
- **Multiscale simulations of internal gravity waves**
  Barad, M., F., Fringer, O., B., Colella, P.
  2006
- **The Three-Dimensional, Time-Dependent Nature of Internal Waves Entering Monterey Submarine Canyon**
  Jachec, S., M., Fringer, O., B., Gerritsen, M., Street, R., L.
  2006
- **Coupled ROMS-SUNTANS simulations of highly nonlinear internal gravity waves on the Australian northwest shelf**
  Fringer, O., B., Gross, E., S., Meuleners, M., Ivey, G., N.
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