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University of California, San Diego  
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## EDUCATION

- 1996-2003     **Ph.D. in Physical Oceanography**  
*University of Hawaii*  
Honolulu, HI, USA
- 1991-1993     **M.Sc. in Physics**  
*University of British Columbia*  
Vancouver, BC, Canada
- 1987-1991     **B.Sc. (Hons.) in Engineering Physics**  
*Queen's University*  
Kingston, ON, Canada

## POSITIONS

- 2012-           **Assistant Research Oceanographer**  
*Scripps Institution of Oceanography*  
La Jolla, CA, USA
- 2006-2012     **Assistant Project Scientist**  
*Scripps Institution of Oceanography*  
La Jolla, CA, USA
- 2004-2006     **Postdoctoral Researcher**  
*Scripps Institution of Oceanography*  
La Jolla, CA, USA
- 2003-2004     **Postdoctoral Researcher**  
Ocean Sciences Department, *University of California, Santa Cruz*  
Santa Cruz, CA, USA
- 2000           **Teaching Assistant**  
Department of Oceanography, *University of Hawaii*  
Honolulu, HI, USA
- 1996-2003     **Research Assistant**  
Department of Oceanography, *University of Hawaii*

Honolulu, HI, USA

1991-1993     **Research and Teaching Assistant**  
Department of Physics, *University of British Columbia*  
Vancouver, BC, Canada

## FUNDING

- 2013-2015     **Island trapped waves, internal waves, and island circulation**  
*Office of Naval Research*  
T. M. S. Johnston
- 2012-2016     **Repeat observations by gliders in the equatorial region (ROGER)**  
*National Science Foundation*  
D. L. Rudnick, W. B. Owens, T. M. S. Johnston, and K. B. Karnauskas
- 2012-2015     **Tasmanian tidal dissipation experiment (TTIDE)**  
*National Science Foundation*  
R. Pinkel, M. H. Alford, T. M. S. Johnston, J. A. MacKinnon, J. D. Nash, L. Rainville,  
D. Rudnick, and H. L. Simmons
- 2011-2013     **Turbulence from internal-wave beams in the upper ocean**  
*Office of Naval Research*  
S. Sarkar, T. M. S. Johnston, D. L. Rudnick, J. M. Klymak, J. A. MacKinnon, and R. Pinkel
- 2011            **Santa Cruz Basin internal tide experiment (SCBITE)**  
*University of California Ship Funds*  
A. Ponte, M. Buijsman, S. Johnston, and B. Cornuelle  
RV *Melville*: 28 July-4 August
- 2009-2012     **Internal tide generation and propagation in a strong, sheared current**  
*Office of Naval Research: Internal waves in straits experiment (IWISE)*  
T. M. S. Johnston, J. A. MacKinnon, and D. L. Rudnick
- 2008-2011     **Experiment on internal tide scattering (EXITS)**  
*National Science Foundation*  
T. M. S. Johnston, G. S. Carter, and S. E. WorriLOW
- 2007-2010     **Internal waves and mixing above the South-West Indian Ridge**  
*National Science Foundation and University of California Ship Funds*  
J. A. MacKinnon, R. Pinkel, and T. M. S. Johnston
- 2007-2008     **Expansion to SeaSoar and Doppler sonar survey of internal tide generation and mixing**  
*Office of Naval Research: Assessing the effectiveness of submesoscale ocean parameterizations (AESOP)*  
T. M. S. Johnston and D. L. Rudnick

2004-2007      **SeaSoar and Doppler sonar survey of internal tide generation and mixing**  
*Office of Naval Research: AESOP*  
T. M. S. Johnston and D. L. Rudnick

## PUBLICATIONS

- 2013      **Internal tidal energy fluxes in the South China Sea from density and velocity measurements by gliders**  
*J. Geophys. Res. Oceans*, **in prep.**  
T. M. S. Johnston, D. L. Rudnick, M. H. Alford, A. Pickering, and H. L. Simmons
- 2013      **High frequency internal waves near the Luzon Strait observed by underwater gliders**  
*J. Geophys. Res. Oceans*, **118**, doi:10.1002/jgrc.20083  
D. L. Rudnick, T. M. S. Johnston, and J. T. Sherman
- 2011      **Internal tides around the Hawaiian Ridge estimated from multi-satellite altimetry**  
*J. Geophys. Res.*, **116**, C12039, doi: 10.1029/2011JC007045  
Z. Zhao, M. H. Alford, J. Girton, T. M. S. Johnston, and G. S. Carter
- 2011      **Elevated mixing at a front**  
*J. Geophys. Res.*, **116**, C11033, doi: 10.1029/2011JC007192  
T. M. S. Johnston, D. L. Rudnick, and E. Pallas-Sanz
- 2011      **Internal tidal beams and mixing near Monterey Bay**  
*J. Geophys. Res.*, **116**, C03017, doi: 10.1029/2010JC006592  
T. M. S. Johnston, D. L. Rudnick, G. S. Carter, R. E. Todd, and S. T. Cole
- 2010      **Frontal dynamics in a California Current System shallow front. Part II: Mesoscale vertical velocity**  
*J. Geophys. Res.*, **115**, C12068 doi: 10.1029/2010JC006474  
E. Pallas-Sanz, T. M. S. Johnston, and D. L. Rudnick
- 2010      **Frontal dynamics in a California Current System shallow front. Part I: Frontal processes and tracer structure**  
*J. Geophys. Res.*, **115**, C12067, doi: 10.1029/2009JC006032  
E. Pallas-Sanz, T. M. S. Johnston, and D. L. Rudnick
- 2010      **Interference patterns and propagation of the  $M_2$  internal tide south of the Hawaiian Ridge**  
*J. Phys. Oceanogr.*, **40**, 311-325, doi: 10.1175/2009JPO4256.1  
L. Rainville, T. M. S. Johnston, G. S. Carter, M. A. Merrifield, and R. Pinkel
- 2009      **Thin phytoplankton layer formation at eddies, filaments, and fronts in a coastal upwelling zone**  
*Deep-Sea Res. II*, **56**, 246-259, doi:10.1016/j.dsr2.2008.08.006  
T. M. S. Johnston, O. M. Cheriton, J. T. Pennington, and F. P. Chavez
- 2009      **Forecasting and reanalysis in the Monterey Bay/California Current region for the Autonomous Ocean Sampling Network-II experiment**

- Deep-Sea Res. II*, **56**, 127-148, doi: 10.1016/j.dsr2.2008.08.010  
P. J. Haley Jr., P. F. J. Lermusiaux, A. R. Robinson, W. G. Leslie, O. Logoutov, G. Cossarini,  
X. S. Liang, P. Moreno, S. R. Ramp, J. D. Doyle, J. Bellingham, F. Chavez, and S. Johnston
- 2009      **Observations of the transition layer**  
*J. Phys. Oceanogr.*, **39**, 780-797, doi: 10.1175/2008JPO3824.1  
T. M. S. Johnston and D. L. Rudnick
- 2008      **Strong transport and mixing of deep water through the Southwest Indian Ridge**  
*Nature Geosci.*, **1**, 755-758, doi: 10.1038/ngeo340  
J. A. MacKinnon, T. M. S. Johnston, and R. Pinkel
- 2003      **Internal tide scattering at the Line Islands Ridge**  
*J. Geophys. Res.*, **108** (C11), 3365, doi: 10.1029/2003JC001844  
T. M. S. Johnston, M. A. Merrifield, and P. E. Holloway
- 2003      **An international perspective on postgraduate education in physical oceanography**  
*Oceanogr.*, **16**, 128-133  
H. Brix, J. Hench, H. L. Johnson, T. M. S. Johnston, J. Polton, M. Roughan, and P. Testor
- 2003      **Internal tide scattering at seamounts, ridges, and islands**  
*J. Geophys. Res.*, **108** (C6), 3180, doi: 10.1029/2002JC001528  
T. M. S. Johnston and M. A. Merrifield
- 2001      **The generation of internal tides at the Hawaiian Ridge**  
*Geophys. Res. Lett.*, **28**, 559-562, doi: 10.1029/2000GL011749  
M. A. Merrifield, P. E. Holloway, and T. M. S. Johnston
- 2000      **Interannual geostrophic current anomalies in the near-equatorial western Pacific**  
*J. Phys. Oceanogr.*, **30**, 3-14, doi: 10.1175/1520-0485(2000)030<0003:IGCAIT>2.0.CO;2  
T. M. S. Johnston and M. A. Merrifield
- 1997      **The giant muon Knight shift in antimony: Evidence for a Kondo impurity**  
*Hyperfine Interactions*, **106**, 71-76  
T. M. S. Johnston, K. H. Chow, S. Dunsiger, T. Duty, R. F. Kiefl, E. Koster, W. A.  
MacFarlane, G. D. Morris, J. Sonier, and D. L. Williams
- 1994      **Muonium dynamics in doped Si above room temperature studied by longitudinal  
field-MSR**  
*Hyperfine Interactions*, **86**, 693-698  
K. H. Chow, R. F. Kiefl, J. W. Schneider, T. L. Estle, B. Hitti, R. L. Lichti, C. Schwab, S. R.  
Kreitzman, R. C. DuVarney, M. Senba, J. Sonier, T. M. S. Johnston, and W. A.  
MacFarlane
- 1994      **MSR studies in heavily doped GaAs**  
*Hyperfine Interactions*, **86**, 645-651  
K. H. Chow, R. F. Kiefl, J. W. Schneider, T. L. Estle, B. Hitti, T. M. S. Johnston, R. L. Lichti,  
and W. A. MacFarlane

- 1994      **MSR study of Zn-substituted  $\text{YBa}_2\text{Cu}_3\text{O}_x$**   
*Hyperfine Interactions*, **86**, 577-583, 1994  
P. Mendels, J. H. Brewer, H. Alloul, E. J. Ansaldo, D. R. Noakes, C. Niedermayer, G. Collin, J. F. Marucco, C. E. Stronach, G. D. Morris, T. L. Duty, and S. Johnston
- 1994      **Hebel-Slichter peak and superconducting energy gap in  $\text{Rb}_3\text{C}_{60}$  observed by muon spin relaxation**  
*Hyperfine Interactions*, **86**, 467-472  
W. A. MacFarlane, R. F. Kiefl, K. H. Chow, S. Dunsiger, T. L. Duty, T. M. S. Johnston, J. W. Schneider, J. Sonier, L. Brard, R. M. Strongin, J. E. Fischer, and A. B. Smith III
- 1994      **Inhomogeneous muonium diffusion in solid nitrogen**  
*Hyperfine Interactions*, **85**, 103-108  
V. Storchak, J. H. Brewer, W. N. Hardy, S. Johnston, S. R. Kreitzman, and G. D. Morris
- 1993      **Bond-centered muonium in diamond: resolved nuclear hyperfine structure**  
*Phys. Rev. Lett.*, **71**, 557-560  
J. W. Schneider, R. F. Kiefl, K. H. Chow, S. Johnston, and J. Sonier
- 1993      **Coherence peak and superconducting energy gap in  $\text{Rb}_3\text{C}_{60}$  observed by muon spin relaxation**  
*Phys. Rev. Lett.*, **70**, 3987-3990  
R. F. Kiefl, W. A. MacFarlane, K. H. Chow, S. Dunsiger, T. L. Duty, T. M. S. Johnston, J. W. Schneider, J. Sonier, L. Brard, R. M. Strongin, J. E. Fischer, and A. B. Smith III

## ABSTRACTS

- 2012      **Elevated mixing at a front**  
*Ocean Sciences*  
S. Johnston, D. Rudnick, and E. Pallas-Sanz
- 2012      **Observations of high-frequency internal waves near the Luzon Strait using underwater gliders**  
*Ocean Sciences*  
D. L. Rudnick, S. Johnston, and J. T. Sherman
- 2008      **AESOP 2006: Submesoscale observations of restratification at a front in the California Current with a Lagrangian float and towed profilers**  
*Ocean Sciences*  
A. Gray, E. A. D'Asaro, R. Harcourt, S. Johnston, C. M. Lee, and D. L. Rudnick
- 2008      **Tidal beams and mixing near Monterey Bay**  
*Ocean Sciences*  
S. Johnston, D. Rudnick, R. Todd, and S. Cole
- 2008      **Modeling and predicting tides in Monterey Bay, California**

*Ocean Sciences*

X. Wang, Y. Chao, J. Farrara, Z. Li, P. Li, K. Park, Q. Vu, J. C. McWilliams, S. Johnston, and D. Rudnick

- 2006      **Mixed layer models in a three-dimensional ocean: A first look at results from the 2006 field program**  
*Eos Trans. AGU*, **87** (52), Fall Meet. Suppl., Abstract OS51E-04  
 C. M. Lee, E. A. D'Asaro, R. Harcourt, T. M. S. Johnston, and D. L. Rudnick
- 2006      **SeaSoar observations of the transition layer**  
*Eos Trans. AGU*, **87**, Ocean Sci. Meet. Suppl., Abstract OS32G-06  
 S. Johnston and D. L. Rudnick
- 2004      **Formation and breakdown of thin layers in Monterey Bay**  
*Eos Trans. AGU*, **84**, Ocean Sci. Meet. Suppl., Abstract OS32C-23  
 T. M. S. Johnston, M. A. McManus, and O. Cheriton
- 2004      **An international perspective on postgraduate education in physical oceanography**  
*Eos Trans. AGU*, **83**, Fall Meet. Suppl., Abstract OS71E-12  
 J. Polton, H. Brix, M. Roughan, T. M. S. Johnston, J. Hench, P. Testor, and H. L. Johnson
- 2002      **First mode internal tide scattering from topography**  
*Eos Trans. AGU*, **83**, Ocean Sci. Meet. Suppl., Abstract OS51D-05  
 T. M. S. Johnston and M. A. Merrifield
- 1999      **Observations of upper ocean, intraseasonal variability in the Bay of Bengal during the southwest monsoon onset**  
*Eos Trans. AGU*, **80**, Ocean Sci. Meet. Suppl., Abstract OS51J-06  
 P. Hacker, R. Lukas, E. Firing, J. Hummon, and T. M. S. Johnston
- 1999      **Modeling of internal tide generation at the Hawaiian Ridge**  
*Eos Trans. AGU*, **80**, Ocean Sci. Meet. Suppl., Abstract OS21H-07  
 M. A. Merrifield, P. E. Holloway, and S. Johnston

**INVITED PRESENTATIONS**

- 2010      **Internal tidal beams and mixing**  
*Coordinated Mathematical Modeling of Internal Waves*, Banff, Canada, 4-9 April  
 S. Johnston, D. Rudnick, R. Todd, S. Cole, and G. Carter
- 2009      **Observations of the transition layer**  
*Bedford Institute of Oceanography*, Halifax, NS, Canada, 14 April  
 T. M. S. Johnston and D. L. Rudnick
- 2007      **Tidal beams and mixing near Monterey Bay**  
*WHOI*, Woods Hole, MA, USA, 2 October  
 S. Johnston, D. Rudnick, R. Todd, S. Cole,

- 2007      **Tidal beams and mixing near Monterey Bay**  
*Dalhousie University, Halifax, NS, Canada, 20 September*  
S. Johnston, D. Rudnick, R. Todd, and S. Cole
- 2004      **The rise and fall of internal tides in the deep ocean**  
*Australian Marine Sciences Association National Meeting, Peter Holloway Memorial Symposium, Hobart, Australia, 6-7 July*  
M. Merrifield, P. Holloway, S. Johnston, M. Eich, J. Aucan, N. Zilberman, and Y. Firing
- 2003      **Internal tide scattering at the Line Islands Ridge**  
*IUGG, Sapporo, Japan, 30 June*  
T. M. S. Johnston, M. A. Merrifield, and P. E. Holloway

## PRESENTATIONS

- 2007      **Tidal beams and mixing near Monterey Bay**  
*IUGG, Perugia, Italy, 3 July*  
S. Johnston, D. Rudnick, R. Todd, and S. Cole
- 2007      **Observations of the transition layer**  
*16th Conference on Atmospheric and Oceanic Fluid Dynamics, Santa Fe, NM, USA, 25 June*  
T. M. S. Johnston and D. L. Rudnick
- 2002      **Internal tide scattering at seamounts, ridges, and islands**  
*Physical Oceanography Dissertation Symposium I, Breckenridge, CO, USA, 17-20 June*  
T. M. S. Johnston and M. A. Merrifield
- 1997      **Global sea level rise**  
*South Pacific Applied Geoscience Commission, Nadi, Fiji, 30 September*  
T. M. S. Johnston and M. A. Merrifield

## POSTERS

- 2012      **Mixing estimates from sustained observations by underwater gliders**  
*Chapman Conference on the Agulhas System and its Role in Changing Ocean Circulation, Climate, and Marine Ecosystems, Stellenbosch, South Africa, 7-12 October*  
T. M. S. Johnston and D. L. Rudnick
- 2008      **Internal tide scattering by midocean topography**  
*Is there an internal wave continuum in the ocean?, Seattle, WA, USA, 3-4 October*  
T. M. S. Johnston, G. S. Carter, and M. A. Merrifield
- 2008      **Interference patterns of the  $M_2$  internal tide south of the Hawaiian Ridge**  
*Is there an internal wave continuum in the ocean?, Seattle, WA, USA, 3-4 October*  
L. Rainville, T. M. S. Johnston, G. S. Carter, M. A. Merrifield, and R. Pinkel
- 2008      **Tidal beams and mixing near Monterey Bay**

*From Millimetres to Megametres: The Interacting Scales of Ocean Dynamics*, Victoria, BC, Canada, 29-30 July

S. Johnston, D. Rudnick, R. Todd, and S. Cole

2006

**Microstructure from SeaSoar**

*Eastern Pacific Ocean Conference*, Mount Hood, OR, USA, 27-30 September

T. M. S. Johnston and D. L. Rudnick

2005

**Thin layer formation by eddies off central California**

*4th Gordon Research Conference on Coastal Ocean Circulation*, Colby-Sawyer College, New London, NH, USA, 5-10 June

T. M. S. Johnston, M. A. McManus, and F. P. Chavez

2004

**Internal tide scattering at the Line Islands Ridge**

*GODAE Summer School*, La Londe, France, 18 September-1 October

T. M. S. Johnston, M. A. Merrifield, and P. E. Holloway

2000

**Internal tide generation at the Hawaiian Ridge**

*Oceanography: The Making of a Science*, La Jolla, CA, USA, 8-9 February

T. M. S. Johnston, P. E. Holloway, and M. A. Merrifield

1998

**ENSO and geostrophic current anomalies in the near-equatorial western Pacific**

*Ocean Circulation and Climate: The 1998 WOCE Conference*, Halifax, NS, Canada, 24-29 May

T. M. S. Johnston and M. A. Merrifield

## FIELD WORK

2012-2013

**Tasmanian tidal dissipation experiment (TTIDE) pilot experiment**

*Spray* glider 55, Tasman Sea, 2 November-

2011

**Internal waves in straits experiment (IWISE)**

*Spray* gliders 33 and 35, Luzon Strait, 12 June-8 August

2011

**Experiment on internal tidal scattering (EXITS)**

Chief Scientist, *RV Kilo Moana*, Line Islands Ridge, 26 April-14 May

2011

**EXITS**

Chief Scientist, *RV Kilo Moana*, Line Islands Ridge, 14-25 January

2010

**EXITS**

Chief Scientist, *RV Thomas G. Thompson*, Line Islands Ridge, 23 November-22 December

2008

**Nonlinear internal waves initiative (NLIWI)**

*Spray* glider recovery, *RV Ocean Researcher III*, Luzon Strait, 17-21 June

2008

**Internal waves and mixing above the South-West Indian Ridge**

*RV Reville*, Indian Ocean, 7-30 January

- 2007      **Seasonal to interannual modulation of fine-scale thermohaline structure**  
SeaSoar, RV *Kilo Moana*, Hawaii, 6-18 December
- 2007      **Seasonal to interannual modulation of fine-scale thermohaline structure**  
*Spray* glider deployment, Hawaii, 11-15 November
- 2007      **NLIWI**  
Chief Scientist, *Spray* glider deployments, RV *Melville*, Luzon Strait, 18-28 July
- 2007      **NLIWI**  
*Spray* glider deployments, RV *Melville*, Luzon Strait, 13-22 April
- 2007      **Seasonal to interannual modulation of fine-scale thermohaline structure**  
*Spray* glider deployment, Hawaii, 28-29 March
- 2006      **Assessing the Effectiveness of Submesoscale Ocean Parameterizations (AESOP)**  
Chief Scientist, RV *Wecoma*, Monterey Bay, 29 July-28 August
- 2005      **AESOP**  
Chief Scientist, RV *Sproul*, San Diego, 25-27 October
- 2005      **North Pacific Acoustic Laboratory**  
RV *New Horizon*, North Pacific, 19 March-10 April
- 2003      **Autonomous Ocean Sampling Network II (AOSN II)**  
Chief Scientist, RV *Point Sur*, Monterey Bay, 3-6 September
- 2003      **AOSN II**  
Chief Scientist, RV *Point Sur*, Monterey Bay, 21-25 August
- 2003      **AOSN II**  
RV *Point Sur*, Monterey Bay, 2-6 August 2003
- 2001      **Long Term Ecological Research Winter Ice Cruise**  
RVIB *Nathaniel B. Palmer*, Marguerite Bay, Antarctica, 7 September-26 October
- 2000      **Hawaii Ocean Mixing Experiment**  
NOAA Ship *Townsend Cromwell*, Oahu, 1-3 June
- 1999      **Joint Air-Sea Monsoon Interaction Experiment**  
NOAA Ship *Ronald H. Brown*, Bay of Bengal, 6-22 April
- 1998      **Deep-sea corals**  
RV *Ka'imikai-o-Kanaloa* and *Pisces V*, Northwestern Hawaiian Islands, 11-22 September
- 1998      **Deep-sea corals**  
RV *Ka'imikai-o-Kanaloa*, Oahu, 10-14 August
- 1996      **Hawaii Ocean Time Series**

*RV Moana Wave, Oahu, 25-29 July*

## DIVING

1996-2000      University of Hawaii Scientific Diver  
 1998            NAUI Master Diver and Enriched Air Nitrox Diver

## PROFESSIONAL ORGANIZATIONS

1998-           American Geophysical Union  
 1998-           Hawaii Academy of Sciences

## ADVISING

2008-2009      **Postdoc:** E. Pallas-Sanz, now at CICESE, Ensenada, Mexico

## SERVICE

ongoing         **Reviewer**  
 Deep-Sea Research I; Deep-Sea Research II; Dynamics of Atmospheres and Oceans;  
 Estuarine, Coastal and Shelf Science; Geophysical Research Letters; Journal of  
 Geophysical Research; Journal of Physical Oceanography; National Science Foundation

2010             **Monterey Bay region: physical processes and their impacts**  
 Session convener, Ocean Sciences, 2010

2006-           **Ad hoc promotion committees**, member

2003             **National Ocean Sciences Bowl**, question writer

2002             **Attrition rate committee**  
 Department of Oceanography, University of Hawaii

2001-2003      **Editor** for non-native English speakers' manuscripts  
 Journal of Geophysical Research

2001-2003      **Vice-president**, Na Kama Kai (Friends of the Sea- Oceanography Students' Society)  
 Department of Oceanography, University of Hawaii

1998-2003      **Judge**  
 Hawaii State and/or District Science and Engineering Fairs

1994-1995      **Team leader**

Youth Challenge International, Solomon Islands and Guyana

1993

**Volunteer**

Youth Challenge International, Solomon Islands