

Daniela Di Iorio

Department of Marine Sciences, University of Georgia
 212/250 Marine Sciences Building, Athens, GA 30602-3636
 voice: (1) 706-542-7020/2820, fax: -5888, email: daniela@uga.edu
<http://marsci.uga.edu/directory/daniela-di-iorio>

Professional Experience

2015-present Professor, Dept of Marine Sciences, University of Georgia, Athens, GA
 2015-present Head, Dept of Marine Sciences, University of Georgia, Athens, GA
 2007-2015 Associate Professor, Dept of Marine Sciences, University of Georgia, Athens, GA
 1999-2007 Assistant Professor, Dept of Marine Sciences, University of Georgia, Athens, GA
 1995-1999 Scientist, Oceanography Dept., NATO SACLANTCEN, La Spezia (SP), Italy
 1994-1995 Postdoctoral Research Fellow, Acoustical Oceanography Research Group,
 Institute of Ocean Sciences, Sidney BC, Canada
 1988-1994 Graduate Research Fellow, Dept of Physics and Astronomy,
 University of Victoria, Victoria, BC, Canada

Co-operative education employment

1991 Summer Research Assistant, Environmental Modelling Group,
 NATO SACLANTCEN, La Spezia (SP), Italy.
 1987 Summer Research Assistant, Institute of Ocean Sciences, Sidney BC, Canada.
 1986 Summer Research Assistant, Institute of Ocean Sciences, Sidney BC, Canada.
 1986 Junior Oceanographer, SeaConsult Ltd., St. John's NF, Canada.
 1985 Summer Research Assistant, Island Research and Development Corporation (no longer).
 1984 Junior Programmer, TRIUMF University of Victoria, Victoria BC, Canada.

Education

1994 Ph.D., Physics and Astronomy, University of Victoria, Victoria BC, Canada
 1988 B.Sc., Honours Physics (CO-OP), Physics and Astronomy, University of Victoria,
 Victoria BC, Canada

Awards and Scholarships

NSF CAREER grant	2005-2010	
NSERC Industrial Research Fellowship (declined)	1994	CDN\$ 25,000.
CAA Annual Student Presentation Award	1992	500.
CAA Fessenden Student Award in Underwater Acoustics	1992	500.
BC Science Council GREAT Award	1989-92	38,700.
NSERC Graduate Research Fellowship	1990-91	32,300.
McDonnell Graduate Award in Physics	1988	2,000.

Research and other Creative Activities

Research Interests

- The application of high frequency acoustic propagation through moving random media (acoustic scintillation) for hydrothermal vent, natural oil/gas seeps and boundary layer dynamics: vertical upwelling, horizontal flows and turbulence properties.
- Large eddy simulation and integral plume model for deep sea hydrothermal plumes in horizontal cross flows
- Horizontal transport processes and budgets of heat, mass and salt
- Estuary and coastal ocean exchange - 3D hydrodynamic modelling and experimental measurements.

Publications

Book Chapters

- S. Pennings, M. Alber, C.R. Alexander, M. Booth, A. Burd, W.-J. Cai, C. Craft, C.B. DePratter, **D. Di Iorio**, C. Hopkinson, S.B. Joye, C.D. Meile, W.S. Moore, B. Silliman, V. Thompson, J.P. Wares (2012). 'South Atlantic Tidal Wetlands' Chap 4 in **Wetland Habitats of North America: Ecology and Conservation Concerns**, eds: D. Batzer and A. Baldwin, University of California Press, Berkeley CA.
- D. Di Iorio** and A.E. Gargett, (2005). 'Studies of turbulent processes using Doppler and acoustical scintillation techniques', Chap.20 in **Sounds in the Seas: From Ocean Acoustics to Acoustical Oceanography**, editor: H. Medwin, Cambridge University Press, Cambridge UK.

Refereed Journals

- 26) Wang, S., **D. Di Iorio**, W-J. Cai, C. Hopkinson (2016). 'Inorganic carbon and oxygen dynamics in a marsh-dominated estuary', *Limnology and Oceanography*, submitted for review.
- 25) Medeiros, P. M., L. Babcock-Adams, M. Seidel, R.M. Castelao, **D. Di Iorio**, J.T. Hollibaugh and T. Dittmar, (2016). 'Export of terrigenous dissolved organic matter across a broad continental shelf', *Limnology and Oceanography*, in press.
- 24) Wang Y, R.M. Castelao **D. Di Iorio** 2016. 'Salinity Variability and Water Exchange in Interconnected Estuaries', *Estuaries and Coasts* pp:1-13, doi:10.1007/s12237-016-0195-9
- 23) J.W. Lavelle, **D. Di Iorio** and P. Rona (2013). 'A turbulent convection model with an observational context for a deep-sea hydrothermal plume in a time-variable cross-flow'. *J. Geophys Res*, **118**, 1-16, doi:10.1002/2013JC009165
- 22) **D. Di Iorio** and R. Castelao (2013). 'The dynamical response of salinity to freshwater discharge and wind forcing in adjacent estuaries on the Georgia coast', *Oceanography*, **26**(3):4451, <http://dx.doi.org/10.5670/oceanog.2013.44>.
- 21) C.A. Schutte, K. Hunter, P. McKay, **D. Di Iorio**, S.B. Joye and C. Meile (2013). 'Patterns and controls of nutrient concentrations in a southeastern United States tidal creek', *Oceanography*, **26**(3):132139, <http://dx.doi.org/10.5670/oceanog.2013.55>.
- 20) P. McKay, C. A. Blain, **D. Di Iorio**, H. Hansell (2013). 'Mixing and turbulence in a flooding coastal river', *J. Hydraulic Eng*, 10.1061/(ASCE)HY.1943-7900.0000751.
- 19) G. Xu and **D. Di Iorio** (2012). 'Deep Sea Hydrothermal Plumes and their Interaction with

- Tidal Flows'. *Geochem, Geophys, Geosys*, **13**, Q0AJ01, doi:10.1029/2012GC004188.
- 18) **D. Di Iorio**, J.W Lavelle, P. Rona, K. Bemis, G. Xu, L. Germanovich, R. Lowell, G. Genc (2012). 'Measurements and Models of Heat flux and Plumes from Hydrothermal Discharges near the Deep Sea Floor', *Oceanography*, **25**(1):108-119, <http://dx.doi.org/10.5670/oceanog.2012.14>.
 - 17) R. Camilli, **D. Di Iorio**, A. Bowen, C.M. Reddy, A.H. Techt, D.R. Yoerger, L.L. Whitcomb, J. Seewald, S.P. Sylva, and J. Fenwick (2011). 'Acoustic measurement of the Deepwater Horizon Macondo well flow rate', *Proc. Nat. Acad. Sci*, doi: 10.1073/pnas.1100385108.
 - 16) G. Xu and **D. Di Iorio** (2011). 'The relative effect of particles and turbulence on acoustic scattering from deep sea hydrothermal vent plumes'. *J. Acoust Soc Am*, **130**(4):1856-1867.
 - 15) V. Soutar, R. Parr, R. Prescott and **D. Di Iorio** (2010). 'Set Sail with Science! Three teachers, three cruises and one meaningful science experience'. *NSTA The Science Teacher*, **77**(3):25-29.
 - 14) P. McKay and **D. Di Iorio** (2010). 'The Cycle of Vertical and Horizontal Mixing in a Tidal Creek'. *J. Geophys. Res.*, **115**, C01004, doi:10.1029/2008JC005204.
 - 13) **D. Di Iorio** and C. Sloan (2009). 'The upper ocean heat content in the Nordic Seas'. *J. Geophys. Res.*, **114**, C04017, doi:10.1029/2007JC004674.
 - 12) P. McKay and **D. Di Iorio** (2008). 'Heat budget for a shallow, sinuous salt marsh estuary'. *Continental Shelf Res.*, **28**:1740-1753.
 - 11) K. Kang and **D. Di Iorio** (2008). 'A study of estuarine flow using roving ADCP data'. *Ocean Sci. J.*, **43**:81-90.
 - 10) **D. Di Iorio** and K. Kang (2007). 'Variations of turbulent flow with river discharge in the Altamaha River Estuary, Georgia'. *J. Geophys. Res.*, **112**, C05016, doi:10.1029/2006JC003763.
 - 9) K. Kang and **D. Di Iorio** (2006). 'Depth- and current-induced effects on wave propagation into the Altamaha River Estuary, Georgia'. *Estuarine Coastal Shelf Sci.*, **66**:395-408.
 - 8) M. Charnotskii, I. Fuks, A. Smirnov, K. Naugolnyky, **D. Di Iorio** and I. Esipov (2006). 'The dual-frequency method of monitoring transverse current'. *Acoustical Physics*, **52**:269-274.
 - 7) **D. Di Iorio**, D. Lemon and R. Chave (2005). 'A self contained acoustic scintillation instrument for path-averaged measurements of flow and turbulence with application to hydrothermal vent and bottom boundary layer dynamics'. *J. Atmosph. Oceanic Tech.*, **22**(10):1602-1617, doi:10.1175/JTECH1799.1
 - 6) **D. Di Iorio** and A.D. Barton (2003). 'Path averaged ocean measurements in the deep, stratified tidal channel of Hood Canal using acoustical scintillation'. *J. Geophys. Res.*, **108**,3312,doi:10.1029/2003JC001796.
 - 5) E. Özsoy, **D. Di Iorio**, M.C. Gregg and J.O. Backhaus (2001). 'Mixing in the Bosphorus Strait and the Black Sea continental shelf: Observations and a model of the dense water outflow', *J. Mar. Sys. Special Issue: Ventilation of the Black Sea Anoxic Waters* **31**:99-135.
 - 4) **D. Di Iorio** and H. Yuce (1999). 'Observations of Mediterranean flow into the Black Sea', *J. Geophys. Res.*, **102**:3091-3108.
 - 3) **D. Di Iorio** and D.M. Farmer (1998). 'Separation of current and sound speed in the effective refractive index for a turbulent environment using reciprocal acoustic transmission', *J. Acoust. Soc. Am.*, **103**:321-329.
 - 2) **D. Di Iorio** and D.M. Farmer (1996). 'Two-dimensional angle of arrival fluctuations', *J. Acoust. Soc. Am.*, **100**:814-824.

- 1) **D. Di Iorio** and D.M. Farmer (1994). 'Path averaged turbulent dissipation measurements using high frequency acoustical scintillation analysis', *J. Acoust. Soc. Am.*, **96**:1056-1069.

Conference Proceedings

- D. Di Iorio**, D. Lemon and R. Chave, 'Long-term variability in hydrothermal vent flow and temperature fluctuations by acoustic scintillation'. In *Proceedings of the International Conference "Underwater Acoustic Measurements: Technologies & Results"*, Heraklion Crete, Greece, Jun 28- Jul 1, 2005.
- K. Naugolnykh, M. Charnotskii, I. Fuks, A. Smirnov, **D. Di Iorio** and I. Esipov, 'A dual frequency acoustic method for flow monitoring'. In *Proceedings of the ISARS 2004*, Cambridge UK, Jul 14-16, 2004.
- M. Charnotskii, I. Fuks, K. Naugolnykh, A. Smirnov, **D. Di Iorio** and I. Esipov, 'An experimental test of the dual-frequency method of transverse current monitoring'. In *Proceedings of the 7th European Conference on Underwater Acoustics 2004*, Delft, The Netherlands, Jul 5-8, 2004.
- D. Di Iorio** and K. Kang, 'Some physical factors that may affect turbulent mixing in Altamaha Sound, Georgia', In *Proceedings of the 2003 Georgia Water Resources Conference*, Kathryn J. Hatcher (ed), April 23-24, 2003, Athens GA.
- S. Kim, W.A. Kuperman, W.S. Hodgkiss, H.C. Song, G.F. Edelmann, T. Akal, R.P. Millane, **D. Di Iorio**, 'A Method for Robust Time-Reversal Focusing in a Fluctuating Ocean'. In *IEEE Oceans '01*. Honolulu HI, USA, Nov 5-8, 2001.
- O. Bergem, N.G. Pace, **D. Di Iorio**, 'Surface Wave Influence on Acoustic Propagation in very Shallow Water'. In *IEEE Oceans '99*. Seattle WA, USA, Sept 13-16, 1999.
- D. Di Iorio**, 'High frequency acoustic observations of Mediterranean flow into the Black Sea'. In *Proceedings of High Frequency Acoustics in Shallow Water*. Lerici, Italy, June 30 - July 4, 1997.
- T. Akal, A.P. Lyons, **D. Di Iorio**, P. Guerrini, 'High frequency acoustic propagation in coastal waters'. In *Proceedings of High Frequency Acoustics in Shallow Water*. Lerici, Italy, June 30 - July 4, 1997.
- D.M. Farmer and **D. Di Iorio**, 'Acoustic detection of turbulence by reciprocal scintillation'. In *Proceedings of a workshop on Microstructure Sensors in the Ocean*, sponsored by the US Office of Naval Research, pp 44-51. Timberline Lodge, Oregon, USA, October 23-25, 1996.
- D.M. Farmer, **D. Di Iorio** and M. Trevorrow, 'Some recent applications of high frequency acoustic systems to the study of turbulence in coastal waters'. In *Int. Symp. Acoustic Rem. Sensing*. Boulder CO, USA, Oct 2-7, 1994.
- D.M. Farmer and **D. Di Iorio**, 'High frequency acoustic propagation through a turbulent shear flow'. In *2nd European Conference on Underwater Acoustics*. Copenhagen, Denmark, July 4-8, 1994.
- D. Di Iorio** and D.M. Farmer, 'Observations of acoustical scintillations in Saanich Inlet'. In *IEEE Oceans '93*, 1:416-420. Victoria BC, Canada, October 18-21, 1993.
- D. Di Iorio** and D.M. Farmer, 'Separation of multipaths in Saanich Inlet'. In *Canadian Acoustics Proceedings* 20(3):63-64. Vancouver BC, Canada, October 6-7, 1992.
- D.M. Farmer and **D. Di Iorio**, 'Two dimensional acoustical propagation in a stratified shear flow'. In *Ocean Variability and Acoustic Propagation*, eds: J.R. Potter and A. Warn-Varnas, pp 41-55. La Spezia, Italy, June 4-8, 1990.
- P.A. Reeve, S. Foo, **D. Di Iorio**, 'Magnet design programs: MAGDES and SUPERMAG'. In *9th International Conference of Magnet Technology* Zurich, Switzerland, 1987.

Presentations

Published Abstracts

- D. Di Iorio, J.W. Lavelle, and I. Adams (2016), Acoustic Measurements of Vertical Velocity and Turbulence Levels of a Hydrothermal Plume with comparisons to Large Eddy Simulations. In 5th Joint Meeting of the Acoustical Society of America and Acoustical Society of Japan, Honolulu HI, Nov 28-Dec 2, Invited.
- C.J. Mcknight, and D. Di Iorio (2016), A high-resolution hydrodynamic model of the Duplin River Estuary, Sapelo Island GA with groundwater as the major buoyancy forcing. In 2016 Ocean Sciences Meeting, Feb 22-26, New Orleans LA.
- D. Di Iorio, J.W. Lavelle, and I. Adams (2016), Turbulent properties of a deep-sea hydrothermal plume in a time-variable cross flow using anisotropic mixing parameterizations in LES. In 2016 Ocean Sciences Meeting, Feb 22-26, New Orleans LA
- D. Di Iorio and A. Thurnherr (2016), Vertical Upwelling and Bottom-Boundary Layer Dispersal at a Natural Seep Site. In 2016 Gulf of Mexico Oil and Ecosystem Science Conference, Feb 3-5, 2016, Miami FL.
- D. Miklesh, C.J. McKnight, D. Di Iorio, and C.D Meile (2014), Modeling the Effects of Changes to Physical, Hydrological, and Biological Processes on Porewater Salinity Distributions in a Southeastern Salt Marsh, Abstract ID: GC21D-0593, presented at 2014 AGU Fall Meeting, San Francisco, CA, 14-18 Dec.
- D. Di Iorio, J. W. Lavelle and G. Xu (2012), Vertical Velocity of the Deep Sea Hydrothermal Plume of Dante and its Interaction with Tidal Flows, Abstract ID: 12847 presented at 2012 Ocean Sciences Meeting, AGU, Salt Lake City, UT, 20-24, Feb.
- D. Di Iorio, (2011), CAREER: Hydrothermal vent flow and temperature fluctuations: exploring long-term variability through an integrated research and education program, Abstract ED41C-04 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 5-9 Dec.
- D. Di Iorio, J.W. Lavell, and G. Xu, (2011), The Deep Sea Hydrothermal Plume at Dante and its Interaction with Tidal Flow, Abstract V11E-2545 Poster, presented at 2011 Fall Meeting, AGU, San Francisco, CA, 5-9 Dec.
- R. Camilli, A. Bowen, D.R. Yoerger, L.L. Whitcomb, A.H. Techet, C.M. Reddy, S. Sylva, J. Seewald, and D. Di Iorio,] (2010), Quantifying the flow rate of the Deepwater Horizon Macondo Well oil spill, Abstract OS41D-05 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.
- D. Di Iorio and P. McKay (2010), The cycle of vertical and horizontal mixing in a shallow tidal creek, Eos Trans. AGU, 91(26), Ocean Sci. Meet. Suppl., Abstract PO43B-05.
- G. Xu and D. Di Iorio, (2010), Hydrothermal vent flow and turbulence measurements with acoustic scintillation instrumentation, Eos Trans. AGU, 91(26), Ocean Sci. Meet. Suppl., Abstract IT45G-13.
- Germanovich, L.N., D. Di Iorio, G. Genc, R.S. Hurt, R.P. Lowell, J.F. Holden, D.A. Butterfield, and E.J. Olson, (2009). Direct measurements of hydrothermal heat output at Juan de Fuca Ridge. Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract OS13A1179.
- D. Di Iorio and G. Xu, (2009), Hydrothermal vent flow and turbulence measurements with acoustic scintillation instrumentation, Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract OS12A-03
- J.P. McKay and D. Di Iorio, (2006), The heat balance in a sinuous macro-tidal salt channel in

- the South Atlantic Bight, Eos Trans. AGU, 87(36), Ocean Sci. Meet. Suppl., Abstract OS36D-21 (J.P. McKay was recognized with an Outstanding Student Paper Award for his presentation).
- D. Di Iorio, (May 16-20, 2005). Long-term variability in hydrothermal vent flow and temperature fluctuations by acoustic scintillation, Acoustic Society of America 149th Meeting, Vancouver BC, Canada (invited).
- K. Kang and D. Di Iorio, (Sep 14-18, 2003). Turbulent Mixing in the Altamaha Estuary: An Observation and Model Comparison, 17th Biennial Conference of the Estuarine Research Federation, Seattle, WA. .
- K. Naugolnykh and D. Di Iorio, (Dec 2-6, 2002). On the multifrequency method for range dependent transversal current monitoring, Acoustical Society of America 144th meeting, Cancun Mexico.
- K. Kang and D. Di Iorio, (Feb 11-15, 2002). Flow, Salinity and Bottom Turbulence characteristics in the Altamaha Estuarine Channel, 2002 Ocean Sciences Meeting: Stratified Coastal and Estuarine Circulation, Honolulu HI, USA Abstract OS22E-250.
- D. Di Iorio, (Dec 3-7, 2001). The measurement of flow and turbulence levels using acoustical scintillation analysis, Acoustic Society of America 142th Meeting, Fort Lauderdale FL, USA (invited).
- K. Kang and D. Di Iorio, (Nov 5-8, 2001). Flow, salinity and bottom turbulence characteristics in Altamaha Sound, Estuarine Research Federation, St. Pete Beach FL, USA.
- A. Barton and D. Di Iorio, (May 30-Jun 3, 2000). A maximum likelihood estimation algorithm for tracking two multipaths, Acoustic Society of America 139th Meeting, Atlanta GA, USA.
- D. Di Iorio, (Sep 26-30, 1999). Atmospheric and sea surface wave effects on current and temperature/salinity variations in a shallow water environment, Estuarine Research Federation, New Orleans LA, USA.
- D. Di Iorio, (Dec 2-6, 1996). Acoustic observations of Mediterranean flow into the Black Sea, Acoustical Society of America 132nd Meeting, Honolulu HI, USA.
- T. Akal and D. Di Iorio, (Dec 2-6, 1996). On the relative importance of refractive index fluctuations and sea surface roughness to amplitude variability in a multipath environment, Acoustical Society of America 132nd Meeting, Honolulu HI, USA.
- D. Farmer and D. Di Iorio, (Nov 27 - Dec 1, 1995). Separation of turbulence velocity and temperature soundspeed variability with reciprocal transmission' Acoustical Society of America 130th Meeting, St. Louis MO, USA.
- D. Farmer and D. Di Iorio, (Nov 28 - Dec 2, 1994). High-frequency propagation in a turbulent flow, Acoustical Society of America 128th Meeting, Austin TX, USA.
- D. Di Iorio and D. Farmer, (Feb 21-25, 1994). Path averaged turbulent dissipation measurements using acoustical scintillation analysis, AGU Ocean Sciences Meeting, San Diego CA, USA.
- D. Farmer and D. Di Iorio, (Oct 4-8, 1993). High-frequency propagation in a turbulent shallow water environment, Acoustical Society of America 126th Meeting, Denver CO, USA. .
- D. Di Iorio, (Sep 23-25, 1992). Separation of acoustic multipaths in Saanich Inlet, 39th Annual Pacific Northwest Regional Meeting of the AGU, Victoria BC, Canada.

Invited Seminars

- Nov 12, 2012, 'Entrainment and Oscillatory flows and their effect on hydrothermal plume vertical velocity and temperature fluctuations', Rutgers, the State University of New Jersey, New Brunswick, NJ.

- Jul 1, 2011, 'Observations of the dynamical response of heat to atmospheric fluxes and salt to buoyancy, oceanic and wind forcing in the Georgia Coastal Ecosystems (GCE) domain', Naval Research Laboratory, Stennis Space Center, MS.
- Jun 29, 2011, 'The investigation of deep-sea hydrothermal plumes by acoustic methods', Naval Research Laboratory, Stennis Space Center, MS.
- Feb 10, 2011, 'Entrainment and Horizontal Cross Flows and their Affect on Hydrothermal Plume Vertical Velocity and Temperature Fluctuations', UGA Department of Physics and Astronomy, Athens GA.
- Jun 9, 2009, 'Shallow water dynamics and its effect on wave propagation, turbulence, and transport processes', Bedford Institue of Oceanography, Halifax NS.
- May 27, 2008, 'Duplin River', Naval Research Laboratory, Stennis MS (presentation by J. Paul McKay).
- Mar 27, 2008, 'Shallow water dynamics and its effect on wave propagation, turbulence, and transport processes', University of Quebec Rimouski, Rimouski QC.
- Jun 24, 2005, 'Long-term hydrothermal vent flow and temperature fluctuations using acoustic scintillation', University of Washington, Department of Oceanography, Marine Geophysics and Geology, Seattle WA.
- Jun 13, 2003, 'Hydroacoustic surveying of fish populations', NOAA National Ocean Service, Center for Coastal Environmental Health and Biomolecular Research, Charleston, SC.
- Mar 18, 2003. 'Hydroacoustic and trawl surveying of fishes in the Altamaha and MacKay river estuaries', NOAA Gray's Reef National Marine Sanctuary, Savannah GA.
- Apr 12, 2001. 'Small scale oceanographic variability and the acoustic characteristics of two contrasting coastal environments', Environmental Acoustics, Pennsylvania State University, College Station PA.
- Jul 20, 1998. 'Mediterranean flow into the Black Sea', Dept. of Marine Sciences, University of Georgia, Athens GA.
- Apr 8, 1995. 'The application of high frequency acoustic propagation to oceanographic measurement', NATO SACLANT Undersea Research Centre, La Spezia Italy.

Workshops and Symposia

- DESCEND-2 Workshop, Developing Submergence Science for the Next Decade, Harvard University, Cambridge MA, Jan 14-15, 2016, Physical Oceanography plenary discussion leader.
- FVCOM Users Workshop, 'A high resolution hydrodynamics model of the Duplin River Estuary, Sapelo Island GA', Bedford Institute of Oceanography, Halifax NS Canada, Oct 20-22, 2015, presented by C. Jared Mcknight (MS student).
- LTER All Scientists Meeting, (2015), D. Miklesh, C.J. McKnight, D. Di Iorio, and C.D Meile, Controls on porewater salinity distributions in a southeastern salt marsh, Estes Park, CO, Aug 30 - Sep 2.
- Axial Volcano - Wired and Restless, 'Acoustic scintillation for cabled observatories', Seattle WA, Apr 19-22, 2015.
- Symposium honoring Peter Rona, 'Turbulence of a deep-sea hydrothermal plume in a time variable cross flow: field and model results for plumes in the Main Endeavour Field', Rutgers, the State University of New Jersey, New Brunswick, NJ, Jun 16-18, 2014 (invited speaker).
- EarthCube: Deep Seafloor Processes and Dynamics Community Workshop, Jun 5-7, 2013,

URI, Naragansett RI, invited speaker.
 Axial RSN Science Workshop, Oct 5-7, 2011, NOAA PMEL, Seattle WA.
 Ridge 2000 Community Meeting Workshop, Oct 29-Nov 1, 2010 - Leader, Thematic Working Group: Spatial and temporal variation in chemistry and heat fluxes in hydrothermal systems, including chronic plumes, Portland OR.
 Endeavour ISS Data Integration & Planning Workshop, July 24-26, 2006, University of Washington, Seattle WA.
 Ridge2000 Progress & Planning Workshop, Oct 30-Nov2, 2005, Vancouver BC
 ORION RFA Collaborative Enhancement for the Regional Cabled Ocean Observatory (invited), Apr 14-15, 2005 Stevenson WA.
 Gray's Reef Monitoring Workshop (invited), Apr 22-24, 2003, Savannah GA
 SURA/USF Workshop to Develop a Strategic plan for the Southeastern Coastal Ocean Observing Program (SCOOP), Aug 9-10, 2001, St. Petersburg, FL
 SEA-COOS Planning Workshop, Jun 27-29, 2001, Miami FL

Professional Activities

Memberships

American Geophysical Union, Estuarine Research Federation, Acoustical Society of America, (member of the Acoustical Oceanography Technical Committee 2006-2012)

Proposal reviews

National Science Foundation, National Oceanographic and Atmospheric Administration

Manuscript and book reviews

Journal of the Acoustical Society of America; Journal of Geophysical Research - Oceans; Continental Shelf Research; Estuarine Coastal Shelf Science; Journal of Oceanic and Atmospheric Technology; Experimental Thermal and Fluid Science; Journal of Marine Science and Technology; Deep Sea Research Part I; Progress in Oceanography; Earth Science 2008 (Holt, Rinehart and Winston publishers); Oceanologia.

University service

ex officio, Marine Sciences graduate affairs committee, undergraduate affairs committee, space committee, web site design committee
 Member, Physical and Mathematical Faculty Research Grants review panel (2009-2011)
 Member, Faculty of Engineering Curriculum Committee (2005-2008)
 Member, Department of Marine Sciences undergraduate curriculum committee (2001-2009)
 Chair, Search Committee for an assistant professor in physical oceanography (2002, 2008)
 Member, Search Committee for the Director, School of Marine Programs/Head, Department of Marine Sciences (2002)

Grants Awarded

Title: "Vertical upwelling and bottom-boundary layer dispersal at a natural seep site, D. Di Iorio (PI/PD) and A. Thurherr (Co-PI, LDEO Columbia University)

Source: Gulf of Mexico Research Institute Duration: 1/1/16-12/31/18

Total: \$1,204,902

Title: “Reciprocal Acoustic Scintillation Instrumentation for monitoring hydrothermal plume dynamics at the Main Endeavour vent Field cabled observatory”, D. Di Iorio
Source: NSF OCE OTIC Duration: 9/1/13-08/31/17
Total: \$892,041

Title: “The Effects of Sea Level Rise and Increased Frequency of Storms on Inundation and Salt Intrusion on Georgia’s Estuaries”, R. Castelao (PI/PD) and D. Di Iorio (Co-PI)
Source: Georgia DNR Duration: 2/1/13-09/30/15
Total: \$72,567

Title: “Estuarine Response to Land and Water Use Changes and Development at the Georgia Coast”, R. Castelao (PI/PD) and D. Di Iorio (Co-PI)
Source: Georgia Sea Grant Duration: 03/1/12-02/28/14
Total: \$99,970

Title: “LTER: Georgia Coastal Ecosystems III” (PD Dr Meryll Alber)
Source: NSF LTER Duration: 11/15/12-11/14/18
Total: Di Iorio participation \$200,000

Title: “LTER: Georgia Coastal Ecosystems II” (PD Dr Meryll Alber and Dr. J.T. Hollibaugh)
Source: NSF LTER Duration: 11/15/06-11/14/12
Total: Di Iorio participation \$35,000

Title: “CAREER: Hydrothermal vent flow and temperature fluctuations: exploring long-term variability through an integrated research and education program”, D. Di Iorio
Source: NSF OCE PO Duration: 03/01/05-02/28/10
Total: \$552,076

Title: “LTER: Georgia land/ocean margin ecosystem”, (PD: Dr. J.T. Hollibaugh)
Source: NSF Duration: 05/01/00-10/31/06
Total: D. Di Iorio participation \$180,000

Title: “Spatial and temporal variability of pelagic biota by acoustic methods and their relation to environmental characteristics at Gray’s Reef NMS”, D. Di Iorio
Source: NOAA Gray’s Reef NMS, Duration: 05/01/04-04/30/05
Total: \$20,000

Title: “Spatial and temporal variability of pelagic biota by video and acoustic methods and their relation to environmental characteristics at Gray’s Reef NMS”, D. Di Iorio
Source: NOAA NURC Duration: 05/01/04-05/28/04
Total: 2 days Phantom II ROV time from the *RV Nancy Foster*

Title: “A study on the use of hydroacoustic and biological surveying to assess fish populations in the Altamaha and MacKay Rivers”, D. Di Iorio and G. Grossman

Source: Georgia Sea Grant, Duration: 03/01/02-09/30/03
 Total: \$10,000 + 8 days ship time for *RV Georgia Bulldog*

Title: "Book Chapter: Sounds in the Sea", D. Di Iorio
 Source: Office of Naval Research, Duration: 06/01/02-12/31/02
 Total: \$10,000

Title: "A study of wave climate effects on coastal ocean processes", D. Di Iorio
 Source: UGA Faculty Research Grant, Duration: 01/01/02-12/31/02
 Total: \$6,750

Title: "Coastal Frontal Zone Mooring development", D. Di Iorio
 Source: UGA Faculty Research Grant Duration: 01/03/2000 - 06/06/2001
 Total: \$6,500

Contributions to Teaching

Teaching Philosophy

- Keep the learning environment active by combining traditional lecturing with class activities.
- Get students talking in the classroom either within small groups or to the class as a whole.
- Develop quantitative and critical thinking skills for students at all levels through rigorous problem sets.

Undergraduate Instruction Course, % credit, term(number of students)

HONS 1990H Honors Proseminar: Recent world issues related to geological, oceanic and atmospheric processes, 100% F01(8)

FRES 1010 Freshman Seminar: Sounds in the Sea, 100% S08(15), F09(12)

FYOS 1001 Ocean Observatories: What does the data tell us about the ocean? 100% F11(15), F12(10), F13(14), F14(8)

MARS 1010 The Marine Environment, 33% F00(256), F01(272), F02(230)

MARS 3550 Life in Fluids, 25% S13(11)

MARS 4100(or 3900) Physical Processes of the Ocean, 100%: S02(7); 50%: S01(10), S03(5), S05(cruise participation for students), S06(5), S07(2), S09(2), S11(1), S13(4), S15(7), S17(8)

Graduate Instruction Course, % credit, term

MARS 6100 Physical Processes of the Ocean, 50% S01, S03, S06, S07, S09, S15

MARS 8030 Physical Oceanography, 100% F02, F03, F05, F06, S08 - S17

MARS 8150(or 8900) Ocean Waves, 100% F00, F04, S14

MARS 8170(or 8900) Ocean Mixing, 100% S01, S04, F09, S14

Postdoctoral Associates Advised:

Mahdi Razaz, Sept 2016-present

Graduate Students Advised (5 MS theses, 3 PhD dissertations):

Ian Adams, PhD Marine Sciences, recipient of the UGA PhD Scholars of Excellence 2014-2015, in progress

Trevor Richards, MS Marine Sciences, in progress

- C. Jared McKnight, MS Environmental Engineering, Aug 2016. "A modelling study of horizontal transport and residence time in the Duplin River estuary, Sapelo Island". Currently lecturing in the College of Engineering UGA.
- Guangyu Xu, MS Marine Sciences, Dec 2010. "The Investigation of Hydrothermal Plumes by the Acoustic Scintillation Method".
- J. Paul McKay, PhD Marine Sciences, Aug 2008. "Temporal and Spatial Variability of Transport and Mixing Mechanisms Using Heat and Salt in the Duplin River, Georgia". Was a scientist with the Ocean Dynamics and Prediction Branch, Oceanography Division, Naval Research Laboratory, Stennis Space Center, MS (passed away 2013).
- Gence Genc, Summer 2008, Georgia Tech, Civil Eng, Co-op internship.
- Katherine Doyle, MS Marine Sciences, May 2007. "Spatial and temporal distributions of pelagic biota using hydroacoustic surveying at Gray's Reef National Marine Sanctuary (GRNMS), Georgia". Currently research technician at Savannah State University, Department of Marine Sciences
- KiRyong Kang, PhD Marine Sciences, Aug 2005. "Waves, Turbulence and circulation in the Altamaha River Estuary, Georgia". Currently director of the National Institute of Meteorological Research/Korea Meteorological Administration, Typhoon and Asian dust Research Lab.
- Alan Barton, MS Marine Sciences, May 2002. "Multipath tracking and acoustical oceanography measurements in a stratified coastal tidal channel". Currently the owner/manager of Bear Creek Shellfish Hatchery, Inc. NC

Graduate Student advisory committee

- David Miklesh, PhD Marine Sciences, UGA, in progress
- Sorush Omidvar, PhD Civil Engineering, UGA, in progress
- Jurjen Rooze, PhD Marine Sciences, UGA, in progress
- Chandler Countryman, MS Marine Sciences, UGA, in progress
- Shiyu (Rachel) Wang, MS 2016 Marine Sciences, UGA.
- Yuntao Wang, PhD 2016, Marine Sciences, UGA.
- Guangyu Xu, PhD 2015 Oceanography, Institute of Marine and Coastal Sciences, Rutgers University
- Gence Genc, PhD 2012, Civil and Environmental Engineering, Georgia Institute of Technology
- Laura Knight, PhD 2009, Geography UGA.
- Nicolas Lambert, MS 2009, ISMER, Universite' de Quebec
- Marc Defosse, PhD 2008, ISMER, Universite' de Quebec
- Marcia Hsu, M.S. (2008) Marine Sciences UGA
- Justin Hartmann, M.S. (2007) Marine Sciences UGA
- Pierre Ramondenc, PhD 2007, Civil and Environmental Engineering, Georgia Institute of Technology.
- Lianyuan Zheng, MSc 1999, PhD 2001, Marine Sciences, UGA.

Undergraduate Students Advised

- Delphine Gall, Université de Toulon (France), Marine Eng., Summer 2014 internship
- Charlotte Gourlaouen, Université de Toulon (France), Marine Eng., Summer 2014 internship
- Ian Adams, Birmingham-Southern College, BSc Honors, June 2014, Honors Thesis: "Mathematical modeling of heat and mass transport in hydrothermal vent plumes".

Ian Adams, Birmingham-Southern College, Department of Chemistry and Physics, Summer 2013

Lydia (Meg) Badcock-Adams, UGA, Chemistry, Summer 2012 REU

Amaury Bazerole, Universite' de Toulon (France), Marine Eng., Summer 2010 internship

Sarvesh Garimella, California Institute of Technology, Env Sci., Summer Undergraduate Research Fellowships 2009 program

Manon Ait Amrouche, Universite' de Toulon (France), Marine Eng., Summer 2009 internship

Marine Durafour, Universite' de Toulon (France), Marine Eng., Summer 2008 internship

Andrew Dunn, University of Georgia, Physics, Summer 2007 internship

Patrick Decker, Georgia Tech, Physics, Summer 2006 Internship.

Lon Higginbotham, UGA, Physics, Summer 2006 Internship.

Amanda Bennett, Georgia Tech, Mech Eng. Summer 2005 Internship.

Orion King, Georgia Tech, Physics. Summer 2005 Internship,

Lisa R. Pfau, UGA Engineering, Summer 2004, REU

Daimar Tamarach, UGA BSc May 2003, Interdisciplinary Studies, Honors Thesis: "The use of acoustics to describe the spatial distribution of fish in the Altamaha and MacKay River Estuaries".

Community Outreach

Ocean Bowl service

I have volunteered my time to help the CORE sponsored National Ocean Sciences Bowl team from Oconee County High School, Watkinsville GA, prepare for competitions from 2004-2009. Weekend tutorial sessions describing general physical oceanography concepts and recent advances in instrumentation and technology was carried out periodically as the team and teacher/coach Ms Vicki Soutar, prepared for regional and then national competitions. This team participated yearly in the GA-SC regional championships and placed 1st or 2nd. Top ten placement in the national championships have been 2005 (fourth place) and 2006 (sixth place).

Research Internships for Teachers

The following teachers have participated in research cruises describing physical oceanography of estuaries, coastal waters, and/or deep see hydrothermal vents from 2006-2008:

Regina King (Earth Science), Hillsman Middle School, Athens GA

Mike Lebaron (AP Physics), Lake Norman High School, Lake Norma NC

Rachael Parr (Life Sciences, Earth Sciences), Jackson County Middle School, Commerce GA, recipient of the Presidential Award for Excellence in Mathematics and Science Teaching, 2010

Theresa Pinilla (Science), Ola Middle School, McDonough GA

Ron Prescott (Earth Science), Jackson Comprehensive High School, Commerce GA, received the 2008 High School Science Teacher of the Year award by the Georgia Science Teachers Association.

Rob Priestley (AP Physics), Savannah Arts Academy, Savannah GA

Victoria Soutar (Earth Science, Oceanography), Oconee High School, Watkinsville GA

Shannon Stone (Physics), Socastee High School, Myrtle Beach SC

Cynthia Wolfe (AP Oceanography), Sandy Creek High School, Tyrone GA