

**Curriculum vitae**  
**Tatiana A. Rynearson**  
**University of Rhode Island**  
**Graduate School of Oceanography**  
**rynearson@gso.uri.edu**  
**401-874-6022**

**Education**

- 2003 *Doctor of Philosophy*. University of Washington, School of Oceanography, Seattle, WA.  
Dissertation title: Clonal diversity, population differentiation and bloom dynamics in the  
centric diatom *Ditylum brightwellii*. Advisor: E.V. Armbrust
- 1998 *Master of Science*. University of Washington, School of Oceanography, Seattle, WA.  
Advisor: E.V. Armbrust
- 1994 *Bachelor of Science with honors*, Aquatic Sciences. Brown University, Department of  
Biology and Medicine, Providence, Rhode Island.  
Thesis title: The relationship of depth and particle size to trace metal concentrations in a  
Rhode Island Salt Marsh. Advisors: B.J. Giletti and T. Webb

**Professional experience**

- 2016- present Professor, Graduate School of Oceanography, University of Rhode Island,  
Narragansett, RI.
- 2011-2016 Associate Professor, Graduate School of Oceanography, University of Rhode  
Island, Narragansett, RI.
- 2005-2011 Assistant Professor, Graduate School of Oceanography, University of Rhode  
Island, Narragansett, RI.
- 2003-2005 Postdoctoral Research Associate, University of Washington, School of  
Oceanography, Seattle, Washington, with E.V. Armbrust.

**Research interests**

Marine microbial ecology and evolutionary biology. I am interested in understanding the  
processes that determine plankton community structure and productivity. I use techniques from  
the fields of population genetics, genomics, bioinformatics, biostatistics, physiological ecology  
and physical oceanography to examine 1) population genetics and biodiversity of phytoplankton,  
2) metabolic responses to nutrient stress in phytoplankton, 3) adaptive evolution and speciation  
of plankton and 4) the relative roles of dispersal and natural selection in determining the  
structure and productivity of planktonic communities.

**Refereed publications** \* indicates graduate student author. \*\* indicates undergraduate author

Rynearson, TA (2017) Navigating in a sea of genes. *Science* 358, 1129-1130

\*Whittaker KA and TA Rynearson (2017) Evidence for environmental and ecological selection  
in a microbe with no geographic limits to gene flow. *Proceedings of the National Academy  
of Sciences* 114(10): 2651-2656.

- A Godhe, TA Ryneerson (2017) The role of intraspecific variation in the ecological and evolutionary success of diatoms in changing environments. [Phil. Trans. R. Soc. B, Vol 372\(1728\): 20160399](#)
- Grear, JS, TA Ryneerson, AL Montalbano, B Govenar, S Menden-Deuer (2017) pCO<sub>2</sub> effects on species composition and growth of an estuarine phytoplankton community. [Estuarine, Coastal and Shelf Science \(190\): 40-49.](#)
- \*Canesi, K and T Ryneerson (2016, *feature article*) Temporal variation of *Skeletonema* community composition from a long-term time series in Narragansett Bay identified using high-throughput sequencing. [Marine Ecology Progress Series, V 556:1-16 ; doi: 10.3354/meps11843 e](#)
- Chen, G. and T.A. Ryneerson (2016) Genetically distinct populations of a diatom coexist during the North Atlantic spring bloom. [Limnology and Oceanography 61\(6\): 2165-2179. doi: 10.1002/lno.10361](#)
- Ryneerson, T. and Menden-Deuer, S. (2016) Drivers that structure biodiversity in the plankton. P. M. Glibert and T.M. Kana (eds), Aquatic Microbial Ecology and Biogeochemistry: A dual perspective. Springer. pgs 13-24
- \*Bailey, J, E. Durbin, T Ryneerson (2016) *Pseudocalanus* copepods in the Bering Sea: Species identification, intraspecific diversity and biogeography. [Deep Sea Research II, \(134\)173-180, doi:10.1016/j.dsr2.2015.04.017](#)
- \*Cleary, A., E. Durbin and T. Ryneerson, \*J. Bailey (2016) Feeding by *Pseudocalanus* copepods in the Bering Sea: trophic linkages and a potential mechanism of niche partitioning, [Deep Sea Research II, \(134\)181-189, doi:10.1016/j.dsr2.2015.04.001](#)
- Snelgrove, P., E. Vanden Berghe, P. Miloslavich, P. Archambault, N. Bailly, A. Brandt, A. Bucklin, M. Clark, F. Dahdouh-Guebas, P. Halpin, R. Hopcroft, K. Kaschner, B. Lascelles, L.A. Levin, S. Menden-Deuer, A. Metaxas, D. Obura, R. R. Reeves, T. Ryneerson, K. Stocks, M. Tarzia, D. Tittensor, V. Tunnicliffe, B. Wallace, R. Wanless, T. Webb, P. Bernal, J. Rice, A. Rosenberg (2016) Chapter 34: Gradients in Marine Biodiversity. In *The United Nations World Ocean Assessment*, published by the United Nations as part of the Global Reporting and Assessment of the State of the Marine Environment
- \*Alexander, H, B. Jenkins, T. Ryneerson, S. Dyhrman (2015) Metatranscriptome analyses indicate resource partitioning between diatoms in the field. [Proceedings of the National Academy of Sciences, 112\(17\) E2182-E2190 doi: 10.1073/pnas.1421993112](#)
- M. Scheinin, U.Riebesell, T.Ryneerson, K. Lohbeck, S. Collins (2015) Experimental Evolution Gone Wild. [Journal of the Royal Society, Interface, V 12, 20150056, 10.1098/rsif.2015.0056](#)
- \*Harvey, E.L., S. Menden-Deuer, T. Ryneerson (2015) Persistent intra-specific variation in genetic and behavioral traits in the raphidophyte, *Heterosigma akashiwo*. [Frontiers in Aquatic Microbiology doi:10.3389/fmicb.2015.01277](#)
- Collins, S, B. Rost, T. Ryneerson (2014) Evolutionary potential of marine phytoplankton under ocean acidification. [Evolutionary Applications Vol 7\(1\) 140-155. doi:10.1111/eva.12120](#)
- Keeling, P.J., Burki, F., Wilcox, H.M., Allam, B., Allen, E.E., Amaral-Zettler, L.A., Armbrust, E.V., Archibald, J.M., Bharti, A.K., Bell, C.J., Beszteri, B., Bidle, K.D., Cameron, C.T., Campbell, L., Caron, D.A., Cattolico, R.A., Collier, J.L., Coyne, K., Davy, S.K., Deschamps, P., Dyhrman, S.T., Edvardsen, B., Gates, R.D., Gobler, C.J., Greenwood, S.J., Guida, S.M., Jacobi, J.L., Jakobsen, K.S., James, E.R., Jenkins, B., John, U., Johnson,

- M.D., Juhl, A.R., Kamp, A., Katz, L.A., Kiene, R., Kudryavtsev, A., Leander, B.S., Lin, S., Lovejoy, C., Lynn, D., Marchetti, A., McManus, G., Nedelcu, A.M., Menden-Deuer, S., Miceli, C., Mock, T., Montresor, M., Moran, M.A., Murray, S., Nadathur, G., Nagai, S., Ngam, P.B., Palenik, B., Pawlowski, J., Petroni, G., Piganeau, G., Posewitz, M.C., Rengefors, K., Romano, G., Rumpho, M.E., Ryneerson, T., Schilling, K.B., Schroeder, D.C., Simpson, A.G.B., Slamovits, C.H., Smith, D.R., Smith, G.J., Smith, S.R., Sosik, H.M., Stief, P., Theriot, E., Twary, S.N., Umale, P.E., Vaultot, D., Wawrik, B., Wheeler, G.L., Wilson, W.H., Xu, Y., Zingone, A., Worden, A.Z., 2014. The Marine Microbial Eukaryote Transcriptome Sequencing Project (MMETSP): Illuminating the Functional Diversity of Eukaryotic Life in the Oceans through Transcriptome Sequencing. [PLoS Biol 12 \(6\), e1001889](#).
- Ryneerson, T. A., K Richardson, R. S. Lampitt, M. E. Sieracki, A. J. Poulton, \*M. M. Lyngsgaard, and M. J. Perry (2013) Major contribution of diatom resting spores to vertical flux in the sub-polar North Atlantic. [Deep Sea Res. I Vol 82, 60-71](#)
- Boyd P.W., T.A. Ryneerson, E.A., Armstrong, F-X. Fu, K. Hayashi, Z. Hu, D.A. Hutchins, R.M. Kudela, E. Litchman, M. R. Mulholland, U. Passow, R.F. Strzepek, \*K.A. Whittaker, E. Yu and \*M.K. Thomas (2013) Marine Phytoplankton Temperature versus Growth Responses from Polar to Tropical Waters – Outcome of a Scientific Community-Wide Study. [PLoS One, Vol. 8 \(5\), e63091. doi:10.1371/journal.pone.0063091](#)
- Duffy, JE, LA Amaral-Zettler, DG Fautin, G Paulay, TA Ryneerson, HM Sosik, JJ Stachowicz (2013) Envisioning a National Marine Biodiversity Observation Network. [Bioscience 63 \(5\), 350-361](#)
- \*Whittaker, KA, \*\*DR Rignanese, RJ Olson, TA Ryneerson (2012) Molecular subdivision of the marine diatom *Thalassiosira rotula* and its relationship to differences in geographic distribution, genome size, and physiology. [BMC Evolutionary Biology. V12:209, doi:10.1186/1471-2148-12-209](#)
- \*Alexander, H., Jenkins, B.D., Ryneerson, T.A., Saito, M.A., Mercier, M.L. Dyhrman, S.T., (2012) Identifying reference genes with stable expression from high throughput sequence data. [Frontiers in Aquatic Microbiology. doi: 10.3389/fmicb.2012.00385](#)
- \*Piecuch, C and TA Ryneerson (2012) Quantifying dispersal and connectivity of surface waters using observational Lagrangian measurements. [Journal of Atmospheric and Oceanic Technology 29, 1127–1138. doi: 10.1175/JTECH-D-11-00172.1](#)
- \*Cleary, AC, EG Durbin, TA Ryneerson (2012) Krill feeding on sediment in the Gulf of Maine (North Atlantic). [Marine Ecology Progress Series. Vol 455, 157-172. doi: 10.3354/meps09632](#)
- #Dyhrman, S., #B. Jenkins, #T. Ryneerson, #M. Saito, \*M. Mercier, \*H. Alexander, \*L. Whitney, A. Drzewianowski, V. Bulygin, \*E. Bertrand, Z. Wu, C. Benitez-Nelson, and A. Heithoff. (2012) The transcriptome and proteome of the diatom *Thalassiosira pseudonana* reveal a diverse Phosphorus stress response. [PLoS One 7:e33768](#)
- # Authors contributed equally to the work
- Ryneerson, T.A. and B. Palenik. (2011) Learning to read the oceans: Genomics of marine phytoplankton. [Advances in Marine Biology, Vol 60:1-39](#)
- \*Horn, M. G., R. S. Robinson, T. A. Ryneerson, and D. M. Sigman (2011), Nitrogen isotopic relationship between diatom-bound and bulk organic matter of cultured polar diatoms, [Paleoceanography, 26, PA3208, doi:10.1029/2010PA002080](#)

- \*Graff, J and T.A. Ryneerson. (2011) Extraction method influences the recovery of phytoplankton pigments from natural assemblages. [Limnology and Oceanography: Methods, 9:129-139](#)
- Durbin, E., M. Casas, T.A. Ryneerson (2011) Copepod feeding and digestion rates using prey DNA and qPCR. [Journal of Plankton Research, doi: 10.1093/plankt/fbr082](#)
- Wu, Z., Jenkins, B. D., Ryneerson, T. A., Dyhrman, S. T., Saito, M. A., \*Mercier, M. & \*Whitney, L. (2010) Empirical Bayes Analysis of Sequencing-based Transcriptional Profiling Without Replicates. [BMC Bioinformatics. 11\(1\): 564](#)
- Ryneerson, T.A., E.O. Lin and E.V. Armbrust. (2009) Metapopulation structure in the planktonic diatom *Ditylum brightwellii* (Bacillariophyceae). [Protist, 160: 111-121](#)
- Bowler, C, AE Allen, JH Badger, J Grimwood, K Jabbari, A Kuo, U Maheswari, C Martens, F Maumus, RP Otilar, E Rayko, A Salamov, K Vandepoele, B Beszteri, A Gruber, M Heijde, M Katinka, T Mock, K Valentin, F V  rret, JA Berges, C Brownlee, J Cadoret, A Chiovitti, CJ Choi, S Coesel, A De Martino, JC Detter, C Durkin, A Falciatore, J Fournet, M Haruta, M Huysman, BD Jenkins, K Jiroutova, RE Jorgensen, Y Joubert, A Kaplan, N Kroeger, P Kroth, J La Roche, E Lindquist, M Lommer, V Martin-J  z  quel, PJ Lopez, S Lucas, M Mangogna, K McGinnis, LK. Medlin, A Montsant, M Oudot-Le Secq, C Napoli, M Obornik, J Petit, BM. Porcel, N Poulsen, M Robison, L Rychlewsk, TA Ryneerson, J Schmutz, M Schnitzler Parker, H Shapiro, M Siaut, M Stanley, MJ Sussman, A Taylor, A Vardi, P von Dassow, W Vyverman, A Willis, LS Wyrwicz, DS Rokhsar, J Weissenbach, EV Armbrust, BR Green, Y Van de Peer, IV Grigoriev. (2008) The Phaeodactylum genome reveals the dynamic nature and multi-lineage evolutionary history of diatom genomes. [Nature, 455 \(7216\) DOI 10.1038/nature07410](#)
- Durbin, E., M. Casas, T.A. Ryneerson, and D.C.Smith. (2008) Measurement of copepod predation on nauplii using qPCR of the cytochrome oxidase 1 gene. Marine Biology DOI [10.1007/s00227-007-0843-5](#)
- Ryneerson, T. A., J.A. Newton and E. V. Armbrust. (2006) Spring bloom development, genetic variation and population succession in the planktonic diatom *Ditylum brightwellii*. [Limnology and Oceanography. 51: 1249-1261](#)
- Armbrust, E.V., Ryneerson, T.A. and Jenkins. (2006) Genomic insights into diatom evolution and metabolism. In [Genomics and Evolution of Microbial Eukaryotes, Eds. Katz, L.A. and Bhattacharya, D. 201-213](#)
- Ryneerson, T. A., and E. V. Armbrust. (2005) Maintenance of clonal diversity during a spring bloom of the centric diatom *Ditylum brightwellii*. [Molecular Ecology 14:1631-1640](#)
- Armbrust, E. V., J. A. Berges, C. Bowler, B. R. Green, D. Martinez, N. H. Putnam, S. G. Zhou, A. E. Allen, K. E. Apt, M. Bechner, M. A. Brzezinski, B. K. Chaal, A. Chiovitti, A. K. Davis, M. S. Demarest, J. C. Detter, T. Glavina, D. Goodstein, M. Z. Hadi, U. Hellsten, M. Hildebrand, B. D. Jenkins, J. Jurka, V. V. Kapitonov, N. Kroger, W. W. Y. Lau, T. W. Lane, F. W. Larimer, J. C. Lippmeier, S. Lucas, M. Medina, A. Montsant, M. Obornik, M. S. Parker, B. Palenik, G. J. Pazour, P. M. Richardson, T. A. Ryneerson, M. A. Saito, D. C. Schwartz, K. Thamtrakoln, K. Valentin, A. Vardi, F. P. Wilkerson, and D. S. Rokhsar. (2004) The genome of the diatom *Thalassiosira pseudonana*: Ecology, evolution and metabolism. [Science 306: 79-86, 10.1126/science.1101156](#)
- Ryneerson, T. A., and E. V. Armbrust. (2004) Genetic differentiation among populations of the planktonic marine diatom *Ditylum brightwellii*. [Journal of Phycology 40: 34-43](#)

- Smetacek, V., C. Klaas, S. Menden-Deuer, and T. A. Rynearson. (2002) Mesoscale distribution of dominant diatom species relative to the hydrographical field along the Antarctic Polar Front. [Deep Sea Research II 49: 3835-3848](#)
- Rynearson, T. A., and E. V. Armbrust. (2000) DNA fingerprinting reveals extensive genetic diversity in a field population of the centric diatom *Ditylum brightwellii*. [Limnology and Oceanography 45: 1329-1340](#)
- Crawford, R. M., F. Hinz, and T. A. Rynearson. (1997) Spatial and temporal distribution of assemblages of the diatom *Corethron criophilum* in the Polar Frontal region of the South Atlantic. [Deep Sea Research II 44: 479-496](#)

### **Research Cruises**

- 2017 R/V Nathaniel B. Palmer, Southern Ocean, Chief Scientist
- 2009 R/V Endeavor, Gulf of Mexico, Chief Scientist
- 2008 R/V Knorr, North Atlantic as part of the North Atlantic Bloom Experiment
- 2007 R/V Endeavor, Block Island Sound, Chief Scientist
- 2007 R/V Endeavor, North Atlantic, Chief Scientist
- 2007 R/V Thompson, North Pacific
- 1998 R/V Clifford A Barnes, Puget Sound
- 1998 R/V Clifford A Barnes, Puget Sound
- 1995 R/V Polarstern (ANTXIII/2), Southern Ocean
- 1995 R/V Victor Hensen, North Sea

### **Postdoctoral Associates**

- Ewelina Rubin, PhD, SUNY Stony Brook, 2016-present
- N. D'Souza, PhD, Bowling Green Univ, 2016-2017
- G. Chen, PhD, University of Maryland, 2012-2017
- K. Hunter-Cevera, MIT WHOI Joint Program, 2014- 2016
- S. Cheng, PhD, Tongji University, 2013-2015
- R. Morse, PhD, University of Delaware, 2012-2013

### **Current and past graduate students where I serve(d) as Major Professor**

- |   |                                   |
|---|-----------------------------------|
| I. Bishop, 2018-present                                   | K. Canesi, MS rec'd 2015          |
| S. Anderson, Ph.D. candidate, 2015-present                | K. Whittaker, PhD rec'd 2014      |
| O. Ahern, PhD Candidate, 2013-present                     | J. Bailey, MS rec'd 2012          |
| S. Flickinger, MS rec'd 2016                              | M. Mercier, MS rec'd 2011         |
| A. Cleary PhD rec'd 2015 (co-advisor w Durbin, 2010-2013) | C. Piecuch, MS rec'd 2010         |
|   | L. Windecker, MS rec'd 2010       |
|   | K. McCusker, MS student 2010-2012 |

### **Teaching Activities since 2013:**

#### **Areas of specialization:**

My areas of specialization include biological oceanography, molecular ecology, phytoplankton ecology and evolution in marine environments and marine genomics

#### **Recent courses taught:**

- 2017 Fall, BIO593, Graduate course in Eco-evolutionary dynamics
- 2017 Spring, BIO208, Undergraduate course in Marine Biodiversity

2016 Spring, BIO210, Undergraduate intensive field course Bermuda Marine Biodiversity  
2016 Spring, BIO208, Undergraduate course in Marine Biodiversity  
2015 Fall, OCG 693, Graduate course in Molecular Ecology  
2015 Spring, OCG 594, Marine Plankton, co-taught with Prof. K. Wishner (GSO)  
2014 Fall, OCG 593, Big Data, Big Ocean: Data Analysis and Communication  
2014 Fall, BIO130, Undergraduate Marine Biology Freshman Seminar  
2013 Fall, OCG 693, Graduate course in Molecular Ecology  
2013 Fall, OCG 593, Big Data, Big Ocean: Data Analysis and Communication  
2013 Fall, BIO130, Undergraduate Marine Biology Freshman Seminar

#### **Other pertinent recent teaching activities**

2006-present Faculty Advisor, GSO/NSF Summer Undergraduate Research Fellowships in Oceanography (SURFO)  
2009-present Faculty Advisor, NSF EPSCoR Summer Undergraduate Research Fellowship program (SURF)

#### **Public Service since 2013**

##### **Directorships and scientific steering committee memberships**

2017-present Member Board Community, RI Save the Bay. Participation in the Policy and Planning Committee.

2006-present Director, Narragansett Bay Long-term plankton time-series (<http://www.gso.uri.edu/phytoplankton>). This is the longest-running plankton time series in the United States (since the late 1950's). The program includes weekly, quantitative analyses of chlorophyll, plankton species composition, nutrient concentrations and ancillary environmental data. Since becoming director, I have updated the database, increased the number of collaborators using the data or sampling with us and changed sampling protocols (see published manuscripts, Graff and Rynearson).

2009-present Science Director and Board Member, Metcalf Institute for Marine and Environmental Reporting, University of Rhode Island (<http://www.metcalfinstitute.org/index.htm>). As science director from 2009-2015, I helped design science immersion workshops for journalists, including an annual workshop for early-career minority journalists. I have worked with the executive director to write successful proposals to both private foundations and federal agencies that focus on teaching marine and environmental sciences to journalists. My role emphasizes building bridges between scientists and journalists and from 2009-2012 included assisting with the judging the annual Grantham prize, the largest prize (\$75K) for environmental reporting in the USA. I am currently an active board member.

2013-present Scientific Steering Committee member of the international Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) program (<http://www.imber.info/index.php>). This program is sponsored by the Scientific Committee on Oceanic Research (SCOR) and the International Geosphere-Biosphere Program (IGBP) to foster and support a comprehensive understanding of ecosystem response to climate change and to bring together natural and social sciences to address

climate-change related issues. Most recent activities include sponsoring the 2014 IMBER Open Science Meeting in Bergen, Norway.

- 2017 Steering committee member for the 2017 IMBER IMBIZO conference, Woods Hole, MA. The workshop brings together oceanographers, fisheries scientists and social scientists. The aim is to stimulate discussions, forge new collaborations, and develop novel ideas.
- 2014-2015 Steering Committee member for the workshop “Trait-based Approaches to Ocean Life.” The workshop brings together biologists, chemists, mathematicians, and physicists working on different aspect of trait-based descriptions of life in the oceans across all trophic levels and scales, from viruses to top predators and from fine-scale turbulence to global climate change. The aim is to stimulate discussions, forge new collaborations, and develop novel ideas.
- 2011-2013 Committee Member, Scientific Steering Committee of the Ocean Carbon and Biogeochemistry program (<http://www.us-ocb.org/index.html>). This program was created by NSF, NASA, and NOAA in 2006 to promote, plan, and coordinate collaborative, multidisciplinary research opportunities on marine biogeochemical cycling and ecosystem processes within the U.S. and with international partners.
- 2008-2013 Co- Director, URI/GSO EPSCoR Center for Excellence in Marine Life Sciences, (<http://www.riepscor.org/CenterMarineLifeScience/Home.html>). I set up and oversaw the Marine Ecology and Genomics Facility. This NSF EPSCoR-funded facility has funding for \$1.8 million in instrumentation and supplies for sampling marine environments, analyzing quantitative genetic information about biological samples and preparing biological samples for genome sequencing.

### **Other Services to the Community since 2013**

- 2016 Co-chair, special session on “Microbial interactions in ocean ecosystems: ecology to biogeochemistry” 2016 Ocean Sciences Conference, New Orleans, LA
- 2014 Co-Chair, special session on “Genetic connectivity in marine habitats, from unicells to metazoans” 2014 Ocean Sciences Conference, Honolulu, HI.
- 2014 Invited Participant, International North Atlantic-Arctic Planning Workshop. This international planning workshop was the first step in the development of a large multidisciplinary research program focused on the coupled North Atlantic-Arctic system. Fifty participants were invited from the U.S., European Union (EU), and Canada. The goal was to establish an interdisciplinary framework for a large international research initiative that will examine key components of the North Atlantic-Arctic system (e.g., Atlantic Meridional Overturning Circulation, or AMOC, spring bloom timing, biological carbon pump, ecosystem structure as well as their dynamics, etc.) and associated sensitivities to circulation and climate changes. [http://www.whoi.edu/website/NAtl\\_Arctic/home](http://www.whoi.edu/website/NAtl_Arctic/home)
- 2014 Invited Participant, Workshop on “Diatoms as a potential experimental model system in marine microbial ecology and evolution” at the Gordon and Betty Moore Foundation, Palo Alto, CA.
- 2013 Co-Chair, special session on “Marine Plankton, Climate Change and Evolution” at Ocean Carbon and Biogeochemistry annual summer science workshop.

### **Outreach/ service to secondary education and community since 2013**

- 2006-present Moderator and Science judge, Rhode Island Annual Ocean Science Bowl for high school students
- 2010-present Member, Bay Area Response and Assessment Team (BART) for incidents that threaten public health and safety and the environment of Rhode Island. RI DEM/ URI.
- 2017 Outreach presentations on marine plankton, URI 125<sup>th</sup> Anniversary/GSO open house
- 2015 Outreach presentations on marine plankton, Volvo Ocean Race, Newport, RI

**Special services rendered such as journal editor, agency research review board, etc.**

- 2010-present Member, Review Editorial Board for the journal *Frontiers in Aquatic Microbiology*
- 2015 -2017 Editorial Board for the journal *Protist*
- Member, NSF review panels, NIH review panels
- Manuscript Reviewer for *Science*, *Nature Climate Change*, *Limnology and Oceanography*, *Molecular Ecology*, *Frontiers in Aquatic Microbiology*, *Journal of Phycology*, *European Journal of Phycology*, *Plant Physiology*, *Diatom Research Journal of Sea Research*, *The Korea Observer*, *Protist*, *Harmful Algae*, *Journal of Biogeography*, *Deep Sea Research Part I*, *Deep Sea Research Part II*, *Marine Biology*, *Marine Ecology Progress Series*, *Philosophical Transactions of the Royal Society*, *PLoS One*, *Evolution*
- Proposal Reviewer for the National Science Foundation, National Oceanic and Atmospheric Administration, SeaGrant, National Institutes of Health, National Geographic Society

**Papers Presented/Abstracts from Professional Meetings since 2013**

- 2017 Ryneerson, TA and KA Whittaker. The ecological and evolutionary fate of phytoplankton in a changing ocean. 2017 IMBER IMBIZO conference, Woods Hole, MA
- 2017 Ryneerson, TA and K. Canesi. New methods and an old time series reveal temporal trends in diversity among morphologically cryptic diatom species. 2017 ASLO Conference, Honolulu, Hawaii.
- 2017 Pezner, A.K., G. Chen, and T.A. Ryneerson. Zooplankton biodiversity and community composition in response to environmental change in Narragansett Bay. 2017 ASLO Conference, Honolulu, Hawaii.
- 2017 Chen, G. and T.A. Ryneerson. Genomic insights into population genetic variation and physiological adaptation of the marine diatom, *Thalassiosira rotula*. 2017 ASLO Conference, Honolulu, Hawaii.
- 2017 Anderson, S.I. and T.A. Ryneerson. Thermal Trait Variability in Seasonally Differentiated Morphologically Cryptic Diatom Species. 2017 ASLO Conference, Honolulu, Hawaii.
- 2017 D'souza N.A.; Anderson S. R.; Ryneerson T.A.; Menden-Deuer S. Changes in intracellular lipid concentrations in the heterotrophic dinoflagellate *Oxyrrhis marina* during starvation and grazing. 2017 ASLO Conference, Honolulu, Hawaii.
- 2016 Ryneerson, TA, G, Chen. Patterns of Genetic Diversity and Co-existence in Open Ocean Diatoms: the Effects of Water Mass Structure, Selection and Sex. 2016 Ocean Sciences Conference, New Orleans, LA



- 2016 Flickinger, S, TA Ryneerson. Hidden diversity: Resolving annual and seasonal community composition of a diatom genus in Narragansett Bay through long-term data and molecular analysis. 2016 Ocean Sciences Conference, New Orleans, LA
- 2016 Ahern, O, T Williams, KA Whittaker, DE Hunt, TA Ryneerson. Marine Microscale Interactions: Exploring the Ecological Relationships Between a Cosmopolitan Eukaryotic Diatom *Thalassiosira rotula* and its Associated Heterotrophic Bacterial Assemblage. 2016 Ocean Sciences Conference, New Orleans, LA
- 2016 Grear, J, TA Ryneerson, A Montalbano, B Govenar, S Menden-Deuer. Whole phytoplankton community response to carbon dioxide enrichment in winter incubation experiments. 2016 Ocean Sciences Conference, New Orleans, LA
- 2016 Kujawinski. EB, K Longnecker, H Alexander, ST Dyhrman, B. Jenkins, TA Ryneerson. Multi-Omics Profiling of Phytoplankton Community Metabolism: Linking Meta-Transcriptomics and Metabolomics to Elucidate Phytoplankton Physiology in a Model Coastal System. 2016 Ocean Sciences Conference, New Orleans, LA
- 2015 Ryneerson, TA, KA Whittaker. Global-scale gene flow in a marine plankton: implications for tracking and interpreting key traits in key organisms. A trait based approach to Ocean Life Workshop, Waterville Valley
- 2015 Ryneerson, TA, G. Chen. The North Atlantic Spring Diatom Bloom: Sex, Eddies and the Maintenance of Genetic Diversity. The Molecular Life of Diatoms Conference, Seattle
- 2015 Hunter-Cevera, K, M. Mercier, L. Whitney, ST Dyhrman, BD Jenkins, TA Ryneerson. Physiologic and metabolic phosphorus stress responses in the diatom *Thalassiosira rotula*. The Molecular Life of Diatoms Conference, Seattle
- 2015 Alexander, H, BD Jenkins, TA Ryneerson, ST. Dyhrman. Metatranscriptome analyses indicate resource partitioning between diatoms in the field. The Molecular Life of Diatoms Conference, Seattle
- 2015 Whittaker, KA, TA Ryneerson. Diatoms in Space: Global population structure and environmental selection in the marine diatom *T. rotula*. The Molecular Life of Diatoms Conference, Seattle
- 2015 Canesi, K, TA Ryneerson. Community composition of the morphologically cryptic diatom genus *Skeletonema* in Narragansett Bay. The Molecular Life of Diatoms Conference, Seattle
- 2015 Dyhrman, ST, H. Alexander, B.D. Jenkins, T.A. Ryneerson. Leveraging transcriptome data to identify resource partitioning of phytoplankton niche space in the field. 2015 ASLO meeting, Spain
- 2015 Vomacka, E, S. Cheng, S. Menden-Deuer, T.A. Ryneerson. Unraveling complex behaviors through transcriptome and gene expression analysis: the case of salinity tolerance of the raphidophyte *Heterosigma akashiwo*. 2015 ASLO meeting, Spain
- 2014 Ryneerson, T, K. Whittaker. Biodiversity in the plankton: are ecosystem services influenced by evolutionary mechanisms? 2014 IMBER Open Science Conference, Bergen, Norway
- 2014 Grear, JS, TA Ryneerson, AL Montalbano, B Govenar, S Menden-Deuer. Phytoplankton community response to winter incubation experiments with carbon dioxide enrichment. Coastal and Estuarine Research Federation, Annual Conference,

- 2014 Rynearson, T. Genetics, Evolution and the Impact on Biogeochemistry. (*invited presentation*). Ocean, Carbon and Biogeochemistry (OCB) Scoping Workshop: Improving predictive biogeochemical models through single cell-based analyses of marine plankton physiological plasticity, genetic diversity and evolutionary processes, Bigelow Laboratory for Ocean Sciences, Maine
- 2014 Rynearson, T. The North Atlantic Bloom: Species Composition and impacts on Vertical Fluxes (*invited presentation*). 2014 Ocean, Carbon and Biogeochemistry (OCB) Summer Science Workshop, Woods Hole Oceanographic Institution, Woods Hole, MA
- 2014 Flickinger, S, T. Rynearson. Characterizing Variability: The Benefits of Long-Term Monitoring in Narragansett Bay, 1959-2014. 2014 Ocean, Carbon and Biogeochemistry (OCB) Summer Science Workshop, Woods Hole Oceanographic Institution, Woods Hole, MA
- 2014 Whittaker, K, T Rynearson. International relations? Exploring global population structure and dispersal in the marine diatom *Thalassiosira rotula*. 2014 Ocean Sciences Conference, Honolulu, HI
- 2014 Chen, G, T Rynearson. Population genetic variation and connectivity of the marine diatom *Thalassiosira gravida* in the 2008 North Atlantic Bloom Experiment. 2014 Ocean Sciences Conference, Honolulu, HI
- 2014 Canesi, K, D Roche, T Rynearson. Does invisible diversity drive diatom bloom dynamics? The role of morphologically cryptic species in the formation of diatom blooms. 2014 Ocean Sciences Conference, Honolulu, HI
- 2014 Willert, M, K Canesi, T Rynearson, Physiological and genetic diversity among morphologically cryptic *Skeletonema* species. 2014 Ocean Sciences Conference, Honolulu, HI
- 2014 Bailey, J, T Rynearson, E. Durbin. Polar express? Connectivity among morphologically cryptic *Pseudocalanus* copepod species in the Bering Sea. 2014 Ocean Sciences Conference, Honolulu, HI
- 2013 Rynearson, TA, K. Whittaker, C. Picuch. Shaken or stirred? Does physical connectivity explain patterns of gene flow in planktonic diatom populations in the North Atlantic. International Congress of Protistology, Vancouver, CA.
- 2013 Rynearson, TA. Evolution in the Plankton; ecological and biogeochemical implications. Ocean Carbon and Chemistry Meeting, Woods Hole Oceanographic Institution, Woods Hole, MA
- 2013 Whittaker, K. and TA Rynearson Distant cousins? Basin-scale genetic connectivity among populations of the marine diatom *Thalassiosira rotula*. 2013 ASLO meeting, New Orleans, LA
- 2013 Cleary, A., E Durbin, and TA Rynearson. Feeding by three *Pseudocalanus* congeners in the Bering Sea: new trophic linkages and a potential mechanism for niche partitioning. 2013 ASLO meeting, New Orleans, LA
- 2013 Alexander, H., BD Jenkins, TA Rynearson, M. Saito, MM Mercier, S. Dyhrman. Identifying reference genes with stable expression from high throughput sequence data. 2013 ASLO meeting, New Orleans, LA
- 2013 Chen, G. and TA Rynearson. Genetic variation in the marine diatom *Thalassiosira gravida*. 2013 ASLO meeting, New Orleans, LA

