CURRICULUM VITAE
UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS
Anne E. Thessen, PhD

VISITING ASSOCIATE PROFESSOR, CENTER FOR HEALTH AI
anne.thessen@cuanschutz.edu ● 443-225-9185 ● tislab.org ● 0000-0002-2908-3327 ● @diatomsRcool

VISION
My vision is to fundamentally alter the way we think about biology and environmental science by integrating data at unprecedented scales. My demonstrated success in leadership of cross-disciplinary teams and commitment to open and reproducible science will serve me and the community to affect real change.

I. EDUCATION
Ph.D. Biological Oceanography, University of Maryland College Park, 2007
B.S. Marine Biology, Nicholls State University, 2001

II. PROFESSIONAL EXPERIENCE
Visiting Associate Professor, University of Colorado Anschutz – June 2021 to present
Assistant Professor (Senior Research), Oregon State University – June 2018 to June 2021
Research Staff, Georgetown University – March 2016 to June 2019
Business Owner, The Data Detektiv – August 2013 to present
Research Scholar, Ronin Institute for Independent Scholarship – March 2013 to present
Associate Research Scientist, Univ of Maryland Center for Environmental Science Horn Point Laboratory – 2012 to 2015
Adjunct Faculty, Arizona State University – June 2013 to June 2014
Affiliated Scientist, Marine Biological Laboratory – 2012 to 2015
Assistant Research Professor, Arizona State University – 2012 to 2013
Assistant Research Scientist, Marine Biological Laboratory – 2010 to 2012
Research Associate, Marine Biological Laboratory – 2009 to 2010
Postdoctoral Investigator, Marine Biological Laboratory 2008 to 2009
Postdoctoral Investigator, University of Maryland Center for Environmental Science Horn Point Laboratory 2007 to 2008
Contractual Microscopist, University of Maryland Center for Environmental Science Horn Point Laboratory, 2006
Research Assistant I, LUMCON, 2001
Undergraduate Intern, LUMCON, 1999 to 2000

III. SCHOLARSHIP
PUBLICATIONS (h-index 21, Citations 2114)
1. **Thessen, A. E.**, P. Bogdan, D. J. Patterson, T. Casey, C. Hinojo-Hinojo, O de Lange, M. A. Haendel. (2021) From Reductionism to Reintegration: Solving society's most pressing problems requires building bridges between data types across the life sciences. PLoS Biology 19(3): e3001129. https://doi.org/10.1371/journal.pbio.3001129
2. **Thessen, A. E.**, C. J. Grondin, R. D. Kulkarni, S. Brander, L. Truong, N. A. Vasilevsky, T. J. Callahan, L. E. Chan, B. Westra, M. Willis, S. E Rothenberg, A. M. Jarabek, L. Burgoon, S. A Korrick, M. A. Haendel. (2020) Community approaches for integrating environmental exposures into human models of disease. Environmental Health Perspectives 128 (12) https://doi.org/10.1289/EHP7215
3. **Thessen, A. E.**, R. L. Walls, L. Vogt, J. Singer, R. Warren, P. L. Buttigieg, J. P. Balhoff, C. J. Mungall, D. L. McGuinness, B. J. Stucky, M. J. Yoder, M. A. Haendel (2020) Transforming the study of organisms: Phenomic data models and knowledge bases. PLoS Computational Biology 16(11): e1008376. https://doi.org/10.1371/journal.pcbi.1008376
4. Groom, Q., A. Güntsch, P. Huybrechts, N. Kearney, S. Leachman, N. Nicolson, R. D. M. Page, D. P. Shorthouse, **A. E. Thessen**, E. Haston (2020) People are essential to linking biodiversity data. Database https://doi.org/10.1093/database/baaa072
5. Campbell, D. L., **A. E. Thessen**, L. Ries (2020) A novel system for curating taxonomic names and concepts across regional citizen science programs: facilitating data integration for large scale ecological research. PeerJ 8:e9219. https://doi.org/10.7717/peerj.9219

6. **Thessen, A. E.**, M. Woodburn, D. Koureas, D. Paul, M. Conlon, D. P. Shorthouse, S. Ramdeen (2019) Proper attribution for curation and maintenance of research collections: Metadata recommendations of the RDA/TDWG working group. Data Science Journal 18(1): 54. http://doi.org/10.5334/dsj-2019-054

7. Boyles, R., **A. E. Thessen**, M. Haendel, A. Waldrop (2019) Ontology-based data integration for advancing toxicological knowledge. Current Opinion in Toxicology. 16: 67-74. https://doi.org/10.1016/j.cotox.2019.05.005

8. **Thessen, A. E.**, R. E. Duerr, J. Preciado, C. Jenkins, M. Palmer (2018) Collaboration between the natural sciences and computational linguistics: A discussion of issues. doi:10.13140/RG.2.19353.26728

9. Preciado, J., **A. E. Thessen**, C. Jenkins, M. Palmer (2018) ClearEarth annotation guidelines: Biology. doi: 10.13140/RG.2.2.10265.67685

10. Matentzoglu, N., J. P. Balhoff, S. M. Bello, C. Boerkoel, Y. M. Bradford, L. C. Carmody, L. D. Cooper, C. A. Grove, N. L. Harris, S. Köhler, M. A. Laporte, S. L. F. Laulederkind, R. Lee, G. K. Mazandu, J. A. McMurry, C. Mungall, D. Osumi-Sutherland, C. Pilgrim, K. Rageth, S. M. C. Robb, P. N. Robinson, E. Segerdell, **A. Thessen**, N. Vasilevsky, X. A. Zhang, M. A. Haendel (2018) Phenotype ontologies traversing all the organisms (POTATO) workshop aims to reconcile logical definitions across species. Zenodo doi:10.5281/zenodo.2382757

11. Endara, L., **A. E. Thessen**, H. Cole, R. Walls, G. Gkoutos, Y. Cao, S.S. Chong, and H. Cui (2018) Modifier ontologies for frequency, certainty, degree, and coverage phenotype modifier. Biodiversity Data Journal. 6:e29232 https://doi.org/10.3897/BDJ.6.e29232

12. **Thessen, A. E.**, J. H. Poelen, M. Collins, and J. Hammock (2018) 20 GB in 10 minutes: A case for linking major biodiversity databases using an open socio-technical infrastructure and a pragmatic, cross-institutional collaboration. PeerJ Comp Sci. 4:e164 https://peerj.com/articles/cs-164/

13. **Thessen, A. E.** [Ed.] Application of Semantic Technology in Biodiversity Science (2018) IOS Press. pp. 224.

14. Lancaster, A. K., **A. E. Thessen**, and A. Virapongse (2018) A new paradigm for science: Nurturing the ecosystem. F1000. https://f1000research.com/articles/7-803/v1

15. Parr, C. S. and **A. E. Thessen** (2017) Biodiversity Informatics. In: Recknagel, F. and W. Michener [Eds.] Ecological Informatics. Springer doi:10.1007/978-3-319-59928-1_17

16. **Thessen, A. E.**, and E. W. North (2017) Calculating *in-situ* degradation rates of hydrocarbon compounds in deep waters of the Gulf of Mexico. Marine Pollution Bulletin. 122: 77-84. https://doi.org/10.1016/j.marpolbul.2017.06.004

17. Gandy, L. M., J. Gumm, B. Fertig, **A. E. Thessen**, M. J. Kennish, S. Chavan, L. Marchionni, X. Xia, S. Shankrit, and E. J. Fertig (2017) Synthesizer: Expediting synthesis studies from context-free data with information retrieval techniques. PLoS ONE 12(4):e175860 https://doi.org/10.1371/journal.pone.0175860.

18. **Thessen, A. E.** (2016) Machine learning applications in ecology and earth science. One Ecosystem. doi: 10.3897/oneeco.1.e8621

19. Patterson, D., D. Mozzherin, D. Shorthouse, and **A. E. Thessen** (2016) Challenges with using names to link digital biodiversity information. Biodiversity Data Journal. 4:e8080 doi: 10.3897/BDJ.4.e8080

20. **Thessen, A. E.**, B. Fertig, J. C. Jarvis and A. C. Rhodes (2016) Data infrastructures for estuarine and coastal ecological syntheses. Estuaries & Coasts 39(2): 295-310 doi:10.1007/s12237-015-0045-1

21. **Thessen, A. E.**, S. McGinnis and E. W. North (2016) Lessons learned building the Deepwater Horizon Database: Toward improved data sharing in coastal science. Computers & Geosciences 87:84-90.

22. **Thessen, A. E.**, D. E. Bunker, P. L. Buttigieg, L. D. Cooper, W. M. Dahdul, S. Domisch, N. M. Franz, P. Jaiswal, C. J. Lawrence-Dill, P. E. Midford, C. J. Mungall, M. J. Ramírez, C. D. Specht, L. Vogt, R. A. Vos, R. L. Walls, J. W. White, G. Zhang, A. R. Deans, E. Huala, S. E. Lewis, and P. M. Mabee (2015) Emerging semantics to link phenotype and environment. PeerJ 3:e1470 https://doi.org/10.7717/peerj.1470

23. North, E., E. Adams, **A. E. Thessen**, Z. Schlag, R. He, S. Socolofsky, S. Masutani and S. Peckham (2015) The influence of droplet size and biodegradation on the transport of subsurface oil droplets during the Deepwater Horizon spill: a model sensitivity study. Environmental Research Letters 10(2):024016. doi:10.1088/1748-9326/10/2/024016

24. Deans, A. R., S. E. Lewis, E. Huala, S. S. Anzaldo, M. Ashburner, J. P. Balhoff, D. C. Blackburn, J. A. Blake, J. G. Burleigh, B. Chanet, L. D. Cooper, M. Courtot, S. Csosz, H. Cui, W. Dahdul, S. Das, T. A. Dececchi, A. Dettai, R. Diogo, R. E. Druzinsky, M. Dumontier, N. M. Franz, F. Friedrich, G. V. Gkoutos, M. Haendel, L. J. Harmon, T. F. Hayamizu, Y. He, H. M. Hines, N. Ibrahim, L. M. Jackson, P. Jaiswal, C. James-Zorn, S. Köhler, H. Lapp, C. J. Lawrence, N. Le Novère, G. Lecoinre, J. G. Lundberg, J. Macklin, A. R. Mast, P. E. Midford, I. Mikó, C. J. Mungall, A. Oellrich, D. Osumi-Sutherland, H. Parkinson, M. J. Ramírez, S. Richter, P. N. Robinson, A. Ruttenberg, K. S. Schulz, E. SEgerdell, K. C. Seltmann, M. J. Sharkey, A. D. Smith, B. Smith, C. D. Specht, R. B. Squires, R. W. Thacker, **A. Thessen**, J. F. Triana, M. Wihinen, P. D. Vize, L. Vogt, C. E. Wall, R. L. Walls, M.

Westerfield, R. A. Wharton, C. S. Wirkner, J. B. Woolley, M. J. Yoder, A. M. Zorn, and P. M. Mabee (2015) Finding our way through phenotypes. PLoS Biology 10.1371/journal.pbio.1002033.

25. Gruninger, M., L. Obrst, T. Schneider, F. Quattri, K. Baclawski, M. Bennett, D. Brickley, G. Berg-Cross, P. Hitzler, K. Janowicz, C. Kapp, O. Kutz, C. Lange, A. Levenchuk, A. Rector, S. Spero, **A. Thessen**, M. Vegetti, A. Vizedom, A. Westerinen, M. West and P. Yim (2014) Ontology Summit 2014 Communique: Semantic web and big data meet applied ontology. Version 1.0.0 Available from http://ontolog.cim3.net/cgi-bin/wiki.pl?OntologySummit2014.

26. Quintero, E., **A. E. Thessen**, P. Arias-Caballero, and B. Ayala (2014) A statistical assessment risk status for data deficient Mexican amphibians. PeerJ https://peerj.com/articles/703/

27. **Thessen, A. E.** and C. S. Parr (2014) Knowledge extraction and semantic annotation of text from the Encyclopedia of Life. PLoS ONE. http://dx.plos.org/10.1371/journal.pone.0089550

28. Mayernik, M. S., T. DiLauro, R. Duerr, E. Metsger, **A. E. Thessen** and G. S. Choudhury (2013) Data Conservancy provenance, context and lineage services: key components for data preservation and curation. Data Science Journal 12:158-171.

29. Sinha, A. K., **A. E. Thessen** and C. G. Barnes (2013) Geoinformatics: towards an integrative view of Earth as a system, in Bickford, M.E., ed., The Web of Geological Sciences: Advances, Impacts, and Interactions: Geological Society of America Special Paper 500, p. 1-14. 10.1130/2013.2500(19)

30. Codispoti, L. A., V. Kelly, **A. E. Thessen**, P. Matrai, S. Suttles, V. Hill, M. A. Steele, B. Light and R. Zimmerman. (2013) Synthesis of primary production in the Arctic Ocean: III. Nitrate and phosphate based estimates of net community production. Progress in Oceanography. 110:126-150. http://dx.doi.org/10.1016/j.pocean.2012.11.006

31. Murray, S. A., D. J. Patterson and **A. E. Thessen** (2012) Transcriptomics and microbial eukaryotic diversity: a way forward. Trends in Ecology and Evolution. 27(12):651-652. 10.1016/j.tree.2012.08.011

32. **Thessen, A. E.**, D. J. Patterson and S. A. Murray (2012) The taxonomic significance of species that have only been observed once: the genus *Gymnodinium* (Dinoflagellata) as an example. PLoS ONE. http://dx.plos.org/10.1371/journal.pone.0044015

33. **Thessen, A. E.**, H. Cui and D. Mozzherin (2012) Applications of Natural Language Processing in Biodiversity Science. Advances in Bioinformatics 2012:391574. doi:10.1155/2012/391574.

34. **Thessen, A. E.**, L. M. Clough, A. Whiting, H. Bowers and G. Boyer (2012) A recurring bloom of toxic marine cyanobacteria above the Arctic Circle. Harmful Algae News 46:12-15.

35. Trainer, V., S. S. Bates, W. Cochlan, N. Lundholm, **A. E. Thessen**, N. G. Adams, C. G. Trick (2012) *Pseudo-nitzschia* physiological ecology, phylogeny, toxicity, monitoring and impacts on ecosystem health. Harmful Algae 14:271-300.

36. Enke, N., **A. E. Thessen**, K. Bach, J. Bendix, B. Seeger and B. Gemeinholzer (2012) The User's View on Biodiversity Data Sharing. Ecological Informatics 11: 25-33.

37. **Thessen, A. E.** and D. J. Patterson (2011) Data Issues in the Life Sciences. ZooKeys 150:15-51.

38. Amaral-Zettler L., L. F. Artigas, J. Baross, L. Bharathi, A. Boetius, D. Chandramohan, G. Herndl, K. Kogure, P. Neal, C. Pedros-Alio, A. Ramette, S. Schouten, L. Stal, **A. Thessen**, J. de Leeuw, and M. Sogin (2010) A global census of marine microbes. Life in the World's Oceans: Diversity, Distribution and Abundance, ed McIntyre AD (Blackwell Publishing Ltd., Oxford), pp 223-245.

39. Hamed, A. A., B. S. Lee and **A. E. Thessen** (2010) Ecosystems monitoring: an information extraction and event processing scientific workflow. SERVICES 2010: 302-305.

40. **Thessen, A.E.**, Q. Dortch, T.M. Soniat and G.J. Doucette (2009) *Crassostrea virginica* grazing on toxic and non-toxic diatoms. Toxicon.doi:10.1016/j.toxicon.2009.10.011

41. **Thessen, A. E.**, H. Bowers and D. K. Stoecker (2009) Intra- and interspecies differences in growth and toxicity of Pseudo-nitzschia while using different nitrogen sources. Harmful Algae 8(5):792-810.

42. Stoecker, D. K., **A. E. Thessen** and D. E. Gustafson (2008) "Windows of opportunity" for dinoflagellate blooms: reduced microzooplankton net growth coupled to eutrophication. Harmful Algae 8:158-166.

43. **Thessen, A. E.** and D. K. Stoecker (2008) Distribution, abundance and domoic acid analysis of the toxic diatom genus Pseudo-nitzschia from the Chesapeake Bay. Estuaries and Coasts. 31:664-672.

44. Doucette, G. J., K. L. King, **A. E. Thessen**, Q. Dortch (2008) The effect of salinity on domoic acid production by the diatom Pseudo-nitzschia multiseries. Nova Hedwigia Beiheft 133:31-46.

45. Maier Brown, A. F., Q. Dortch, F. M. Van Dolah, T. A. Leighfield, W. Morrison, **A. E. Thessen**, K. Steidinger, B. Richardson, C. A. Moncreiff and J. R. Pennock (2005) Effect of salinity on the distribution, growth, and toxicity of Karenia spp. Harmful Algae 5:199-212.

46. **Thessen, A. E.**, Q. Dortch, M. L. Parsons and W. Morrison (2005) Effect of salinity on Pseudo-nitzschia species (Bacillariophyceae) growth and distribution. J. Phyc. 41:21-29.

GRANTS AND CONTRACTS (Principle Investigator)
1. Pacific Northwest Center for Translational Environmental Health Research, 2020, National Institute of Environmental Health Science
2. Collaborative Research: Converging Genomics, Phenomics, and Environments Using Interpretable Machine Learning Models, 2019-2021, National Science Foundation – Harnessing the Data Revolution
3. Data Commons – NHLBI (Stage 2.0), 2018-2020, National Institutes of Health – National Heart, Lung, and Blood Institute
4. Investigate use of machine learning techniques in ecology and earth science, 2015, NASA
5. Harvesting content and structured data about protists for the Encyclopedia of Life, 2014-2018, Smithsonian Institution Independent Contract
6. Harvesting data from Europeana and Wikipeixes for the Encyclopedia of Life, 2013, Smithsonian Institution Independent Contract
7. Semantic Annotation of and knowledge extraction from the Encyclopedia of Life, 2012, Smithsonian Institution Independent Contract

PRESENTATIONS AND POSTERS (**Invited Speaker**)
1. **Thessen, A.E. Data science and transdisciplinary problem solving in the future of estuarine and coastal science. CERF Seminar Series 2021**
2. Thessen, A.E., M. Schildhauer, R.L. Walls, C.J. Mungall. Semantic Annotations and Data Integration in Ecology. ESA 2021 accepted
3. Thessen, A.E. Developing semantic technology for earth science applications: ESIP ontology tutorial. ESIP 2020. Virtual.
4. Thessen, A.E., L.E. Chan, R. Boyles, C.J. Mungall, and M.A. Haendel. Semantic models for environmental exposures: Linking geo and bio via the toxicology community. US2TS Raleigh, NC, USA.
5. Thessen, A.E., G. Appleby, R. Bartelme, M. Behrisch, E.J. Cain, R. Chang, L. Cooper, I. Debnath, P.B. Heidorn, P. Jaiswal, D. LeBauer, A. Mosca, M. Munoz-Torres, A. Ross, K. Schefchek, and T. Swetnam. Predicting phenotype from multi-scale genomic and environment data using neural networks and knowledge graphs. Ecological Society of America 2020. Salt Lake City, UT, USA.
6. Thessen, A.E., M. Behrisch, E.J. Cain, R. Chang, P.B. Heidorn, P. Jaiswal, D. LeBauer, A. Mosca, M. Munoz-Torres, A. Ross, K. Schefchek, and T. Swetnam. Predicting phenotype from multi-scale genomic and environment data using neural networks and knowledge graphs: Introducing the GenoPhenoEnvo project. Plant and Animal Genome Conference 2020. San Diego, CA, USA.
7. Thessen, A.E., T.J. Callahan, L. Chan, M. Willis, N. Vasilevsky, B. Boyles, R. Kulkarni, C.J. Grondin, R. Walls, S. Brander, and M.A. Haendel. Developing semantic technology for toxicology applications: Interdisciplinary collaborations and community development. Society of Toxicology 2020. Anaheim, CA, USA.
8. Thessen, A.E., M.A. Haendel, L. Truong, D. Reif, K. Ryan, J. Hamm, and N. Klüver. A baseline measurement for endpoint consistency across zebrafish laboratories. Society of Toxicology 2020. Anaheim, CA, USA.
9. Thessen, A.E., D.P. Shorthouse, D. Paul, M. Conlon, M. Woodburn, D. Koureas, S. Ramdeen, L.L. Haak, and P. Cornwell. A proposed metadata standard for recording and sharing attribution information in biodiversity. BiodiversityNext 2019. Leiden, The Netherlands.
10. Thessen, A.E., D. Shorthouse, D. Paul, M. Conlon, M. Woodburn, D. Koureas, and S. Ramdeen. A proposed metadata standard for recording and sharing attribution information. Society for the Preservation of Historical Collections. 2019 Chicago, USA.
11. Ryan, K., J. Hamm, P. Ceger, A.E. Thessen, S. Marvel, A. Muriana, D. Reif, R. Tanguay, M. Haendel, L. Truong, E. Maull, and N. Walker. The National Toxicology Program's Approach for the Systematic Evaluation of the Application of Zebrafish in Toxicology: SEAZIT. Environmental Toxicologic Pathology and One Health. 2019 Raleigh, North Carolina, USA.
12. Thessen, A.E., D. Corkill and J. Gormley. Machine learning for tight budgets in coastal management. CERF 2017. Providence, RI, USA.
13. Collins, M., N. Nicolson, J. Poelen, A. Thompson, J. Hammock, and A.E. Thessen. Building your own big data analysis infrastructure for biodiversity science. TDWG 2017 Ottawa Canada
14. Campbell, D.L., A.E. Thessen and L. Ries. Bridging discrepancies across North American butterfly naming authorities: Supporting citizen science data integration. TDWG 2016 La Fortuna Costa Rica.
15. **Thessen, AE. Community-Driven Cyberinfrastructure for Biological Sciences. Keynote Speaker. EarthCube All Hands Meeting. Spring 2016. Denver, Colorado. USA**

16. Duerr, R., S. Myers, M. Palmer, C. Jenkins, A.E. Thessen and J. Martin. Natural Language Processing and Machine Learning: Applying Advances in Biomedicine to Earth Science. AGU Fall 2015, San Francisco, CA, USA.

17. Thessen, A.E., B. Fertig, P. Hitzler, C.R. Ziegler and R. Walls. Ontological Support of Data Discovery and Synthesis in Estuarine and Coastal Science. CERF2015, Coastal and Estuarine Research Federation Biennial Conference, Portland, OR, USA. Nov 2015.

18. Thessen, A.E. Next-Gen Taxonomic Descriptions for Microbial Eukaryotes. Phycological Society of America Annual Conference, Philadelphia, PA, USA Fall 2015.

19. **Thessen, A.E. Biodiversity Data Publishing. What Is It? Why Should We Do It? Invited Talk for iDigBio Workshop. Fall 2015.**

20. Thessen, A.E. Linking biodiversity data for ecology: Case studies in what we can do with existing tools. Research Data Alliance San Diego, CA, USA. Spring 2015

21. Thessen, A.E., H. Cui and J. Balhoff. Building machine-readable species descriptions for protists. Research Data Alliance. San Diego, CA, USA. Spring 2015

22. **Thessen, A.E. Data Infrastructures for Estuarine and Coastal Science. 2014 Atlantic Estuarine Research Society. Keynote speaker. Ocean City, MD, USA. Spring 2014. http://www.slideshare.net/athessen/data-infrastructure-for-coastal-and-estuarine-science**

23. Thessen, A.E., S. McGinnis, E. North and I. Mitchell. Gulf of Mexico Hydrocarbon Database: Integrating Heterogeneous Data for Improved Model Development. 2014 Gulf of Mexico Oil Spill & Ecosystem Science Conference. Mobile, AL, USA. Winter 2014. http://www.slideshare.net/athessen/mobil-meeting

24. North, E., A.E. Thessen, Y. Lee, S. McGinnis, E. Adams, R. He, M. Du and J. Kessler. Integrating models and observations to estimate subsurface degradation rates and oil transport. 2014 Gulf of Mexico Oil Spill & Ecosystem Science Conference. Mobile, AL, USA. Winter 2014.

25. Thessen, A.E., E. North, S. McGinnis and I. Mitchell. Marrying models and data: adventures in modeling, data wrangling and software design. Coastal and Estuarine Research Federation. Fall 2013. http://www.slideshare.net/athessen/marrying-models-and-data

26. Thessen, A. E. and S. Carty. The dilemma of Gymnodinium. Phycologia 52(4):110-110.

27. DiLauro, T., R. Duerr, A.E. Thessen, M. Rippin, B. Pralle and S. Choudhury. Towards data repository interoperability: the Data Conservancy data packaging specification. American Geophysical Union. Fall 2013.

28. Sinha, K.A., A.E. Thessen and C.G. Barnes. Geoinformatics: toward an integrative view of Earth as a system. Geological Society of America Annual Meeting 2013.

29. Thessen, A.E. 2013. Visualizing Evolution. Bentley University, Waltham, MA, August 29, 2013. http://www.slideshare.net/athessen/visualizing-evolution

30. Thessen, A.E. 2013. Knowledge extraction and semantic annotation from the Encyclopedia of Life. Microsoft New England Research and Development Center, Cambridge, MA, April 2013. http://www.slideshare.net/athessen/python-talk

31. Thessen, A.E. and D.J. Patterson. 2011. The Future of Microalgal Taxonomy. Phycological Society of America. University of Washington, Seattle, WA, July 16, 2011. http://www.slideshare.net/athessen/the-future-of-microalgal-taxonomy

32. **Thessen, A.E. 2011. Data Issues in the Life Sciences. Invited talk at the information science department University of Illinois Urbana-Champaign, June 6, 2011.**

33. **Thessen, A.E. and D.J. Patterson. 2010. New Biology: The Data Conservancy and Data Driven Discovery. Invited talk at the Computer Science Department, University of Vermont, April 26, 2010.**

34. Thessen, A.E., L. Codispoti, V. Hill, R. Pickart and V. Kelly. 2009. Barrow Canyon: a hot spot for subsurface primary productivity adjacent to the oligotrophic Canada Basin. Coastal and Estuarine Research Federation Biennial Conference, Portland, Oregon, November 1-5, 2009.

35. Thessen, A. E., L. Amaral-Zettler and D. J. Patterson. 2008. The International Census of Marine Microbes and the Encyclopedia of Life: Bridging the gap between the molecular and the traditional. World Conference on Marine Biodiversity, Valencia, Spain, November 11-16, 2008.

36. Thessen, A. E., K. L. King, Q. Dortch and G. J. Doucette. 2007. The effect of salinity on domoic acid production by the diatom *Pseudo-nitzschia multiseries*. Fourth Symposium on Harmful Algae in the U.S., Woods Hole, Massachusetts, October 29-November 1, 2007.

37. Thessen, A. E, H. A. Bowers and D. K. Stoecker. 2007. Inter- and intraspecies differences in *Pseudo-nitzschia* ecophysiology, genetics and toxicity. Phycological Society of America, Providence, Rhode Island, August 5-9, 2007.

38. Thessen, A. E., H. A. Bowers, D. K. Stoecker and D. W. Oldach. 2006. *Pseudo-nitzschia* spp. and domoic acid in Maryland and Virginia waters. 12th International Conference on Harmful Algae, Copenhagen, Denmark, September 4-8, 2006.
39. Thessen, A. E. and D. K. Stoecker. 2005. Growth and domoic acid production in several species of *Pseudo-nitzschia* grown with different nitrogen sources. 3rd symposium on Harmful Marine Algae in the U.S., Asilomar, CA, October 2-7, 2005.
40. Thessen, A.E., D.K. Stoecker, P. Tango, S. Morton, and D. Caron. 2003. The presence of domoic acid in *Pseudo-nitzschia* from the Choptank River, a Chesapeake Bay tributary. 2nd symposium on Harmful Marine Algae in the U.S., Woods Hole, MA, December 9-13, 2003.
41. Thessen, A.E., D.K. Stoecker, and B.C. Boicourt. 2003. Chesapeake Bay tributaries during the spring drought of 2002: a temporary return to less eutrophic conditions. ERF 2003, Seattle, WA, Sept 14-18, 2003.
42. Thessen, A.E., Q. Dortch, T.M. Soniat, and G.J. Doucette. 2002. Oyster grazing on toxic and non-toxic diatoms. NSA 2002, Mystic, CT, Apr 14-18, 2002.
43. Thessen, A.E., Q. Dortch, T.M. Soniat, G.J. Doucette, M.L. Parsons, and W. Morrison. 2001. The Potential for Amnesic Shellfish Poisoning in Louisiana, Nicholls State University Senior Seminar, Nov. 12, 2001, Thibodaux, LA.
44. Thessen, A.E., Q. Dortch, T.M. Soniat, and G.J. Doucette. 2001. Oyster grazing on toxic and non-toxic *Pseudo-nitzschia*. ERF 2001, St. Pete Beach, FL, Nov. 4-8, 2001.
45. Thessen, A.E., Q. Dortch, W. Morrison. 2001. The Effects of Salinity on Growth Rates of *Pseudo-nitzschia*, Environmental Research Consortium of Louisiana Environmental State of the State Conference, Oct. 25-26, 2001, Thibodaux, LA
46. Thessen, A.E., Q. Dortch, T.M. Soniat, and G.J. Doucette. 2001. Oyster grazing on toxic and non-toxic *Pseudo-nitzschia*. Environmental Research Consortium of Louisiana Environmental State of the State Conference, Oct. 25-26, 2001, Thibodaux, LA
47. Thessen, A., Q. Dortch, and W. Morrison. 2000. The effects of salinity on growth rates of *Pseudo-nitzschia*. 2000 Graduate Student Symposium, Gulf Coast Research Lab, Ocean Springs, MS, Feb. 12, 2000.

ELECTRONIC RESOURCES
Data Sets
1. AE Thessen. 2018. Biotic Interactions in Greenland. GloBI. https://doi.org/10.5281/zenodo.1438458
2. AE Thessen. 2017. Biotic Interactions of Grizzly Bears in Yellowstone National Park. GloBI. https://doi.org/10.5281/zenodo.266827
3. AE Thessen. 2016. Dinoflagellate Morphology. EOL TraitBank. http://eol.org/collections/120496
4. AE Thessen. 2016. Prokaryote Physiology. EOL TraitBank http://eol.org/collections/114625
5. AE Thessen. 2015. Mexican Amphibian Life History. EOL TraitBank. http://eol.org/collections/113214
6. AE Thessen. 2014. Oceanographic and Chemical Term Reconciliation Table v. 1. https://marinemetadata.org/references/term-reconciliation-table-v-1
7. AE Thessen. 2014. Species associations extracted from EOL text data objects via text mining. Accessed at https://raw.github.com/EOL/pseudonitzchia/master/associations_all_revised.txt
8. GISR hydrocarbon database http://hpldata.hpl.umces.edu/
9. Thessen, A.E. 2012. The effect of a rapid increase in irradiance on domoic acid production and nitrate uptake by *Pseudo-nitzschia multiseries*. Figshare. Available: hdl.handle.net/10779/bd4d3d83121ebfaa1a604c7110313d54.
10. Thessen, A.E. 2012. Does more CO_2 improve phytoplankton growth in culture? Figshare. Available: hdl.handle.net/10779/15ccd11638f4f39d3b17e0034e632fa2 and hdl.handle.net/10779/23b72a6a86cff3155e7de6a18ea72f1c .
11. Thessen, A.E. 2012. Cell concentration and fluorescence. Figshare. Available: hdl.handle.net/10779/c6ff20eab5b24296e02aecc1da9a0254 and hdl.handle.net/10779/e99e24a9969fc5d127eaf03be56146a8.
12. Thessen, A.E. 2012. How many cells should we count? Figshare. Available: hdl.handle.net/10779/9a61171d902b38b9eb72c792a4bdf97b and hdl.handle.net/10779/eb56490fea4d0b227036bd7ef74ac40b.
Ontologies – Lead Developer
1. Ontology of Core Ecological Concepts (ecocore) https://github.com/EcologicalSemantics/ecocore
2. Environmental conditions, treatments, and exposures ontology (ECTO) https://github.com/EnvironmentOntology/environmental-exposure-ontology
Ontologies – Contributor

1. Environment Ontology (EnvO) https://github.com/EnvironmentOntology/envo
2. VIVO https://github.com/openrif/vivo-isf-ontology
3. Contributor Role Ontology (CRO) https://github.com/data2health/contributor-role-ontology
4. Ontology of Biological Attributes (OBA) https://github.com/obophenotype/bio-attribute-ontology
5. Core set of Open Biological and Biomedical Ontology (OBO) Foundry Terms (COB)

Professional Profiles
1. https://profiles.impactstory.org/u/0000-0002-2908-3327
2. http://scholar.google.com/citations?user=_Twec1IAAAAJ&hl=en
3. http://www.slideshare.net/athessen
4. http://orcid.org/0000-0002-2908-3327
5. https://github.com/diatomsRcool
6. https://www.linkedin.com/in/anne-thessen/

Project Webpages
1. TISL, https://tislab.org
2. GenoPhenoEnvo, https://genophenoenvo.github.io/
3. Attribution Standard, https://www.tdwg.org/community/attribution/
4. Monarch Initiative, http://monarchinitiative.org, 2018 to present
5. NCATS Data Translator, https://ncats.nih.gov/translator, 2018 to present
6. NHLBI BioData Catalyst, https://www.nhlbidatastage.org/, 2018-2020
7. PollardBase, http://mp.butterfliesandmoths.org/, 2014 to 2018
8. Encyclopedia of Life, http://www.eol.org, 2008 to 2018
9. Data Conservancy http://www.dataconservancy.org/, 2009 to 2012
10. International Census of Marine Microbes, http://icomm.mbl.edu, microbis database http://icomm.mbl.edu/microbis/, 2008 to 2009
11. The Data Detektiv, http://www.datadetektiv.com, 2013 to present

Preprints
1. GenoPhenoEnvo governance, https://doi.org/10.5281/zenodo.4599588
2. Reintegrating biology: A data centric approach, https://doi.org/10.5281/zenodo.3871982
3. Computable exposures workshop report, https://doi.org/10.5281/zenodo.3697113
4. Do androids dream of electric sorghum? https://osf.io/yx7t9/

IV. SERVICE

REVIEWER FOR GRANTS
1. National Science Foundation (NSF): CISE, Arctic, IIBR
2. National Aeronautics and Space Administration (NASA): AIST
3. German Centre for Integrative Biodiversity Research (iDiv): Synthesis Centre

REVIEWER FOR JOURNALS
1. Journal of Phycology
2. Toxicon
3. Harmful Algae
4. Semantic Web Journal
5. Limnology and Oceanography Methods
6. Taxon
7. PLoS ONE
8. Cladistics
9. Estuaries & Coasts
10. PeerJ
11. Applications in Plant Sciences
12. Ecology and Evolution
13. Genetics
14. Bulletin of the Society of Systematic Biologists

EDITOR FOR JOURNALS
1. Biodiversity Data Journal

CONFERENCE ACTIVITIES
1. GLBio 2021: Session organizer "Knowledge Guided Machine Learning in Biology"
2. us2ts 2020: Session organizer "Semantics of the Environment"
3. BiodiversityNext: session organizer "More than Names : Identifying and Crediting People in Biodiversity Data" and "Operationalizing Trait-Based Biodiversity"
4. us2ts 2019: Session organizer "Traits, Phenotypes, Diseases, and Qualities: What's the Difference?"
5. CERF 2017: Co-convener Workshop "Business Basics for Scientists", Co-convener Session "Data Centric Strategies for Estuarine and Coastal Management"
6. CERF 2015: Co-convener Workshop "Business Basics for Scientists", Co-convener Session "Estuarine and Coastal Data-Centric Synthesis Studies: Case Studies and Pathways for Moving Forward"
7. AERS 2014: Invited Speaker
8. CERF 2013: Toward Resilient Coasts and Estuaries, Science for Sustainable Solutions, Co-convener Workshop "Data infrastructure for coastal and estuarine science"
9. XSEDE'12, Discussion panel participant, "Long tail science"
10. CERF 2009: Estuaries and Coasts in a Changing World, Co-chaired Session "Maximizing your data: What can informatics do for you?"

COMMITTEE MEMBERSHIP
1. OSU CAS: 2020 to present, Member, Food Innovation Theme Subcommittee
2. National Microbiome Data Collaborative: 2020 to present, Member, Sustainability Working Group
3. Research Data Alliance: 2016 to present, Working Group co-Chair, Developing Metadata for the Attribution of Curation Activities in Collections
4. The Cat Connection: 2015 to present, Executive Board member
5. Society of Professional Consultants: 2014 to 2018, Executive Board member
6. iDigBio: 2014 to present, Data Management Interest Group member
7. OntologySummit2014, Track D: Dealing with the Variety Problem in Big Data, Co-Champion
8. WEST: 2013 to present, Programming committee member, Advisory Board member, Volunteer
9. EarthCube: 2011, Semantic and Ontologies Concept Group member
10. NEOSEC: 2010, Outreach and Communication Committee member
11. Data Conservancy Life Sciences Committee 2010 to 2012, Chair
12. Horn Point Laboratory Sustainability Committee 2007 to 2008, Student representative

WORKGROUP CONTRIBUTIONS
1. FASEB Data Management and Sharing Workgroup. April 2021
2. Phenoscape Knowledgebase Datafest and Interoperability Hackathon. Dec 2017
3. Practical Hacking on Identifiers at Biosphere 2 (PHOIBOS). Feb 2016

PROFESSIONAL MEMBERSHIPS
1. Biodiversity Information (TDWG)
2. Coastal and Estuarine Research Federation (CERF)
3. Phycological Society of America (PSA)
4. Women Entrepreneurs in Science and Technology (WEST)
5. The Boston Python User Group
6. PyLadies Boston
7. Society of Professional Consultants (SPC)

OUTREACH AND COMMUNITY ACTIVITIES
1. The Cat Connection, Board of Directors, 2015 to present
2. Waltham Public Schools, Technology Committee, 2016
3. Kennedy Middle School, PTO President, 2014 to 2015
4. Linn Elementary School, 5th Grade Science Lesson, 2013
5. Massachusetts State Science Fair, High School Judge, 2013 to present
6. Morse Pond School, PTO Secretary, 2012
7. Falmouth School District Science Fair, Middle School Judge, 2011-2012
8. North Falmouth Elementary School, PTO President, 2011 to 2012
9. North Falmouth Elementary School, PTO Vice President, 2010 to 2011

10. North Falmouth Elementary School, 3rd Grade Science Lesson, 2010
11. North Falmouth Elementary School, PTO Member, 2009 to 2010
12. NEOSEC, MBL Representative, 2008 to 2010
13. University of Maryland Center for Environmental Science Horn Point Laboratory, Outreach Coordinator, 2006
14. University of Maryland Center for Environmental Science Horn Point Laboratory, Outreach Worker, 2003 to 2007
15. University of Maryland Center for Environmental Science Horn Point Laboratory, Research Experience for Undergraduates Summer Liaison, 2005

V. TEACHING

1. Foundational Open Science Skills (FOSS) Camp, Guest Lecturer, 2020
2. Data Science for the Public Good, Faculty Sponsor, 2020
3. Iowa State University, Bioinformatics Orientation, Guest Lecturer, 2016
4. Marine Biological Laboratory, Protistology Workshop, Coordinator, 2008
5. Chesapeake College, Fundamentals of Biology, Adjunct Faculty, 2007
6. University of Maryland Center for Environmental Science, Biological Oceanography, Teaching Assistant, 2005
7. Washington College, Ecology Lab, Adjunct Faculty, 2005
8. Nicholls State University, Introduction to Biology, Lab Assistant, 2000
9. Peer Tutor, Tutorial Learning Center, 1997-2000

VI. AWARDS AND HONORS

1. WEST Giving Back Award 2017
2. Research Data Alliance US Data Share Ambassador 2016
3. Research Data Alliance US Fellow 2014-2015
4. FutureStack scholarship winner 2013
5. EPA STAR Fellow 2004-2007
6. Horn Point Fellow 2002-2003
7. Outstanding Marine Biology Student, Nicholls State University 2001
8. Best student presentation, Gulf Coast Graduate Symposium, Gulf Coast Research Lab 2000

VII. CLASSES AND CERTIFICATIONS

1. Women's Coding Collective Web Development Courses: Welcome to Tagville: HTML, CSS Basics, CSS Layouts & Positioning, JavaScript & jQuery, PHP Basics, WordPress Basics.
2. Ontologies for Evolutionary Biology, NESCent Academy, 2013
3. Boston Python Intermediate Workshop 2013
4. Boston Python Beginner Workshop 2012
5. Woods Hole PEP Mentor Training, 2012
6. MIT OpenCourseWare, Teaching College-Level Science and Engineering, 2012
7. VoCamp, NEScent, 2009
8. Introduction to GIS, 2007
9. Integration and Application Network's Communicating Science Effectively Workshop, University of Maryland Center for Environmental Science, 2006
10. IOC DANIDA Taxonomy of Harmful Microalgae course at the University of Copenhagen, Denmark, 2004
11. Qualified to operate University of Maryland power boats under 25 ft, 2004
12. AIBS Science Policy Workshop, 2004
13. Certified in boat safety and chart reading by the US Sail and Power Squadron, 2003
14. SCUBA certification, 2001