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Education/Academic Experience

- **University of Calgary** Calgary, AB
Associate Professor *2014 – present*
- **University of Manitoba** Winnipeg, MB
Postdoctoral Fellow *2012 – 2014*
- **University of Manitoba** Winnipeg, MB
Ph.D. Environment and Geography *2008 – 2012*
- **University of Calgary** Calgary, AB
M.Sc. Geography *2005 – 2007*
- **University of Calgary** Calgary, AB
B.Sc. (Hon.) Geography *2001 – 2005*

Major Grants (Awarded)

External Grants Awarded: 29
Total Collaborative Funding: \$14.3M
Direct Funding: \$3.5M

- **New Frontiers in Research - Horizon Global Platform (H2020)** **\$500,000**
Climate relevant interactions and feedbacks: the key role of sea ice in the polar and global climate system (CRiceS) *2021-2025*
- **NSERC - Discovery** **\$168,000**
Carbon dioxide exchange in the Arctic marine environment *2015-2022*
- **NSERC - Northern Research Supplement** **\$100,000**
Carbon dioxide exchange in the Arctic marine environment *2015-2022*
- **NSERC - Research Tools and Instruments** **\$82,630**
Repairs and Upgrades for the Qikirtaarjuak Island Air-Ice-Ocean Observatory *2020-2022*
- **NCE - ArcticNet** **\$300,000**
A Co-operative Observation Network to Address Community Research Priorities While Studying Marine Biogeochemistry *2019-2022*

- **NCE - MEOPAR** **\$440,000**
A Multi-Stakeholder Approach of Developing Observation and Response Strategies for the Changing Coastal Arctic 2018-2022
- **New Frontiers in Research Fund - Exploration** **\$250,000**
Mobile Labs to Support Interdisciplinary Research Along Shipping Corridors in the Canadian Arctic 2019-2022
- **NCE - MEOPAR** **\$240,000**
Ocean Acidification Community of Practice 2017-2022
- **Nunavut Research Institute/Irving Shipbuilding** **\$120,000**
A Weather Station Network to Support Safe Travel and Build Nunavummiut Environmental Monitoring Capacity 2016-2022
- **International Council for Science** **\$100,000**
Co-Chairs: Daiki Nomura, Francois Fripiat, Brent Else 2017-2022
SCOR Working Group 152 - Measuring Essential Climate Variables in Sea Ice (ECV-ICE)
- **NSERC - Ship Time Program** **\$105,000**
Lead PI: Brett Walker 2020-2021
Radiocarbon Distributions and Carbon Cycling Between Baffin Bay and the Beaufort Sea (RADCARBBS)
- **Polar Continental Shelf Program** **(in kind) \$76,816**
A Weather Station Network Near Cambridge Bay to Support Safe Travel and Fundamental Boundary Layer Meteorology Research 2017-2021
- **CFI - JELF / AIAE Small Equipment Grants Program** **\$552,000**
Co-PIs: Scott Jasechko, Brent Else 2016-2021
Investigating carbon and water cycles from the oil sands to the Arctic
- **NSERC - Research Tools and Instruments** **\$150,000**
A Mobile Instrument System for Measuring Dissolved Methane in Arctic Aquatic Environments 2019-2020
- **NSERC - Collaborative Research and Development Grant** **\$4,585,000**
Lead PI: David Barber 2015-2020
BaySys - Contributions of climate change and hydro-electric regulation to the variability and change of freshwater-marine coupling in the Hudson Bay system
- **POLAR Knowledge Canada** **\$400,000**
Lead PI: Adrian Schimnowski 2017-2019
CAT-TRAIN: Canadian Arctic Tidal Transect Research and Infrastructure Network
- **POLAR Knowledge Canada** **\$60,000**
A Weather Station Network to Support Safe Travel and Build Nunavummiut Environmental Monitoring Capacity 2017-2019
- **The Research Council of Norway - INTPART** **\$840,000**
Lead PI: Anthony Dugleris 2017-2019
Arctic Field Summer Schools: Norway-Canada-USA Collaboration

- **Andrew W. Mellon Foundation** **\$28,000**
ArcticSensorWeb: A Research Platform for Real-Time Dissemination of Arctic Sensor Data 2017-2018
- **NCE – ArcticNet** **\$463,563**
 Co-PIs: Brent Else, Tim Papakyriakou 2015-2018
Marine biogeochemistry and surface exchange of climate sensitive gases in a changing Arctic system
- **NCE - MEOPAR** **\$305,000**
Observing and Responding to Pressures on Arctic Marine Ecosystem Services 2016-2018
- **University of Calgary - Doctoral Recruitment Scholarships** **\$200,000**
Carbon and energy exchange studies in the Arctic marine environment 2014-2018
- **University of Calgary - Eyes High Postdoctoral Recruitment Grant** **\$100,000**
Carbon and energy exchange studies in the Arctic marine environment 2014-2018
- **POLAR Knowledge Canada** **\$700,000**
 Lead PI: Richard Dewey 2015-2018
Safe Passage: Sea-ice research for Arctic resource development and Northern communities
- **NCE - MEOPAR** **\$100,000**
A meteorological observatory in the Northwest Passage: Understanding sea ice changes and Inuit use of scientific information 2015-2017
- **NCE – MEOPAR** **\$550,000**
 Lead PI: Helmuth Thomas 2015-2017
Canadian Ocean Acidification Research Partnership (COARP)
- **University of Calgary - Start-up grant** **\$50,000**
Carbon and energy exchange studies in the Arctic marine environment 2014-2017
- **NCE - ArcticNet** **\$36,750**
Small vessel shiptime support grant 2015-2016
- **AIAE Matching Grants Program** **\$2,500,000**
 Lead PIs: John Yackel, Casey Hubert 2016
The Churchill Marine Observatory

Other Awards, Grants & Honours

Faculty of Arts Outstanding Researcher New Scholar Award	2017
NSERC Postdoctoral Fellowship (\$80 000 over 2 years, declined)	2014
Governor General’s Academic Gold Medal	2013
Vanier Canada Graduate Scholarship (\$150 000 over 3 years)	2009–2012
Duff Roblin Fellowship (\$30 000 over 4 years)	2008–2012
Alberta Ingenuity Scholarship (\$40 000 over 2 years)	2006–2007
NSERC Canada Graduate Scholarship (CGS–M) (\$35 000 over 2 years)	2005–2007
Dean’s Research Excellence Award (\$3 000)	2005
University of Calgary Department of Geography Silver Medal	2005

Peer-Reviewed Publications

71. Pogorzelec, N.M., Gough, K.M., Ha, S.-Y., Campbell, K., **Else, B.**, Kim, K., Lee, S.H., Mundy C.J. (in review). FTIR autecological analysis of bottom-ice diatom taxa across nutrient gradients in a tidal strait, Canadian Arctic. Submitted to: *Elementa: Science of the Anthropocene*. **Else, B.G.T.**, Cranch, A., Sims, R. P., Jones, S., Dalman, L.A., Mundy, C.J., Segal, R.A., Scharien, R.K., Guha, T. (in review). Variability in sea ice carbonate chemistry: A case study comparing the importance of ikaite precipitation, bottom ice algae, and currents across an invisible polynya. Submitted to: *The Cryosphere*, manuscript no. tc-2021-320.
70. Wohl, C., Jones, A.E., Sturges, W.T., Nightingale, P.D., **Else, B.**, Butterworth, B.J., Yang, M.-X. (in review). Sea ice concentration impacts dissolved organic gases in the Canadian Arctic. Submitted to: *Biogeosciences*, manuscript no. bg-2021-252.
69. Watts, J.H., Bell, T.G., Anderson, K., Butterworth, B.J., Miller, S., **Else, B.**, Shulter, J. (in review). Sea ice and air-sea CO₂ exchange – a critical review of polar eddy covariance studies. Submitted to: *Progress in Oceanography*.
68. Falardeau, M., Bennett, E.M., **Else, B.**, Fisk, A., Mundy, C.J., Choy, E., Ahmed, M., Harris, L.N., Moore, J.-S. (in review). Transdisciplinary insights on a changing Arctic marine ecosystem and Arctic Char. Submitted to: *Global Change Biology*, manuscript no. GCB-21-0334.
67. Mellat, M., Bailey, H., Mustonen, K.-R., Marttila, H., Klein, E.S., Griбанov, K., Bret-Harte, M.S., Chupakov, A.V., Divine, D.V., **Else, B.**, Filippov, I., Hyoky, V., Jones, S., Kirpotin, S.N., Kroon, A., Markussen, H.T., Nielsen, M., Olsen, M., Paavola, R., Pokrovsky, O., Prokushkin, A., Rasch, M., Randrup, K., Suominen, O., Syvanpera, I., Vignisson, S.R., Zarov, E., Welker, J.M. (2021). Hydroclimatic controls on the isotopic ($\delta^{18}\text{O}$, $\delta^2\text{H}$, d -excess) traits of pan-Arctic summer rainfall events. *Frontiers in Earth Science*, 651731, 9, doi:10.3389/feart.2021.651731
66. Xu, Chengzhu, Mikhael, W., Myers, P.G., **Else, B.**, Sims, R.P., Zhou, Q. (2021). Effects of seasonal ice coverage on the physical oceanographic conditions of the Kitikmeot Sea in the Canadian Arctic Archipelago. *Atmosphere-Ocean*, doi:10.1080/07055900.2021.1965531.
65. Ahmed, M.M.M., **Else, B.G.T.**, Butterworth, B., Capelle, D.W., Guéguen, C., Miller, L.A., Meilleur, C., Papkyriakou, T. (2021). Widespread surface water $p\text{CO}_2$ undersaturation during ice melt season in an Arctic continental shelf sea (Hudson Bay, Canada). *Elementa: Science of the Anthropocene*, 9(1):00130, doi:10.1525/elementa.2020.00130.
64. Barber, D.G., Harasyn, M.L., Babb, D.G., Capelle, D., McCullough, G., Dalman, L.A., Matthes, L.C., Ehn, J.K., Kirillov, S., Basu, A., Fayak, M., Schembri, S., Papkyriakou, T., Ahmed, M.M.M., **Else, B.**, Guegen, C., Meilleur, C., Dmitrenko, I., Mundy, C.J., Kuzyk, Z., Rysgaard, S., Stroeve, J., Sydor, K. (2021). Sediment-laden sea ice in southern Hudson Bay: entrainment, transport and biogeochemical significance. *Elementa: Science of the Anthropocene*, 9(1):00108, doi:10.1525/elementa.2020.00108.
63. Duke, P.J., **Else, B.G.T.**, Jones, S.F., Marriott, S., Ahmed, M.M., Nandan, V., Butterworth, B., Gonski, S., Dewey, R., Sastri, A., Miller, L.A., Simpson, K.G., Thomas, H. (2021). Seasonal marine carbon system processes in an Arctic coastal landfast sea ice environment observed with an innovative underwater sensor platform. *Elementa: Science of the Anthropocene*, 9(1):00103, doi:10.1525/elementa.2021.00103.
62. Back, D., Ha, S.-Y., **Else, B.G.T.**, Hanson, M., Jones, S.F., Shin, K.-H., Tatarek, A., Wiktor, J.M., Cicek, N., Lam, S., Mundy, C.J. (2021). On the impact of wastewater effluent on phytoplankton in the Arctic coastal zone: A case study in the Kitikmeot Sea of the Canadian Arctic. *Science of the Total Environment*, 759, doi:10.1016/j.scitotenv.2020.143861.

61. Ahmed, M.M.M., **Else, B.G.T.**, Capelle, D., Miller, L.A., Papkyriakou, T. (2020). Underestimation of $p\text{CO}_2$ and air-sea CO_2 fluxes due to freshwater stratification in an Arctic shelf sea, Hudson Bay. *Elementa: Science of the Anthropocene*, 8(1):084, doi:10.1525/elementa.084.
60. Lannuzel, D., Tedesco, L., van Leeuwe, M., Campbell, K., Flores, H., Delille, B., Miller, L., Jacqueline Stefels, J. and 26 co-authors, including **Else, B.G.T.** (2020). The future of Arctic sea-ice biogeochemistry and ice-associated ecosystem. *Nature Climate Change*, 10:983–992, doi: 10.1038/s41558-020-00940-4.
59. Burgers, T.M., Tremblay, J.-É., **Else, B.G.T.**, Papkyriakou, T.N. (2020). Estimates of net community production from multiple approaches surrounding the spring ice-edge bloom in Baffin Bay. *Elementa: Science of the Anthropocene*, 8(1):013, doi:10.1525/elementa.013.
58. Manning, C.C., Preston, V.L., Jones, S.F., Michel, A.P.M., Nicholson, D.P., Duke, P.J., Ahmed, M., Manganini, K., **Else, B.G.T.**, Tortell, P.D., (2020). River inflow dominates methane emissions in an Arctic coastal system. *Geophysical Research Letters*, 46, e2020GL087669, doi:10.1029/2020GL087669.
57. Massicotte, P., et al. (2020). Green Edge ice camp campaigns: understanding the processes controlling the under-ice Arctic phytoplankton spring bloom. *Earth System Science Data*, 12, 151-176, doi:10.5194/essd-12-151-2020.
56. Nomura, D., Wongpan, P., Toyota, T., Tanikawa, T., Kawaguchi, Y., Ono, T., Ishino, T., Tozawa, M., Tamura, T. P., Yabe, I. S., Son, E. Y., Vivier, F., Lourenco, A., Lebrun, M., Nosaka, Y., Hirawake, T., Ooki, A., Aoki, S., **Else, B.**, Fripiat, F., Inoue, J., Vancoppenolle, M. (2020). Saroma-ko Lagoon Observations for sea ice Physico-chemistry and Ecosystems 2019 (SLOPE2019). *Bulletin of Glaciological Research*, 38, 1-12, doi:10.1029/2020GL087669.
55. Harris, L.N., Yurkowski, D.J., Gilbert, M.J.H., **Else, B.G.T.**, Duke, P.J., Ahmed, M., Tallman, R., Fisk, A.T., Moore, J.-S. (2020). Depth and temperature preference of anadromous Arctic Char, *Salvelinus alpinus* in the Kitikmeot Sea, a shallow and low salinity area of the Canadian Arctic. *Marine Ecology Progress Series*, 634:175-197, doi:10.3354/meps13195.
54. Moon, W., Nandan, V., Scharien, R.K., Wilkinson, J., Yackel, J.J., Barrett, A., Lawrence, I., Segal, R.A., Stroeve, J., Mahmud, M.M., Duke, P.J., **Else, B.G.T.** (2019). Physical length scales of wind-blown snow redistribution and accumulation on relatively smooth Arctic first-year sea ice. *Environmental Research Letters*, 14(104003), doi:10.1088/1748-9326/ab3b8d.
53. Ahmed, M., **Else, B.G.T.** (2019). The Ocean CO_2 Sink in the Canadian Arctic Archipelago: A Present Day Budget and Past Trends Due to Climate Change, *Geophysical Research Letters*, 46(16), 9777-9785, doi:10.1029/2019GL083547.
52. Wohl, C., Capelle, D., Jones, A., Sturges, W.T., Nightingale, P.D., **Else, B.G.T.**, Yang, M. (2019). Segmented flow coil equilibrator coupled to a proton-transfer-reaction mass spectrometer for measurements of a broad range of volatile organic compounds in seawater. *Ocean Science*, 15, 925-940, doi:10.5194/os-15-925-2019.
51. Dalman, L.A., **Else, B.G.T.**, Barber, D., Carmack, E., Williams, W.J., Campbell, K., Duke, P.J., Kirillov, S., Mundy, C.J. (2019). Enhanced bottom-ice biomass along a tidal strait in the Kitikmeot Sea of the Canadian Arctic. *Elementa Science of the Anthropocene*, 7(1), doi:10.1525/elementa.361.
50. Ahmed, M., **Else, B.G.T.**, Burgers, T., Papkyriakou, T.N. (2019). Variability of Surface Water $p\text{CO}_2$ in the Canadian Arctic Archipelago from 2010 to 2016. *Journal of Geophysical Research*, 124(3):1876-1896, doi:10.1029/2018JC014639.
49. **Else, B.**, Whitehead, J.J., Galindo, V., Ferland, J., Mundy, C.J., Rysgaard, S., Babin, M., (2019). Response of the Arctic marine inorganic carbon system to ice algae and under-ice phytoplankton blooms: A case study along the fast-ice edge of Baffin Bay, *Journal of Geophysical Research - Oceans*, 124(2):1277-1293, doi:10.1029/2018JC013899

48. Campbell, K., Mundy, C.J., Dalman, L.A., Michel, C., Galley, R.J., **Else, B.G.T.**, Geilfus, N.X., Rysgaard, S. (2019). Melt procedure affects the photosynthetic response of sea ice algae. *Frontiers in Earth Science*, 7, doi:10.3389/feart.2019.00021
47. Butterworth, B., **Else, B.G.T.** (2018). Dried, closed-path eddy covariance method for measuring carbon dioxide flux over sea ice. *Atmospheric Measurement Techniques*, 11, 6075-6090, doi:10.5194/amt-11-6075-2018.
46. Diaz, E., Jens, J.K., Landy, J.C., **Else, B.G.T.**, Campbell, K., Papakyriakou, T.N. (2018). The energetics of extensive melt water flooding of level Arctic sea ice. *Journal of Geophysical Research - Oceans*, 123(12), 8730-8748, doi:10.1029/2018JC014045.
45. Pannikar, B., Lemmond, B., **Else, B.**, Murray, M. (2018). Ice over troubled waters: Navigating the Northwest Passage using Inuit Knowledge and scientific information. *Climate Research*, 75:81-94, doi:10.3354/cr01501.
44. Geilfus, N.-X., Pind, M., **Else, B.**, Galley, R.J., Miller, L.A., Thomas, H., Gosselin, M., Rysgaard, S., Wang, F., Papkyriakou, T.N., (2018). Spatial and temporal variability of seawater $p\text{CO}_2$ within the Canadian Arctic Archipelago and Baffin Bay during the summer and autumn 2011. *Continental Shelf Research*, 156:1-10, doi:10.1016/j.csr.2018.01.006.
43. Galindo, V., Gosselin, M., Lavaud, J., Mundy, C.J., **Else, B.**, Ehn, J., Babin, M., Rysgaard, S. (2017). Pigment composition and photoprotection of Arctic sea ice algae during spring. *Marine Ecology Progress Series*, 585:49:-69, doi:10.3354/meps12398.
42. Nandan, V., Geldsetzer, T., Yackel, J., Mahmud, M., Scharien, R., Howell, S., King, J., Ricker, R., **Else, B.** (2017). Effect of snow salinity on CryoSat-2 Arctic first-year ice freeboard measurements. *Geophysical Research Letters*, 44, doi:10.1002/2017GL074506.
41. Burgers, T., Miller, L., Thomas, H., **Else, B.**, Gosselin, M., Papakyriakou, T. (2017). Surface water $p\text{CO}_2$ variations and sea-air CO_2 fluxes during summer in the eastern Canadian Arctic. *Journal of Geophysical Research - Oceans*, 122(12):9663-9678, doi:10.1002/2017JC013250
40. Parmentier, F.-J.W., Christensen, T.R., Rysgaard, S., Bendtsen, J., Glud, R., **Else, B.**, van Huissteden, J., Sachs, T., Vonk, J.E., Sejr, M.K., (2017). A Synthesis of the Arctic Terrestrial and Marine Carbon Cycles Under Pressure from a Dwindling Cryosphere. *Ambio*, 46(Suppl. 1):S53-S69, doi:10.1007/s13280-016-0872-8.
39. Ahmed, M., Eklundh, L., Ardo, J., **Else, B.**, Seaquist, J.W. (2017). Spatial temporal analysis of soil moisture - NDVI relationships in the Sahel. *International Journal of Remote Sensing*, 38(19):5408-5429, doi:10.1080/01431161.2017.1339920.
38. Geilfus, N.-X., Galley, R. J., **Else, B.G.T.**, Papakyriakou, T., Crabeck, O., Delille, B., Rysgaard, S. (2016). Impacts of ikaite export from sea ice to the underlying seawater in a sea ice-seawater mesocosm. *The Cryosphere*, 10, 2173-2189, doi:10.5194/tc-10-2173-2016.
37. Crabeck, O., Galley, R.J., Delille, B., Geilfus, N.-X., Lemes, M., **Else, B.G.T.**, Tison, J.-L., Francus P., Rysgaard, S. (2016). Imaging air volume fraction in sea ice using non-destructive x-ray tomography. *The Cryosphere*, 10, 1125-1145, doi:10.5194/tc-10-1125-2016.
36. Galley, R. J., Babb, D., Ogi, M., **Else, B.G.T.**, Geilfus, N.-X., Crabeck, O., Barber, D.G., Rysgaard, S. (2016). Replacement of multiyear sea ice and changes in open water season duration in the Beaufort Sea since 2004. *Journal of Geophysical Research - Oceans*, 121, 1806-1823, doi:10.1002/2015JC011583.
35. Barber, D.G., Hop, H., Mundy, C.-J., **Else, B.G.T.**, Dmitrenko, I.A., Tremblay, J.-É., Ehn, J.K., Assmy, P., Daase, M., Candlish, L.M., Rysgaard, S. (2015). Selected physical, biological and biogeochemical implications of a rapidly changing Arctic Marginal Ice Zone. *Progress in Oceanography*, 139:122-150, doi:10.1016/j.pocean.2015.09.003.

34. **Else, B.G.T.**, Rysgaard, S., Attard, K., Campbell, K., Crabeck, O., Galley, R., Geilfus, N.-X., Lemes, M., Lueck, R., Papakyriakou, T., and Wang, F. (2015). Under-ice eddy covariance flux measurements of heat, salt, momentum, and dissolved oxygen in an artificial sea ice pool. *Cold Reg. Sci. Tech.*, 119:158-169, [doi:10.1016/j.coldregions.2015.06.018](https://doi.org/10.1016/j.coldregions.2015.06.018).
33. Sievers, J., Sorensen, L.L., Papakyriakou, T., **Else, B.G.T.**, Sejr, M.K., Barber, D., Rysgaard, S. (2015). Winter observations of CO₂ exchange between sea-ice and the atmosphere in a coastal fjord environment. *The Cryosphere*, 9:1701-1713, [doi:10.5194/tc-9-1701-2015](https://doi.org/10.5194/tc-9-1701-2015).
32. Evans, W., Mathis, J.T., Cross, J.N., Bates, N.R., Frey, K.E., **Else, B.G.T.**, Papkyriakou, T.N., DeGrandpre, M.D., Islam, F., Cai, W.-J., Chen, Baoshan, Yamamoto-Kawai, M., Carmack, E., Williams, W.J., Takahashi, T. (2015). Sea-air CO₂ exchange in the western Arctic coastal ocean. *Global Biogeochemical Cycles*, 29, [doi:10.1002/2015GB005153](https://doi.org/10.1002/2015GB005153).
31. Raddatz, R.L., Papakyriakou, T.N., **Else, B.G.T.**, Asplin, M.G., Galley, R.J., Barber, D.G. (2015). Downwelling longwave radiation and atmospheric winter states in the western maritime Arctic. *International Journal of Climatology*, 155(2):351-367, [doi:10.1002/joc.4149](https://doi.org/10.1002/joc.4149).
30. Galley, R.J., **Else, B.G.T.**, Geilfus, N.-X., Isleifson, D., Barber, D.G., Rysgaard, S. (2015). Imaged brine inclusions in young sea ice - Shape, distribution, and formation timing. *Cold Regions Science and Technology*, 111, 39–48, [doi:10.1016/j.coldregions.2014.12.011](https://doi.org/10.1016/j.coldregions.2014.12.011).
29. Miller, L.A., Fripat, F., **Else, B.G.T.**, Bowman, J.S., Brown, K.A., Collins, R.E., Ewert, M., Fransson, A., Gosselin, M., Lannuzel, D., Meiners, K.M., Michel, C., Nishioka, J., Nomura, D., Papadimitriou, S., Russeell, L.M., Sorensen, L.L., Thomas, D.N., Tison, J.-L., vanLeeuwe, M.A., Vancoppenolle, M., Wolff, E.W., Zhou, J. (2015). Methods for biogeochemical studies of sea ice: Where we are and where we are going. *Elementa: Science of the Anthropocene*, 3: 000038, [doi:10.12952/journal.elementa.000038](https://doi.org/10.12952/journal.elementa.000038).
28. Raddatz, R., Papakyriakou, T., **Else, B.**, Swystun, K., Barber, D.G. (2015). A simple scheme for estimating turbulent heat flux over land fast Arctic sea ice from dry snow to advanced melt. *Boundary-Layer Meteorology*, 155(2), 351-367, [doi:10.1007/s10546-014-0002-8](https://doi.org/10.1007/s10546-014-0002-8).
27. Galley, R.J., **Else, B.G.T.**, Geilfus, N.-X., Hare, A.A., Babb, D., Papakyriakou, T., Barber, D.G., Rysgaard, S. (2015). Micrometeorological and thermal control of frost flower growth and decay on young sea ice. *Arctic*, 68(1), [doi:10.14430/arctic4457](https://doi.org/10.14430/arctic4457).
26. Crabeck, O., Delille, B., Rysgaard, S., Thomas, D.N., Geilfus, N.-X., **Else, B.G.T.**, Tison, J.-L., (2014). First 'in situ' determination of gas transport coefficients (D_{O_2} , D_{Ar} and D_{N_2}) from bulk gas concentration measurements (O_2 , N_2 , Ar) in natural sea ice. *Journal of Geophysical Research - Oceans*, 119(10), 6655-6668, [doi:10.1002/2014JC009849](https://doi.org/10.1002/2014JC009849).
25. **Else, B.G.T.**, Papakyriakou, T.N., Raddatz, R., Galley, R.J., Mundy, C.J., Barber, D.G., Swystun, K., Rysgaard, S. (2014). Surface energy budget of landfast sea ice during the transitions from winter to snowmelt and melt pond onset: The importance of net long wave radiation and cyclone forcings. *Journal of Geophysical Research - Oceans*, 119, [doi:10.1002/2013JC009672](https://doi.org/10.1002/2013JC009672).
24. Forest A., Coupel, P., **Else, B.**, Nahavandian, S., Lansard, B., Raimbault, P., Papkyriakou, T., Gratton, Y., Fortier, L., Tremblay, J.-E., Babin, M. (2014). Synoptic evaluation of carbon cycling in Beaufort Sea during summer: contrasting river inputs, ecosystem metabolism and air-sea CO₂ fluxes. *Biogeosciences*, 11, 2827-2856, [doi:10.5194/bg-11-2827-2014](https://doi.org/10.5194/bg-11-2827-2014).
23. Asplin, M.G., Scharien, R., **Else, B.G.T.**, Howell, S., Barber, D.G., Papakyriakou, T., Prinsenber, S., (2014). Implications of fractured Arctic perennial ice cover on thermodynamic and dynamic sea ice processes. *ournal of Geophysical Research - Oceans*, 119, [doi:10.1002/2013JC009557](https://doi.org/10.1002/2013JC009557).
22. Raddatz, R.L., Galley, R.J., **Else, B.G.T.**, Papakyriakou, T.N., Asplin, M.G., Candlish, L.M., Barber, D.G. (2014). Western Arctic cyclones and equilibrium between the atmospheric boundary layer and sea surface. *Atmosphere-Ocean*, [doi:10.1080/07055900.2014.890921](https://doi.org/10.1080/07055900.2014.890921).

21. Rysgaard, S.R., Wang, F., Galley, R.J., Grimm, R., Notz, D., Lemes, M., Geilfus, N.-X., Chaulk, A., Hare, A.A., Crabeck, O., **Else, B.G.T.**, Campbell, K., Sorensen, L.L., Sievers, J., Papakyriakou, T.N., (2014). Temporal dynamics of ikaite in experimental sea ice. *The Cryosphere*, 8, 1469-1478, [doi:10.5194/tc-8-1469-2014](https://doi.org/10.5194/tc-8-1469-2014).
20. **Else, B.G.T.**, Galley, R.J., Lansard, B., Brown, K., Miller, L.A., Mucci, A., Papakyriakou, T.N., Tremblay, J.-E., Rysgaard, S. (2013). Further observations of a decreasing atmospheric CO₂ uptake capacity in the Canada Basin (Arctic Ocean) due to sea ice loss. *Geophysical Research Letters*, 40, 1132–1137, [doi:10.1002/grl.50268](https://doi.org/10.1002/grl.50268).
19. **Else, B.G.T.**, Papakyriakou, T.N., Asplin, M.G., Barber, D.G., Galley, R.J., Miller, L.A., Mucci, A. (2013). Annual cycle of air-sea CO₂ exchange in an Arctic polynya region. *Global Biogeochemical Cycles*, 27(2): 388-398, [doi:10.1002/gbc20016](https://doi.org/10.1002/gbc20016).
18. Raddatz, R.L., Papakyriakou, T.N., Galley, R.J., Asplin, M.G., Candlish, L.M., **Else, B.G.T.**, Barber, D.G. (2013). All-sky surface radiation & clear-sky surface energy budgets: Summer to freeze-up in the western maritime Arctic. *Atmosphere-Ocean* [doi:10.1080/07055900.2013.831339](https://doi.org/10.1080/07055900.2013.831339).
17. Galley, R.J., **Else, B.G.T.**, Prinsenber, S.J., Babb, D., Barber, D.G. (2013). Summer sea ice concentration, motion and thickness near areas of proposed offshore oil and gas development in the Canadian Beaufort Sea - 2009. *Arctic*, 66(1):105–116.
16. Raddatz, R.L., Asplin, M.G., Papakyriakou, T.N., Candlish, L.M., Galley, R.J., **Else, B.G.T.**, and D.G. Barber (2013). All and clear sky downwelling longwave radiation and atmospheric-column water vapour and temperature over the western maritime Arctic. *Atmos. Ocean*, [doi:10.1080/07055900.2012.760441](https://doi.org/10.1080/07055900.2012.760441).
15. **Else, B.G.T.**, Galley, R.J., Papakyriakou, T.N., Miller, L.A., Mucci, A., Barber, D. (2012). Sea surface pCO₂ cycles and CO₂ fluxes at landfast sea ice edges in Amundsen Gulf, Canada. *Journal of Geophysical Research - Oceans*, 117, C09010, [doi:10.1029/2012JC007901](https://doi.org/10.1029/2012JC007901).
14. **Else, B.G.T.**, Galley, R.J., Papakyriakou, T.N., Miller, L.A., Mucci, A., Barber, D. (2012). Annual cycles of pCO_{2sw} in the southeastern Beaufort Sea: New understandings of air-sea CO₂ exchange in Arctic polynya regions. *Journal of Geophysical Research - Oceans*, 117, C00G13, [doi:10.1029/2011JC007346](https://doi.org/10.1029/2011JC007346).
13. Galley, R.J., **Else, B.G.T.**, Howell, S.E.L., Lukovich, J.V., Barber, D.G. (2012). Landfast sea ice conditions in the Canadian Arctic. *Arctic*, 65(2):133–144.
12. Barber, D.G., Asplin, M.G., Papakyriakou, T.N., Miller, L., **Else, B.G.T.**, Iacozza, J., Mundy, C.J., Gosselin, M., Asselin, N.C., Ferguson, S., Lukovich, J.V., Stern, G.A., Gaden, A., Pucko, M., Geilfus, N.-X., Wang, F. (2012). Consequences of change and variability in sea ice on marine ecosystem and biogeochemical processes during the 2007-2008 Canadian International Polar Year program. *Climatic Change*, [doi:10.1007/s10584-012-0482-9](https://doi.org/10.1007/s10584-012-0482-9).
11. Geilfus, N.-X., Carnat, G., Papakyriakou, T.N., Tison, J.-L., **Else, B.**, Thomas, H., Shadwick, E. (2012). Dynamics of pCO₂ and related air–ice CO₂ fluxes in the Arctic coastal zone (Amundsen Gulf, Beaufort Sea). *Journal of Geophysical Research - Oceans*, 117, C00G10, [doi:1029/2011JC007118](https://doi.org/10.1029/2011JC007118).
10. **Else, B.G.T.**, Papakyriakou, T.N., Galley, R.J., Drennan, W.M., Miller, L.A., Thomas, H. (2011). Wintertime CO₂ fluxes in an Arctic polynya using eddy covariance: Evidence for enhanced air-sea gas transfer during ice formation. *Journal of Geophysical Research - Oceans*, 116, C00G03, [doi:10.1029/2010JC006760](https://doi.org/10.1029/2010JC006760).
9. Rempillo, O., Seguin, A., Norman, A.-L., Scarratt, M., Michaud, S., Sjostedt, S., Abbatt, J., **Else, B.**, Papakyriakou, T., Sharma, S., Gransby, S., Lavoie, M. (2011). DMS air-sea fluxes and biogenic sulfur as a source of new aerosols in the Arctic fall. *Journal of Geophysical Research - Atmosphere*, 116, D00S04, [doi:10.1029/2011JD016336](https://doi.org/10.1029/2011JD016336).

8. Miller, L.A., Carnat, G., **Else, B.G.T.**, Sutherland, N., Papakyriakou, T.N. (2011). Carbonate system evolution in autumn sea ice. *Journal of Geophysical Research - Oceans*, 116, C00G04, [doi:10.1029/2011JC007143](https://doi.org/10.1029/2011JC007143).
7. Shadwick, E.H., Thomas, H., Chierici, M., **Else, B.**, Fransson, A., Michel, C., Miller, L.A., Mucci, A., Niemi, A., Papakyriakou, T.N., Tremblay, J.-E. (2011). Seasonal variability of the inorganic carbon system in the Amundsen Gulf region of the southeastern Beaufort Sea. *Limnology and Oceanography* 56(1), 303-322, [doi:10.4319/lo.2011.56.1.0303](https://doi.org/10.4319/lo.2011.56.1.0303).
6. Mundy, C.J., Gosselin, M., Ehn J., Gratton, Y., Rossnagel, A., Barber, D.G., Martin, J., Tremblay, J.-É., Palmer, M., Arrigo, K., Darnis, G., Fortier, L., **Else, B.**, Papakyriakou, T. (2009). Contribution of under-ice primary production to an ice-edge upwelling phytoplankton bloom in the Canadian Beaufort Sea. *Geophysical Research Letters*, Vol. 36, L17601, [doi:10.1029/2009GL038837](https://doi.org/10.1029/2009GL038837).
5. **Else, B.G.T.** Yackel, J.J., Papakyriakou, T.N. (2008). Application of satellite remote sensing techniques for estimating air-sea CO₂ fluxes in Hudson Bay, Canada during the ice-free season. *Remote Sensing of Environment*, 112, 3550-3562, [doi:10.1016/j.rse.2008.04.013](https://doi.org/10.1016/j.rse.2008.04.013).
4. **Else, B.G.T.**, Papakyriakou, T.N., Granskog, M.A., Yackel, J.J. (2008). Observations of sea surface fCO₂ and estimated air-sea CO₂ fluxes in the Hudson Bay region (Canada) during the open-water season. *Journal of Geophysical Research - Oceans*, 113, C08026, [doi:10.1029/2007JC004389](https://doi.org/10.1029/2007JC004389).
3. Howell, S.E.L., Tivy, A., Yackel, J.J., **Else, B.G.T.**, Duguay, C.R. (2008). Changing sea ice melt parameters in the Canadian Arctic Archipelago: Implications for the future presence of multiyear ice. *Journal of Geophysical Research - Oceans*, 113, C09030, [doi:10.1029/2008JC004730](https://doi.org/10.1029/2008JC004730).
2. Kirk, J.L., St. Louis, V.L., Hintelmann, H., Lehnerr, I., **Else, B.G.T.**, Poissant, L. (2008). Methylated mercury species in marine waters of the Canadian high and sub Arctic. *Environmental Science and Technology*, 42, 8367-8373, [doi:10.1021/es801635m](https://doi.org/10.1021/es801635m).
1. Scharien, R.K., Yackel, J.J., Granskog, M.A., **Else, B.G.T.** (2007). Coincident high resolution optical-SAR image analysis for surface albedo estimation of first-year sea ice during summer melt. *Remote Sensing of Environment*, 111(2-3), 160-171, [doi:10.1016/j.rse.2006.10.025](https://doi.org/10.1016/j.rse.2006.10.025).

Non-Peer Reviewed Publications

5. Galley, R.J., **Else, B.G.T.**, Geilfus, N.-X., Hare, A.A., Isleifson, D., Ryner, L., Barber, D.G., and S. Rysgaard (2013). Morphology and distribution of liquid inclusions in young sea ice as imaged by magnetic resonance. *The Cryosphere Discussions*, 7, 4977–5006, [doi:10.5194/tcd-7-4977-2013](https://doi.org/10.5194/tcd-7-4977-2013).
4. Else, B. (2013). Scientific outreach through collaboration: My experience working with an AGU blogger. *Eos, Transactions*, 94(35), 307, [doi:10.1002/2013EO350003](https://doi.org/10.1002/2013EO350003).
3. Papakyriakou, T., Carnat, G., Chierici, M., Delille, B., **Else, B.**, Fransson, A., Geilfus, N.-X., Lansard, B., Miller, L., Mucci, A., Shadwick, E., Thomas, H., and J.-L. Tison (2012). Team 6: Gas Fluxes. In: Barber, D.G., et al., Editors. *On the Edge: From Knowledge to Action During the Fourth International Polar Year Circumpolar Flaw Lead System Study (2007-2008)*.
2. Taylor, A.K., Baeseman, J., **Else, B.**, Provencher, J., Steiner, N. (2010). Shaping the future of polar research: A review of the IPY International Early Career Researcher Symposium. *Bulletin of the Ecological Society of America*, 91(4): 474-476, [doi:10.1890/0012-9623-91.4.474](https://doi.org/10.1890/0012-9623-91.4.474).
1. Baeseman, J., Xavier, J., Lantuit, H., Taylor, A., Drobot, S., **Else, B.**, Falk-Petersen, S., Sparrow, E.B., Wagaman, J. and S. Weiler (2010). Early Career Researcher Activities During IPY. In: Krupnik, I., et al., Editors. *Understanding Earth's Polar Challenges: International Polar Year 2007-08*.

Selected Conference Presentations

51. Cranch, A., **Else, B.**, Dalman, L., Sims, R. P., Segal, B., Jones, S. (2020). Impacts of the Physical Ocean Environment on Sea Ice Biogeochemistry. AGU Ocean Sciences Meeting, Feb. 16 - 21, 2020, San Diego, California, USA.
50. Ahmed, M., **Else, B.**, Butterworth, B., Capelle, D., Miller, L, and Papakyriakou, T. (2020). Air-Sea CO₂ Fluxes in Hudson Bay during the Spring Melt Season. Ocean Sciences Meeting, Feb 2020. San Diego, California, USA.
49. Jones, S., Duke, P., Cranch, A., Ahmed, M., Marriott, S., Emingak, F., and **Else, B.** (2020). Coastal ocean inorganic carbon cycling is influenced by cycles and seasonal variations in inland waters: a case study from Cambridge Bay (Iqaluktuuttiaq), Nunavut, Canada. AGU Ocean Sciences Meeting, Feb. 16 - 21, 2020, San Diego, California, USA.
48. Duke, P., **Else, B.**, Miller, L. A., Sastri, A. R., Gonski, S., Jones, S., Marriott, S., Dewey, R. K., Thomas, H. (2020). Seasonal Marine Carbon System Processes in an Arctic Coastal Landfast Sea Ice Environment Using an Innovative Underwater Sensor Platform. AGU Ocean Sciences Meeting, Feb. 16 - 21, 2020, San Diego, California, USA
47. Jones, S., Duke, P., Cranch, A., Marriott, S., Emingak, F., and **Else, B.** (2019). Emphasizing connections: visualizing inorganic carbon cycling using an annual cycle wheel. ArcticNet Annual Scientific Meeting, Dec. 2 - 5, 2019, Halifax, Canada.
46. Walker, Z. Sims, R., Jones, S., Cranch, A., **Else, B.** (2019). Exploring the variability of methane accumulation in Arctic lakes. ArcticNet Annual Scientific Meeting, Dec. 2 - 5, 2019, Halifax, Canada.
45. Jones. S., Duke, P., Cranch, A., Marriott, S., Emingak, F., and **Else, B.** (2019). The influence of lake and river ice break-up on the inorganic carbon cycle in Iqaluktuuttiaq (Cambridge Bay), Nunavut. Arctic on the Edge (presented by the Arctic Institute of North America), Sept. 27, 2019, Calgary, Alberta.
44. Ahmed, M., **Else, B.**, Capelle, D., Miller, L, and Papakyriakou, T. (2019). Stratification in Hudson Bay during the spring season: Why should we care? ArcticNet, December 2019. Halifax, Nova Scotia, Canada.
43. **Else, B.**, Butterworth, B., Sims, R. P., Duke, P., Jones, S., Marriott, S., Emingak, F. (2019). Seasonal cycles of air-sea CO₂ exchange in an Arctic coastal system. AGU Fall Meeting, Dec. 9-13, 2019, San Francisco, California, USA. **Invited Talk.**
42. **Else, B.**, Butterworth, B., (2019). A novel application of eddy covariance to study seasonal CO₂ exchange processes in the Arctic marine environment. International Symposium on Sea Ice at the Interface, Aug 2019. Winnipeg, Canada.
41. Ahmed, M., **Else, B.**, and Papakyriakou, T. (2019). The Role of Sea Ice in Determining Air-sea CO₂ Fluxes in the Canadian Arctic Archipelago. International Symposium on Sea Ice at the Interface, Aug 2019. Winnipeg, Canada.
40. **Else, B.**, (2018). Year-Round Atmospheric and Oceanic Measurements to Better Understand Air-Sea CO₂ Exchange in the Arctic. **Invited Symposium Presentation**, Department of Chemistry and Biochemistry, University of Montana, Oct 2018. Missoula, Montana, U.S.A.
39. **Else, B.**, Butterworth, B., Duke, P., Jones, S., Gonski, S., Marriott, S., Emingak, F. (2018). Year-round atmospheric and oceanic measurements to better understand air-sea CO₂ exchange in the Arctic *ArcticNet Annual Science Meeting*, Dec. 10 - 14. Ottawa, Canada.
38. Jones, S., **Else, B.**, Duke, P. (2018). An integrated look at carbon cycling in Freshwater Creek and Cambridge Bay, Nunavut. *52nd CMOS Congress*, June 10 - 14. Halifax, Canada

37. Landy, J., Diaz, A., Scharien, R., Ehn, J., **Else, B.**, and Mundy, C.J. (2017). Quantifying dynamic-thermodynamic interactions within melting first-year sea ice (UK-Canada Arctic Partnership 2017). *Arctic Change 2017*, Dec. 10 -14. Quebec, Canada.
36. **Else, B.**, Whitehead, J., Galindo, V., Ferland, J., Mundy, C.J., Pogorzelec, N., Rysgaard, S., Babin, M. (2017). Response of the Arctic marine inorganic carbon system to ice algae and under-ice phytoplankton blooms: A case study along the fast-ice edge of Baffin Bay. *Arctic Change 2017*, Dec. 10 -14. Quebec, Canada.
35. Dalman, L., **Else, B.**, Barber, D., Carmack, E., Williams, W.J., Campbell, K., and Mundy C.J. (2017). Tidal straits as hotspots for ice algal production: A case study in the Kitikmeot Sea. *Arctic Change 2017*, Dec. 10 -14. Quebec, Canada.
34. Wohl, C., **Else, B.**, Butterworth, B., Ahmed, M., Papkyriakou, T., Capelle, D., Abbatt, J., Collins, D., Jones, A., Sturges, W., Beale, R., Nightingale, P., Mingxi, Y. (2017). Continuous observations of a suite of volatile organic compounds in the surface ocean and lower atmosphere of the Canadian Arctic. *Arctic Change 2017*, Dec. 10 -14. Quebec, Canada.
33. Back, D., Small, K., **Else, B.**, Hanson, M., Wong, C., Neufeld, J.D., McConkey, B., and Mundy, C.J. (2017). The impact of wastewater outflow on local primary production in Cambridge Bay, Nunavut. *Arctic Change 2017*, Dec. 10 -14. Quebec, Canada.
32. Ahmed, M., Papakyriakou, T., and **Else, B.** (2017). Temporal and spatial variations of air-sea CO₂ fluxes in the Canadian Arctic Archipelago. *Arctic Change 2017*, Dec. 10 -14. Quebec City, Canada.
31. Juniper, K., Sastri, A., Mihaly, S., Whitehead, J., **Else, B.**, Thomas, H., Miller, L.(2016). Continuous pCO₂ time series from Ocean Networks Canada cabled observatories on the northeast Pacific shelf-edge/upper slope and in the sub-tidal Arctic. *4th International Symposium on the Ocean in a High-CO₂ World*, Hobart, Australia
30. Dalman, L., **Else, B.**, Williams, B., Carmack, E., Campbell, K., Barber, D., Mundy, C.J.(2016). Enhanced bottom ice algal biomass along a tidal strait in the the lower NW Passage of the Canadian Arctic. *ArcticNet Annual Science Meeting*, Winnipeg, Canada
29. Burgers, T., **Else, B.**, Luque, S., Papakyriakou, T.(2016). Spring transitions in surface water pCO₂ between open water, marginal ice zone, and pack ice in Baffin Bay. *ArcticNet Annual Science Meeting*, Calgary, Canada
28. **Else, B.**, Butterworth, B.(2016). Oxygen, Salt, and Heat Exchange Measured at the Ice-Ocean Interface During the Ice Algae Bloom Period. *ArcticNet Annual Science Meeting*, Winnipeg, Canada
27. Whitehead, J., **Else, B.** (2016). Inorganic carbon variations in response to under ice algae blooms and growth. *ArcticNet Annual Science Meeting*, Winnipeg, Canada
26. Juniper, K., Sastri, A., Mihaly, S., Whitehead, J., **Else, B.**, Thomas, H., Miller, L.(2016). Continuous pCO₂ time series from Ocean Networks Canada cabled observatories on the northeast Pacific shelf-edge/upper slope and in the sub-tidal Arctic. *EGU General Assembly*, Vienna, Austria
25. Duke, P., **Else, B.**, Sastri, A., Thomas, H., Juniper, K., Miller, L.(2016). Annual pCO₂ cycle of near shore Arctic surface water measured at the Ocean networks Canada Cambridge Bay community observatory. *ArcticNet Annual Science Meeting*, Winnipeg, Canada
24. **Else, B.G.T.**, and S. Rysgaard (2015). Under ice fluxes of dissolved oxygen, heat, and salt measured during the ice algae bloom period. *ArcticNet Annual Science Meeting*, Dec. 7-11, Vancouver, BC. Oral Presentation.
23. **Else, B.G.T.**, Miller, L., Papakyriakou, T., Sastri, A., and H. Thomas (2015). Emerging efforts to study the marine carbonate system in the southern waterways of the Kitikmeot Region (near Cambridge Bay). *ArcticNet Annual Science Meeting*, Dec. 7-11, Vancouver, BC. Oral Presentation.

22. **Else, B.G.T.**, and S. Rysgaard (2014). Exchanges of dissolved oxygen at the sea ice-ocean interface: Development and preliminary results of a novel underwater eddy covariance system. *7th International Symposium on Gas Transfer at Water Surfaces*, May 18-21, Seattle, Washington. Oral Presentation.
21. **Else, B.G.T.**, Rysgaard, S., Campbell, K., Delaforge, A., and C.J. Mundy (2014). Exchange of dissolved oxygen, salt, heat, and momentum at the ice-ocean interface during late winter. *ArcticNet Annual Science Meeting*, Dec. 8-12, Ottawa, ON. Poster Presentation.
20. **Else, B.G.T.**, Papakyriakou, T.N., Raddatz, R., Galley, R.J., Mundy, C.J., Barber, D.G., and S. Rysgaard (2013). Surface energy budget of landfast sea ice during the winter-to-spring transition. *ArcticNet Annual Science Meeting*, Dec. 9-13, Halifax, Canada. Poster Presentation.
19. **Else, B.G.T.**, Rysgaard, S., Crabeck, O., Galley, R.J., Geilfus N.-X., Glud, R. N., Lemes, M., Lueck, R., Papakyriakou, T., and F. Wang (2013). Under-ice eddy covariance flux measurements of heat, salt, momentum, and dissolved oxygen in an artificial sea ice pool. *ArcticNet Annual Science Meeting*, Dec. 9-13, Halifax, Canada. Poster Presentation.
18. **Else, B.G.T.**, Galley, R., Lansard, B., Barber, D.G., Brown, K., Miller, L.A., Mucci, A., Papakyriakou, T.N., Tremblay, J.-É., and S. Rysgaard (2012). Sea ice loss and the changing atmospheric CO₂ uptake capacity of the Arctic Ocean: Insights from the southeastern Canada Basin. *ArcticNet Annual Science Meeting*, Dec. 12-16, Vancouver, Canada. Oral Presentation.
17. **Else, B.G.T.**, and T. Papakyriakou* (2012). CO₂ fluxes in the marginal ice zone. *2012 Arctic Science Partnership (ASP) Annual Meeting*, Nov. 12-16, Gimli, Canada. Oral presentation. *Presenting author.
16. **Else, B.G.T.**, and W. Meier (2012). The dynamics of Arctic sea ice decline and consequences for heat and carbon fluxes. *ART-APECS Science Workshop 2012*, Oct. 22-26, Sopot, Poland. **Invited lecture**.
15. **Else, B.G.T.**, Papakyriakou, T., Galley, R., Asplin, M., Barber, D., Drennan, W., Mucci, A., Miller, L.A., Shadwick, E. and H. Thomas (2012). New understandings of air-sea CO₂ exchange in polynya systems: Results from the IPY ArcticNet and CFL projects in the Cape Bathurst polynya. *IPY 2012 Conference*, Apr. 22-27, Montreal, Canada. Oral Presentation. [Short summary available](#).
14. **Else, B.G.T.** (2012). How the Beaufort Sea breathes. *ArcticNet IRIS 1 Workshop*, Apr. 12-15, Inuvik, Canada. **Invited lecture**, presented in plain language to local community members.
13. **Else, B.G.T.**, Papakyriakou, T., Galley, R., Thomas, H., Miller, L. and E. Shadwick (2010). Annual $p\text{CO}_{sw}$ cycling in Amundsen Gulf and eddy covariance measurements of air-surface CO₂ flux: New understandings of gas exchange processes in an Arctic Polynya. *ArcticNet Annual Science Meeting*, Dec. 14-18, Ottawa, Canada. Oral Presentation.
12. **Else, B.G.T.** and T.N. Papakyriakou*, (2010). Ship-based eddy covariance measurements of CO₂ flux: towards parameterizing gas fluxes in mixed sea ice environments. *International Symposium on Sea Ice in the Physical and Biogeochemical System*, May 31-June 4, Tromsø, Norway. Oral presentation. *Presenting author.
11. **Else, B.**, Myers-Smith, I.*, Warner, K. and L. Barber (2010). Education and Outreach Initiatives of the ArcticNet Student Association. *International Polar Year Oslo Science Conference*. June 9-14, Oslo, Norway. Poster presentation. *Presenting author.
10. **Else, B.G.T.** and T.N. Papakyriakou (2010). Air-Sea CO₂ exchange in an arctic polynya system: Observations from the 2007-08 CFL overwintering study. *The 6th International Symposium on Gas Transfer at Water Surfaces*. May 17-21, Kyoto, Japan. Oral Presentation.
9. **Else, B.G.T.** (2009). The ArcticNet Student Association: Past successes and future direction. *ArcticNet Annual Science Meeting*, Dec. 8-11, Victoria, Canada. Oral Presentation.

8. **Else, B.G.T.** and T.N. Papakyriakou (2009). CO₂ flux measurements from the 2007-08 Amundsen IPY cruises: Towards parameterizing gas fluxes in mixed sea ice environments. *CFL All-Hands Meeting*. Nov. 1–5, Winnipeg, MB, Poster Presentation. **Second prize, student poster awards.**
7. **Else, B.G.T.**, Papakyriakou, T.N. and J.J. Yackel (2008). Estimation of air-sea CO₂ flux in Hudson Bay during the ice-free season using field and satellite remote sensing data. *Arctic Change Conference*, Dec. 9–12, Quebec City, Canada. Oral Presentation.
6. **Else, B.G.T.** and T.N. Papakyriakou (2008). Direct measurements of CO₂ flux during the ArcticNet/CFL International Polar Year cruises on the *CCGS Amundsen*. *Arctic Change Conference*, Dec. 9–12, Quebec City, Canada. Poster Presentation.
5. **Else, B.G.T.**, Papakyriakou, T.N. and J.J. Yackel (2007). Estimation of air-sea carbon dioxide exchange in Hudson Bay, Canada from ship and satellite observations. *CMOS-CGU-AMS Joint Congress 2007*, May 29–Jun. 1, St. John's, Newfoundland. Oral Presentation.
4. **Else, B.G.T.**, Papakyriakou, T.N. and R. Kressal (2007). Ship-based carbon dioxide flux measurements made during the 2006 ArcticNet cruise of the *CCGS Amundsen*. *International Sea Ice Summer School*, Jul. 2–13, Svalbard, Norway. Poster Presentation.
3. **Else, B.G.T.**, Papakyriakou, T.N. and R. Kressal (2006). Bulk aerodynamic estimates of carbon dioxide flux in Hudson Bay. *ArcticNet Annual Science Meeting*, Dec. 12–15, Victoria, B.C. Poster Presentation.
2. **Else, B.G.T.**, Papakyriakou, T.N. and J.J. Yackel. (2005). Shipboard measurements of ocean/atmosphere carbon dioxide exchange made during ArcticNet-2005. *ArcticNet Annual Science Meeting*, Dec. 13–16, Banff, Alberta. Poster Presentation.
1. **Else, B.G.T.** and J.J. Yackel. (2005). Towards measuring the effect of snow thickness on SAR backscatter over smooth first-year sea ice. *CRYSYS 2005*, Kananaskis, Alberta. Poster Presentation.

Training of Highly Qualified Personnel (HQP)

- **Current**

- Sophie Bernier (BEng Student). Start date: May 2021
- Tania Guha (Research Associate). Start date: Nov. 2020
- Christina Braybrook (PhD Student). Start date: Sep. 2020
- Gina Nickoloff (MSc Student). Start date: Sep. 2020
- Aaron Irving (BSc Student). Start date: Aug. 2020
- Mohamed Ahmed (Postdoctoral Fellow). Start date: Aug. 2020
- Kristina Barclay (Postdoctoral Fellow). Start date: Aug. 2020
- Zoe Walker (MSc Student). Start date: Sep. 2019
- Richard Sims (Postdoctoral Fellow). Start date: Apr. 2019
- Kristina Miller (PhD Student). Start date: Sep. 2017
- Shawn Marriott (Northern Research Assistant). Start date: Feb. 2017
- Samantha Jones (PhD Student). Start date: Jan. 2017

- **Past**

- Justin Alviento (BSc Student). Sep. - Dec. 2020
- Sarah Prestie (BSc Student). Apr. 2019 - Dec. 2020
- Mohamed Ahmed (PhD Student). May 2015 - Aug. 2020
- Araleigh Cranch (BSc Student). May 2018 - Feb. 2020
- Zoe Walker (BSc Student). May 2019 - Sept. 2019
- Francis Emingok (Northern Research Assistant). May 2018 - Aug. 2019
- Patrick Duke (MSc Student). Sep. 2016 - April. 2019
- Gyanendra Gurung (MGIS Student). Sep. 2017 - Jan. 2019
- Brian Butterworth (Postdoctoral Fellow). Sep. 2016 - Jan. 2019
- Mitchell Byomen (BSc Student). Sep. 2018 - Dec. 2018
- Sofia Ahmed (BSc Student). May 2018 - Sept. 2018
- Kayla Macdonald (BSc Student). Jan. 2018 - Apr. 2018
- Stephen Gonski (PhD Student). Jan. 2017 - May 2018
- Chris Rawlusyk (BSc Student). Jan. - Apr. 2017
- Jeremy Whitehead (MSc Student). Jan. 2015 - Mar. 2017
- Adrienne Schumlich (BSc Student). Jan. - Mar. 2016
- Geoff VanVeller (BSc Student). Jan. - Apr. 2016
- Patrick Duke (BSc Student). Jan. - Aug. 2016

Teaching Experience

- **Analytical Methods in Geography I (GEOG339)**

University of Calgary
Fall 2018

- **Weather and Climate (GEOG305)**

University of Calgary
Fall 2015, 2016, 2017

- **Physical Oceanography and Climate Variability (GEOG403)** University of Calgary
Winter 2015, 2016, 2018
- **Hydrology (GEOG415)** University of Calgary
Winter 2015, 2017, 2018
- **Geographic Field Studies (GEOG391)** University of Calgary
Fall 2014, 2015, 2017
- **Statistic Analysis (GEOG605)** University of Calgary
Fall 2016, 2017, 2018
- **Arctic System Science (GEOG685)** University of Calgary
Winter 2018
- **Biological Oceanography (BMSC400)** University of Calgary
Summer 2018

Academic Service (since 2014)

- Dept. of Geography CRC Hiring Committee *Present*
- Adjudicator of Scholarship Applications, FGS Scholarship Committee *2015-Present*
- SU Undergraduate Research Symposium Poster Judge *2016-2017*
- Dept. of Psychology Hiring Committee *2015-2016*
- MSc/PhD Exam Neutral Chair: 7 *2014-Present*
- PhD Committees: 2 *2014-Present*
- MSc Committees: 4 *2014-Present*
- PhD Candidacy Committees: 4 *2014-present*

Professional Service (Since 2014)

- Co-Chair, Canadian Ocean Acidification Community of Practice *2017 - Present*
- Co-Chair, International Council of Science SCOR Working Group: ECV-ice *2017 - Present*
- MEOPAR Deputy Theme Lead (“*Environmental Change*”) *2016 - Present*
 - Panel member for successful NCE renewal (**\$28.5M** for 2017-23)
 - Member of Research Management Committee
- Panel member for ArcticNet-NCE Expert Review *Sep. 2015*
- Member of ArcticNet NCE Research Management Committee *2008-2011*
- Reviewer for:
 - Nature, Geophysical Research Letters, Journal of Geophysical Research, Remote Sensing of Environment, Continental Shelf Research, Marine Chemistry, Deep Sea Research, Tellus
 - National Science Foundation (United States), Natural Environment Research Council (UK)