

KRISTINN GUDMUNDSSON

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Curriculum vitae, concerning marine biology:

A research scientist at MFRI since 1985, expert on marine phytoplankton/microbial ecology. Engaged in various pelagic and benthic biota studies. Involved in annual monitoring of the waters around Iceland since 1980, e.g. measuring phytoplankton biomass (chlorophyll) and primary production. Applying computer controlled flow-through systems for underway recording of measurements, and satellite chlorophyll. Member of the ICES Working Group on Phytoplankton Ecology (WGPE) 1986 – 2005 and presently its successor WGPME, on the Nordic Marine Phytoplankton group (NOMP), and a participant in projects as the North Atlantic Bloom experiment in 2008, the Nordic working group “Arctic Studies”, and the “Microbes in the Icelandic Marine Environment” founded 2017 – 2019 by RANNÍS “grant of excellence”. An editorial board member, at MFRI.

Studied at the University in Bergen (UIB), Norway. Finished cand.mag. degree in biology 1979 and continued until 1982 with a special study in marine botany at the Institute of Marine Biology. Undertook a study on primary production in Icelandic waters at the Marine Research Institute in Iceland 1982/1983, with financial support from Nordic Collegium for Marine Biology. Taught natural science and mathematics for primary and secondary stage classes in Borgarnes, Iceland, during 1982-1985. Delivered a thesis *"Photosynthesis in relation to irradiation, other ecological parameters and physiological variables of phytoplankton in Lindaaspollene, during spring 1981"* and graduated as cand.real. from UIB in 1985.

Some stepping stones:

NATO ASI, "Individual cell and particle analysis in oceanography" held in Acquafredda di Maratea, Italy October 21 - 30, 1990.

Nordic Collegium for Physical Oceanography course, "Oceanography from the Space", at Geografisk Institut, Copenhagen, Denmark, January 7 - 9, 1991.

Nordic Collegium for Marine Biology course, "The taxonomy and biology of harmful marine phytoplankton", at the Marine Biological Station, Kristineberg, Sweden, 17 - 26 August 1992.

NATO ASI, "Physiological Ecology of Harmful Algal Blooms", held in Bermuda, May 27 - June 6, 1996.

Nordic Arctic Research Programmes (NARP), "Rapid Changes in the Arctic network group on Climate change, carbon flux and living resources in the Nordic Seas" in 1999 – 2002, and "Climate Variability and Biodiversity network group on The bioproduction and energy transfer in the Nordic Seas, the role of key zooplankters in a system with rapid climate change" in 2002 – 2004.

Fellow scientist at the FRS, Aberdeen, Scotland, in January – June 2006.

Visiting scientist at NIWA, New Zealand, in 2014

Guest lecturing since 2000 on phytoplankton research at the University in Akureyri, and at the United Nations University / Fisheries Training Programme (UNU-FTP) in Reykjavík, 2005 – 2011

Publications:

[Peer reviewed publications (in bold), and diverse other Icelandic and 'gray' literature]

- Heather A. Bouman, Trevor Platt, Martina Doblin, Francisco G. Figueiras, Kristinn Gudmundsson, Hafsteinn G. Gudfinnsson, Bangqin Huang, Anna Hickman, Michael Hiscock, Thomas Jackson, Vivian A. Lutz, Frédéric Mélin, Francisco Rey, Pierre Pepin, Valeria Segura, Gavin H. Tilsone, Virginie van Dongen-Vogels, Shubha Sathyendranath 2017. Photosynthesis-irradiance parameters of marine phytoplankton: synthesis of a global data set. *Earth Syst. Sci. Data Discuss.*, <https://doi.org/10.5194/essd-2017-40>
- Marina Espinasse, Claudia Halsband, Øystein Varpe, Astthor Gislason, kristinn Gudmundsson, Stig Falk-Petersen, Ketil Eiane 2017. The role of local and regional environmental factors for *Calanus finmarchicus* and *C. hyperboreus* abundances in the Nordic Seas. *Polar Biology*; doi:10.1007/s00300-017-2150-z
- Niall McGinty, Kristinn Guðmundsson, Kristín Ágústsdóttir, Guðrún Marteinsdóttir 2016. Environmental and climatic effects of chlorophyll-a variability around Iceland using reconstructed satellite data fields. *Journal of Marine Science*, 163:31-42; doi:10.1016/j.jmarsys.2016.06.005
- Kristinn Guðmundsson, Kristín Ágústsdóttir, Niall McGinty, Hafsteinn G. Guðfinnsson, Guðrún Marteinsdóttir. A regional correction model for satellite surface chlorophyll concentrations, based on measurements from sea water samples collected around Iceland. *Methods in Oceanography*, 17:83-96; doi:10.1016/j.mio.2016.05.004
- Karl Gunnarsson, Kristinn Guðmundsson, Sólveig R. Ólafsdóttir og Alice Beniot, Catton Breton 2015. Community production and calcification of maerl beds in north western, Iceland. *Hafrannsóknastofnun*, 17 pp. [skýrsla]
- Astthor Gislason, Hildur Petursdóttir, Kristinn Gudmundsson 2014. Long-term changes in abundance of *Calanus finmarchicus* south and north of Iceland in relation to environmental conditions and regional diversity in spring 1990 – 2013. *ICES Journal of Marine Science* 2014; doi:10.1093/icesjms/fsu098
- Teresa Silva, Astthor Gislason, Priscilla Licandro, Guðrún Marteinsdóttir, Ana Sofia A. Ferreira, Kristinn Gudmundsson, Olafur S. Astthorsson 2014. Long-term changes of euphausiids in shelf and oceanic habitats southwest, south and southeast of Iceland. *Journal of Plankton Research* 2014: 1-17; doi:10.1093/plankt/fbu050
- Sergio Signorini, Sipra Häkkinen, Kristinn Gudmundsson, Are Olsen, Abdirahman M. Omar, Jon Olafsson, Gilles Reverdin, Stephanie A. Henson, Charles R. McClain, D. L. Worthen 2012. The role of phytoplankton dynamics in the seasonal and interannual variability of carbon in the subpolar North Atlantic – a modeling study. *Geoscience Model Development*, 5:1 - 25, doi:10.5194/gmd-5-1-2012
- Li Zhai, Kristinn Gudmundsson, Peter Miller, Wenjun Peng, Hafsteinn Guðfinnsson, Hogni Debes, Hjálmar Hátún, George N. White III, Rafael Hernández Walls, Shubha Sathyendranath, Trevor Platt 2012. Phytoplankton phenology and production around Iceland and Faroes. *Continental Shelf Research*, 37:15 - 25, doi:10.1016/j.csr.2012.01.013
- Kristinn Guðmundsson 2011. Rannsóknir á frumframleiðni svifþörungum í hafinu umhverfis Ísland, fyrr og nú (Research on the prim. prod. around Iceland, past and present). *Hafrannsóknir, Fjölrit Nr.* 158: 47-52.
- Kristinn Guðmundsson 2011. Áhrif hlaupvatns í kjölfar goss í Eyjafjallajökli í apríl 2010 á strandsjó sunnan lands: II. Frumframleiðni (Effects of flood water, caused by eruption in Eyjafjallajökull in April 2010, on coastal water south of Iceland: II. Primary productivity). *Hafrannsóknir, Fjölrit Nr.* 158:26-28.
- Héðinn Valdimarsson, Sólveig R. Ólafsdóttir, Kristinn Guðmundsson, Ástþór Gislason, Hildur Pétursdóttir, Björn Gunnarsson 2011. Áhrif hlaupvatns í kjölfar goss í Eyjafjallajökli í apríl 2010 á strandsjó sunnan lands: I. Dreifing í sjó (Effects of flood water, caused by eruption in Eyjafjallajökull in April 2010, on coastal water south of Iceland: I. Oceanic distribution). *Hafrannsóknir, Fjölrit Nr.* 158:20-25.
- Hafsteinn G. Gudfinnsson, A. Eydal, K. Gunnarsson, K. Gudmundsson, K. Valsdóttir 2010. Monitoring of toxic phytoplankton in three Icelandic fjords. *ICES C.M.* 2010/N12, 18p.
- Kristinn Guðmundsson, Mike R. Heath, Elizabeth D. Clarke 2009. Average seasonal changes in chlorophyll a in Icelandic waters. *ICES Journal of Marine Science*, 66: 2133 - 2140.
- Astthor Gislason, Hildur Petursdóttir, Olafur S. Astthorsson, Kristinn Gudmundsson, Hedinn Valdimarsson 2009. Inter-annual variability in abundance and community structure of zooplankton south and north of Iceland in relation to environmental conditions in spring 1990 – 2007. *Journal of Plankton Research*, 31 (5), bls. 541 – 551
- Kristinn Guðmundsson, Sólveig R. Ólafsdóttir, Agnes Eydal og Þórarinn S. Arnarson 2008. Kalksvifþörungaflekkur vestur af Íslandi. *Hafrannsóknastofnunin, Fjölrit Nr.* 139, bls. 18 – 20.
- Kristinn Guðmundsson 2007: Árstímabundnar breytingar á gróðurmagni í yfirborði sjávar greindar frá gervitungli. Vistfræðiskýrsla. *Hafrannsóknastofnunin, Fjölrit Nr.* 130, bls. 33 – 36.

- Kristinn Guðmundsson og Agnes Eydal 2005. Blómi kalksvifþörungna í Norður Atlantshafi (Blooming of coccolithophores in N-Atlantic waters). *Hafrannsóknastofnunin, Fjölrit 116*: 33 -36.
- Héðinn Valdimarsson, Höskuldur Björnsson og Kristinn Guðmundsson 2005. Breytingar á ástandi sjávar á Íslandsmiðum og áhrif þeirra á lífríkið (Climatic variability in Icelandic waters and effects on marine biota). *Hafrannsóknastofnunin, Fjölrit 116*: 23 – 28.
- Kristinn Guðmundsson, Þórunn Þórðardóttir & Gunnar Pétursson 2004: Computation of daily primary production in Icelandic waters; a comparison of two different approaches. *Hafrannsóknastofnunin, Fjölrit 106*, 24 p.
- Kristinn Guðmundsson & Kristín J. Valsdóttir 2004. Frumframleiðnimælingar á Hafrannsóknastofnuninni árin 1958 – 1999. Umfang, aðferðir og úrvinnsla. (Primary productivity measurements at the Marine Research Institute in Iceland during 1958 – 1999). *Hafrannsóknastofnunin, Fjölrit 107*, 56 p.
- Kristinn Guðmundsson 2003. Blaðgræna og vöxtur svifgróðurs í Mjóafirði. (Chlorophyll and growth of phytoplankton in Mjóifjörður). In Karl Gunnarsson (editor), Umhverfisaðstæður, svifþörungur og kræklingur í Mjóafirði. (Environmental conditions, phytoplankton and mussels in Mjóifjörður). *Hafrannsóknastofnunin, Fjölrit 92*: 65-76.
- Kristinn Guðmundsson, Ástþór Gíslason, Jón Ólafsson, Konráð Þórisson, Rannveig Björnsdóttir, Sigmar A. Steingrímsson, Sólveig R. Ólafsdóttir & Öivind Kaasa 2002: Ecology of Eyjafjörður Project. Chemical and biological parameters measured in Eyjafjörður in the period April 1992 - August 1993. *Hafrannsóknastofnunin, Fjölrit 89*, 129 p.
- Kristinn Guðmundsson 2001: Svifgróður að vorlagi, sýnataka og mælingar. Þættir úr vistfræði sjávar 2000. *Hafrannsóknastofnunin, Fjölrit Nr. 83*: 22-23.
- Kristinn Guðmundsson 2001. Plöntusvif á leiðinni Eyjar - Þorlákshöfn. (Phytoplankton monitored on the route between Vestmannaeyjar and Þorlákshöfn). *Morgunblaðið, Verið*, 7. mars 2001.
- Kristinn Guðmundsson 2000: Ársferlar þörungagróðurs (Annual changes in phytoplankton biomass). Þættir úr vistfræði sjávar 2000. *Hafrannsóknastofnunin, Fjölrit 77*, 25-27.
- Guðrún Marteinsdóttir, Ástþór Gíslason, Gavin A. Begg, Björn Gunnarsson, Kristinn Guðmundsson, John Mortensen, Héðinn Valdimarsson, Steingrímur Jónsson, Ólafur S. Ástþórsson 2000: Samverkandi áhrif stofns og umhverfis á nýliðun þorsks (Collective impact of the stock and the environment on cod recruitment). *Afangaskýrsla til Rannsóknarráðs*, 246 bls.
- Kristinn Guðmundsson 1998: Long-term variations in phytoplankton productivity during spring in Icelandic waters. ICES Journal of Marine Science, 55:635-643.**
- Kristinn Guðmundsson og Agnes Eydal 1998: Svifþörungur sem geta valdið skelfiskeitrun. Niðurstöður tegundagreininga og umhverfisathugana, 1. Ísafjarðardjúp 1987, 2. Eyjafjörður 1992. *Hafrannsóknastofnunin, Fjölrit Nr. 70*, 33 p. (i.e. Marine Research Institute, Report nr. 70; Toxic phytoplankton occurrence in two fjords and the environmental conditions)
- Þórunn Þórðardóttir og Kristinn Guðmundsson 1998: Plöntusvif. *Lífriki sjávar, Námsgagnastofnun og Hafrannsóknastofnun*, 12 p.
- Kristinn Guðmundsson, Þórunn Þórðardóttir and Gardar Jóhannesson 1996: Estimation of assimilation numbers in Icelandic waters. *ICES C.M. 1996/L30*, 25 p.
- Steingrímur Jónsson & Kristinn Guðmundsson, 1994: An interdisciplinary study of Eyjafjörður, North Iceland. *ICES C.M. 1994/C6*, 13 p.
- Öivind Kaasa & Kristinn Guðmundsson, 1994: Seasonal variations in the plankton community in Eyjafjörður, North Iceland. *ICES C.M. 1994/L24*, 15 p.
- Kolbeinn Árnason, Ásmundur Eiríksson, Jón Atli Benediktsson, Kristinn Guðmundsson 1994: Mælingar á lit sjávar með fjarkönnun úr flugvél. Niðurstöður tilraunamælinga í október 1993. *Upplýsinga- og merkjafræðistofnun Háskólans, UMH F94081*, 35 p.
- Þórunn Þórðardóttir, Kristinn Guðmundsson & Gunnar Pétursson, 1991: Computations for estimating daily primary production from incubator measurements of ¹⁴C uptake at light saturation. *ICES C.M. 1991/L64*, 19 p.
- Kristinn Guðmundsson 1990. Frumframleiðni svifþörungna á Íslandsmiðum og ummyndun kolefnis. *Ægir 83*: 290-294.