

## CURRICULUM VITAE

HERMANNI KAARTOKALLIO

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- PERSONAL DETAILS**      Date and place of birth:  
11<sup>th</sup> July 1974, Hämeenlinna.  
Nationality: Finnish.
- EDUCATION**              Matriculation examination: 1993, Hämeenlinna.  
Overall grade: *laudatur*
- MSc (Hydrobiology): 1998, University of Helsinki.  
MSc thesis grade : *eximia cum laude approbatur*.
- PhD (Hydrobiology): 2006, University of Helsinki.  
PhD thesis grade : *eximia cum laude approbatur*.
- Adjunct professor in Marine biology, University of Helsinki, 2009.
- LANGUAGE SKILLS**      Finnish (Native)  
English (Excellent)  
Swedish (Written: good, Oral: fair)
- CURRENT POSITION**      Senior research scientist  
1.4.2008-  
Finnish Environment Institute Marine Research Centre  
(SYKE MRC)  
(Finnish Institute of Marine Research (FIMR) until  
31.12. 2008)
- PREVIOUS  
OCCUPATIONS**              Acting senior research scientist  
1.2.2006-31.3.2008  
Finnish Institute of Marine Research.
- Scientist, Academy of Finland BIREME-programme  
(ICEMAT project).  
1.1.2003-31.2. 2006  
Finnish Institute of Marine Research  
Graduate student/ University of Helsinki.
- Stipendiate/Walter & André de Nottbeck Foundation  
1.3.-31.8. 2000  
1.10. 2000-31.12.2002  
Finnish Institute of Marine Research

Graduate student/ University of Helsinki.

Scientist, Finnish Institute of Marine Research  
1.9.-30.9. 2000  
1.7. 1999-29.2. 2000  
1.2.-30.4. 1999.

**TEACHING  
EXPERIENCE,  
SUPERVISION**

Teaching in 14 biology field and laboratory courses at the University of Helsinki, during years 1998-2009.

Several lectures in guest lecture series and courses held at the University of Helsinki and, during years 2002-2009.

MSc Eeva Eronen's PhD supervisor (Marine Biology, University of Helsinki).

**PARTICIPATION IN  
SCIENTIFIC WORKING  
GROUPS AND  
INTERNATIONAL  
RESEARCH PROJECTS**

Member of ICES/HELCOM/OSPAR STGQAB (Steering Group on Quality Assurance of Monitoring - Biological parameters) 2006-2008.

Member of HELCOM EUTRO-PRO project (producing first integrated thematic assessment on eutrophication of the Baltic Sea) 2006-2009.

Responsible for EU-SEED project (Life history transformations among HAB species, and the environmental and physiological factors that regulate them) at FIMR (a project partner) 2006-2008 .

Member of Arctic Council PAME/SDWG project "Best Practices in Ecosystem-Based Oceans Management in the Arctic" 2006-2008.

Responsible scientist for FIMR research project "phytoplankton processes" 2006-2008.

Group leader of FIMR eutrophication group 2008.

Responsible scientist at FIMR/SYKE MRC (as a project partner) for NMR project "confidence rating for marine eutrophication assessments" 2008-2009.

Member of NMR network of excellence "Nordic network on sea-ice research (NetICE, coordinator prof. Jorma Kuparinen) 2008-2010.

**PARTICIPATION IN NATIONAL WORKING GROUPS AND PROJECTS**

Member in several sea-ice related research projects funded by Walter and Andree de Nottbeck foundation (project coordinators adj. profs. Johanna Ikävalko/Riitta Autio) 2001-2009.

Subproject member in Academy of Finland-funded research consortium “The role of Baltic Sea ice and ice biota in wintertime nutrient cycles and organic matter transformations and transfer (ICEMAT, coordinated by prof. Jorma Kuparinen) 2003-2006.

Member of Academy of Finland- funded research project “Biogeochemistry of the Baltic Sea in a changing climate: from catchment to open sea” (led by FidiPro professor David N. Thomas, 2009-2013.

Member/ vice member of national group for EU habitat directive reporting, Ministry for the environment, 2006-

Professional secretary for national group for the implementation of EU Marine strategy framework directive, Ministry for the environment, 2009-2010.

**INTERNATIONAL COURSES**

Particle analysis and aquatic microbial communities University of Bergen, Norway, 2001.

Distant learning course in microbial ecology University of Umeå, Sweden 2002.

MARBEF course: The role of flow cytometry in marine biodiversity and ecosystem functioning, Stazione zoological A. Dohrn, Naples, Italy, 2004.

**CONGRESS ORGANISATION**

Responsible organiser for thematic session “Combating eutrophication in “ Baltic Sea and European marine strategy conference ”, 13-15 November 2006, Helsinki.

**SCIENTIFIC CONGRESSES**

13 oral presentations in domestic and international scientific congresses during years 2002-2007.

20 poster presentations in domestic and international scientific congresses during years 2000-2009.

3 poster presentations in 3 scientific workshops during years 2003-2005.

**WORK AS  
A REVIEWER**

Polar Biology 2003-2009  
Limnology & Oceanography 2003  
Microbial Ecology 2006-  
Aquatic Microbial Ecology 2006-2009  
Deep-Sea Research II 2008

**LIST OF PUBLICATIONS**

**1. ARTICLES IN REFEREED SCIENTIFIC JOURNALS**

1. **Kaartokallio H.** (2001) Evidence for active microbial nitrogen transformations in sea ice (Gulf of Bothnia, Baltic Sea) in midwinter. *Polar Biol.* 24:21-28.
2. Granskog MA, **Kaartokallio H**, Shirasawa K (2003) Nutrient status of Baltic Sea ice:evidence for control by snow-ice formation, ice permeability and ice algae. *J Geophys Res* 108(C8):3253-3256.
3. Granskog MA, **Kaartokallio H** (2004) An estimation of the potential fluxes of Nitrogen, Phosphorus, Cadmium and Lead from Sea Ice and Snow in the northern Baltic Sea. *Water,Air and Soil Poll* 154:331-347.
4. **Kaartokallio H** (2004) Food web components, and physical and chemical properties of Baltic Sea ice. *Mar Ecol Prog Ser* 273:49-63.
5. Granskog MA, **Kaartokallio H**, Kuosa H, Thomas DN, Ehn J & Sonninen E. (2005) Scales of horizontal patchiness in chlorophyll *a*, chemical and physical properties of landfast sea ice in the Gulf of Finland (Baltic Sea). *Polar Biol* 28:276-283.
6. **Kaartokallio H**, Laamanen M, Sivonen K (2005) Physiological and community structure responses of sea ice and open water natural bacterial assemblages to salinity change. *Appl Environ Microbiol* 71:4364-4371.
7. Granskog MA, **Kaartokallio H**, Thomas DN, Kuosa H (2005) The influence of freshwater inflow on the inorganic nutrient and dissolved organic matter within coastal sea ice and underlying waters in the Gulf of Finland (Baltic Sea). *Est Coast Shelf Sci* 65:109- 122.

8. Kuosa H, **Kaartokallio H** (2006) Experimental evidence on substrate and nutrient limitation of Baltic Sea sea-ice algae and bacteria. *Hydrobiologia* 554:1-10.
9. Granskog MA, **Kaartokallio H**, Kuosa H, Thomas DN, Vainio J (2006) Sea ice in the Baltic Sea: A review. *Est Coast Shelf Sci* 70:145-160.
10. Steffens M, Granskog MA, **Kaartokallio H**, Kuosa H, Luodekari K, Papadimitriou S, Thomas DN. (2006) Spatial variation of biogeochemical properties of landfast sea ice in the Gulf of Bothnia (Baltic Sea). *Ann Glaciol*, 44:80-87.
11. **Kaartokallio H**, Kuosa H, Thomas DN, Granskog MA, Kivi K (2007) Changes in biomass, composition and activity of organism assemblages along a salinity gradient in sea ice subjected to river discharge. *Polar Biol* 30:186-197.
12. Kuparinen J, Kuosa H, Andersson A, Autio R, Granskog MA, Ikävalko J, **Kaartokallio H**, Karell K, Leskinen E, Piiparinen J, Rintala J-M, Tuomainen J (2007) Role of sea-ice biota in nutrient and organic material cycles in the northern Baltic Sea. *Ambio* 36:149–154.
13. Janhunen P, **Kaartokallio H**, Oksanen I, Lehto K, Lehto H (2007) Biological Feedbacks as Cause and Demise of Neoproterozoic Icehouse: Astrobiological Prospects for Faster Evolution and Importance of Cold Conditions. *PLoS ONE* 2(2): e214. doi:10.1371/journal.pone.0000214
14. Stedmon CA, Thomas DN, Granskog M, **Kaartokallio H**, Papadimitriou S, Kuosa H (2007) The characteristics of dissolved organic matter in Baltic coastal sea ice: allochthonous or autochthonous origins? *Env Sci & Technol* 41:7273 – 7279. doi:10.1021/es071210f
15. **Kaartokallio H**, Tuomainen J, Kuosa H, Kuparinen J, Martikainen PJ, Servomaa K. (2008) Succession of natural sea-ice bacterial communities in the Baltic Sea fast ice. *Polar Biol*, 31:783-793.
16. Suikkanen S, **Kaartokallio H**, Laamanen M, Hällfors, S, Huttunen M. () Life cycle strategies of bloom-forming, filamentous cyanobacteria in the Baltic Sea. *Deep-Sea Res. II, in press*, doi:10.1016/j.dsr2.2009.09.014.
17. Kuparinen J, Autio R, **Kaartokallio H** () Sea ice bacteria have high growth rate, growth efficiency and preference for inorganic nitrogen sources in the Baltic Sea, *Aquat Microb Ecol, submitted*.
18. Vahtera E, Autio R, **Kaartokallio H**, Laamanen M () Effect of pulsed nutrient supply on physiological nutrient limitation and community phosphorus dynamics during blooms of nitrogen-fixing cyanobacteria in the Baltic Sea. *submitted*.

19. Andersen JH, Axe P, Backer H, Carstensen J, Claussen U, Fleming-Lehtinen V, Järvinen M, **Kaartokallio H**, Knuuttila S, Korpinen S, Kubiliute A, Laamanen M, Lysiak-Pastuszek E, Martin G, Murray C, Moehlenberg F, Nausch G, Norkko A, Villnäs A () Getting the measure of eutrophication in the Baltic Sea: towards improved assessment principles and methods, *submitted*

20. Andersen JH, Murray C, **Kaartokallio H**, Axe P, Molvaer J () A simple method for confidence rating of eutrophication status classifications. *submitted*.

## 2. ACADEMIC THESES

1. **Kaartokallio H** (1998) Ravinteet ja bakteeriyhteisöjen denitrifikaatiopotentiaali Pohjanlahden merijäässä - Pro Gradu, Ekologian ja systematiikan laitos, Helsingin yliopisto (In Finnish).

2. **Kaartokallio H**. (2005) Sea-ice ecology in the Baltic Sea with special emphasis on bacteria. PhD thesis, University of Helsinki (published in Walter & Andree de Nottbeck Found. Sci Rep. 27.)

## 3. OTHER SCIENTIFIC PUBLICATIONS

1. Ikävalko J, Ehn J, Forsström L, **Kaartokallio H**, Spilling, K (2003) Sea ice: water processes and interactions in the SW coast of Finland. Report Series in Geophysics 46:187-188.

2. Granskog M, Martma T & **Kaartokallio H** (2003) Stable oxygen isotopic composition and biochemical properties of landfast sea ice in Santala Bay in spring 2000. Report series in Geophysics 46: 207–212.

3. Kaitala S, **Kaartokallio H**, Fleming-Lehtinen V, Huttunen M (2007) Phytoplankton and Chlorophyll-*a*- In : Olsonen, R. (ed.), FIMR monitoring of the Baltic Sea environment - Annual report 2006. - Meri - Report Series of the Finnish Institute of Marine Research 59: 19-36.

4. Kaitala S, **Kaartokallio H**, Fleming-Lehtinen V, Huttunen M (2008) Phytoplankton and Chlorophyll-*a*- In : Olsonen, R. (ed.), FIMR monitoring of the Baltic Sea environment - Annual report 2007. - Meri - Report Series of the Finnish Institute of Marine Research 62: 81-88.

5. Haahti H, **Kaartokallio H** (2008) Rehevöityminen (Eutrophication). In: Raateoja M (ed.) Itämeri 2008-Merentutkimuslaitoksen itämeriseurannan vuosiraportti (The Baltic Sea 2008- Annual report on Finnish Institute of Marine Research's Baltic Sea monitoring, In Finnish). Meri - Report Series of the Finnish Institute of Marine Research 64: 31-34.

6. Viitasalo M, Alenius P, Autio R, Haapala J, **Kaartokallio H**, Kahma KK, Leppänen J-M, Myrberg K, Norkko A, Poutanen E-L (2008) Central issues in Finnish marine research- the societal role of the Finnish Institute of Marine Research (In Finnish). Meri - Report Series of the Finnish Institute of Marine Research 65:7-22.

7. Contribution in: HELCOM (2009a). Eutrophication in the Baltic Sea – An integrated thematic assessment of the effects of nutrient enrichment and eutrophication in the Baltic Sea region. Balt. Sea Environ. Proc. No. 115B.

8. Contribution in : HELCOM (2009b): Eutrophication in the Baltic Sea. Background Report. Available online. Balt. Sea Environ. Proc. No 115C.

9. Contribution (Finland chapter) in: Hoel AH (ed., 2009): Best Practices in Ecosystem-Based Oceans Management in the Arctic. Norwegian Polar Institute report series 129.

#### 4. TEXTBOOKS AND OTHER RESEARCH-RELATED BOOKS

1. Granskog M, **Kaartokallio H**, Kuosa H () Sea ice in non-polar regions. Chapter 14 in: Thomas DN, Dieckmann GS (eds.) Sea Ice. An Introduction to its Physics, Chemistry, Biology and Geology. 2<sup>nd</sup> edition. Blackwell, *In press*, publication scheduled in October/November 2009.

2. Chapter contribution in: Kaiser MJ, Attrill MJ, Jennings S, Thomas DN and Barnes DKA (eds.) Marine ecology-Processes systems and impacts, 2<sup>nd</sup> edition. Oxford university press, publication scheduled in October 2010.

Preview available at:

<http://ukcatalogue.oup.com/product/academic/science/biological/hydrobiology/marine/9780199227020.do?sortby=bookTitleAscend>

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Hermann Kaartokallio