

CV – Dorte krause-Jensen



Contact information, links

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Scientific education and positions

2020-onwards Professor, Dept. of Bioscience and Arctic Research Centre, Aarhus University (AU), DK

2012-2020 Senior scientist, Arctic Research Centre, AU

2007-2020 Senior scientist, AU, Department of Bioscience (since 2011)

2001-2007 Senior scientist, National Environmental Research Institute (NERI), DK

1997-2001 Scientist, NERI, DK

1997(31 May) PhD in Marine Botanical Ecology, University of Copenhagen, DK

1992-1997 PhD-student/academic employee, NERI, DK. Maternity leave Mar-Oct 1994

1991-1992 Marine Biologist, County of Ringkøbing, Denmark

1991(10 June) MSc in Marine Botanical Ecology, Aarhus University (AU)

Scientific profile

My work focuses on the ecology, role and nature-based solutions provided by marine vegetated ecosystems, particularly seagrass meadows and kelp forests. Key themes are 1) responses of marine vegetation to global and local pressures, 2) Arctic vegetation and climate change, 3) functional roles and ecosystem services of vegetated coastal ecosystems, emphasizing their capacity as carbon sinks (i.e. blue carbon) and nutrient sinks, 4) protection and restoration of marine vegetation as nature-based solutions to societal and environmental challenges 5) marine vegetation as indicator of ecosystem status and change.

My work is widely cited (WoS: H-index 38, >4250 citations, Google scholar: H-index 47, >7550 citations; January 2021). Several recent articles are in leading journals, incl. Nature Geoscience, Nature Communications, Science Advances.

My research portfolio includes basic, strategic and applied research and has wider societal impact due to my role as advisor on environmental monitoring and management to the Danish Ministry. I have authored >100 reports that have informed legislation regulating water quality at national and EU levels, and am responsible for marine vegetation monitoring programs in Denmark and Greenland.

My institutional affiliation and the priorities of my work portfolio have shifted to a larger focus on research, both strategic and basic, relative to advisory tasks following the fusion of NERI with the Department of Bioscience, Aarhus University, in 2011. My publications have been on an accelerating trajectory since then in terms of both quantity and quality. My section has traditionally had fewer students including PhD-students and post docs than the classic university. I have nevertheless supervised 4 PhD students, supervised/hosted about 10 international post doc/PhD students and supervised/hosted several master students. I occasionally teach on PhD summer schools.

Scientific leadership and networks

I am centrally positioned in international research networks and act in international evaluation panels and project expert panels. Via my association with the Arctic Research Centre (www.arctic.au.dk), the Arctic Science Partnership (www.ASP-net.org) and participation in international programs focused on the Arctic, I have a close connection with the Arctic research community. My international collaboration also extends to the subtropics and tropics where I have participated in research cruises in the Caribbean (Galathea 3 Expedition) and the Red Sea. I serve as associate editor of *Frontiers in Marine Science* (section: Global Change and the Future Ocean), and have lately reviewed for journals

such as Oecologia, Ecosystems, Global Change Biology, scientific reports, L&O, MEPS. I occasionally have the pleasure to give invited presentations at international conferences/workshops (e.g. blue carbon conferences in China, Saudi Arabia, Spain, Norway and Denmark), and I recently co-organized the 12th international Blue Carbon Initiative (BCI) workshop and a European (Euromarine) foresight workshop on macroalgal C-sequestration and contributed to a high level climate solution report.

I have extensive experience in project management through leading roles in national and EU Framework Program projects on ecosystem response to global change. I currently lead the project CARbon sequestration by Greenland's MARine forests in a warming Arctic (CARMA) funded by the Danish Council for Independent Research (DDF-2 project) and is national coordinator of several international projects. I have also played leading roles in international seagrass networks and Water Framework Directive networks, coordinated >15 Greenland research campaigns, and am responsible for marine vegetation monitoring programs in Denmark and Greenland.

Selected recent projects (Role: PI: Principal investigator, P: participant)

- BioDiversa (2021-24) NordSalt “Climate Change Impacts and Biodiversity Interactions in Nordic Salt Marshes” (P, national PI)
- EU Horizon2020 projects: ‘Climate Change and Future Marine Ecosystem Services and Biodiversity’ (FutureMARES) and ‘The future of Arctic coastal ecosystems - Identifying transitions in fjord systems and adjacent coastal areas’ (Face-IT), both 2020-2024 (P, national PI)
- Oceans 2050 Seaweed Carbon Farming, <http://www.globalwaterchallenge.org/blog/oceans-2050-leads-global-e-ort-to-quantify-seaweed-carbon-sequestration>
- ‘Blue Forests’ (‘Blå skove’, Velux Foundation, 2019-21). Co-PI, building on ‘Marine Forests in Denmark’ (‘Marine Skove’, Velux Foundation, 2017-18). (P)
- Co-organizer: Blue Carbon International Scientific Working Group Meeting, CPH, Denmark, Sep’19
- ‘CARbon sequestration by Greenland’s MARine forests in a warming Arctic’(CARMA, Dec. 2018- Dec. 22). Independent Research Fund Denmark (DFF - research project type II). (PI)
- Euromarine foresight workshop “*The role of macroalgae in the global ocean carbon budget*”. Carmen de la Victoria, Granada, April, 2019. (PI)
- ‘Blue Carbon’ (‘Blått-karbon’, Norwegian Environmental Directorate, 2017-2020; <http://nordicbluecarbon.no/>). P.
- ‘Ålegræssets arealudbredelse’ (Danish Center for the Environment, 2017). (PI)
- Red Sea research projects and cruises on Blue Carbon habitats (KAUST, 2016/2017). P.
- ‘Field expeditions - Drivers and patterns of thermal tolerance of Greenland marine biota’ (Carlsberg Foundation, 2016). (PI)
- Monitoring of Arctic marine algae; Greenland Ecosystem Monitoring program (Nuuk, since 2007; Disko Bay, since 2018). (PI on marine flora)
- ‘pH and the possible buffering role of the expanding marine vegetation against ocean acidification in coastal waters of Greenland’(Danish Environmental Protection Agency within the Danish Cooperation for Environment in the Arctic DANCEA, 2013-15). (PI)
- ‘Arctic Tipping Points’ (ATP, 2009-2012, EU). In management team, steering committee; Wplead
- ‘Nutrient COcktails in the COAstal zones of the Baltic Sea’ (COCOA, 2014-17, EU-Bonus). (P)
- ‘Eco-Tide’ and related projects (2009-2014) on the ecology of the intertidal zone in Greenland. P, in charge of several field campaigns.
- On ecosystem quality: ‘DEvelopment Of innovative Tools for understanding marine biodiversity and assessing good Environmental Status’ (DEVOTES, 2012-16, EU), ‘Waterbody Assessment Tools for Ecological Reference conditions and status in Sweden’ (WATERS, 2011-16, Naturvårdsverket), ‘Innovative eelgrass restoration techniques’ (NOVAGRASS, 2012-17, Danish Council for Strategic Research, Ministry of Science, Innovation and higher education). ‘WISER’ (2009-12, EU), ‘REELGRASS’ (2008-12, Danish Council for Strategic Research)