

# Webinar Series



## Constructing a Digital Environment

**Topic: Are plankton nets a thing of the past? How we can use AI for real-time high-resolution plankton monitoring?**

**Speakers: Dr. Sari Giering and Dr. Robert Blackwell**

**Time: Friday 21<sup>st</sup> April 11:00 GMT**

**Registration and further details:**

[https://ukri.zoom.us/webinar/register/WN\\_9odfE46BQI63U0wTm24Gzg](https://ukri.zoom.us/webinar/register/WN_9odfE46BQI63U0wTm24Gzg)

Sari (National Oceanography Centre) is a world-leading scientist in ocean carbon cycling, recognised for key discoveries critical to understanding how marine organisms influence the capacity of the ocean to store carbon. She leads a group of ocean biogeochemists and computer vision scientists, who together aim to advance and apply imaging technologies for measuring ocean carbon storage. She is involved in several national and international programmes for converting in-situ particle and plankton measurements made by optical devices to global carbon flux estimates.



Rob is an environmental data scientist at The Centre for Environment, Fisheries and Aquaculture Science and a visiting research fellow at the Alan Turing Institute. Rob helps marine scientists to implement data intensive scientific computing solutions using bespoke software development, computer vision, machine learning, modelling, artificial intelligence and cloud computing.



Zooplankton biodiversity contributes to multiple marine ecosystem services including carbon and nutrient cycling, as well as food webs. Long term time series and large-scale data sets are based on traditional net sampling, but new high speed camera systems provide high resolution, in-situ imaging. These new instruments generate terabytes of data per day, creating challenges for observation, data transmission and storage. They are building a real time plankton reporting system using Edge AI and cloud computing. They will talk about the system as well as challenges of convincing ecologists to trust artificial intelligence.

The **NERC Constructing a Digital Environment (CDE) programme** is running a series of online Webinars, aiming to develop the digitally enabled environment, benefitting scientists, policymakers, businesses, communities and individuals. Our seventh webinar series, led by Expert Network member Matt Fry, UKCEH, focusses on the development, use and application of Artificial Intelligence techniques in Environmental Science.



<https://digitalenvironment.org/cde-webinar-series>