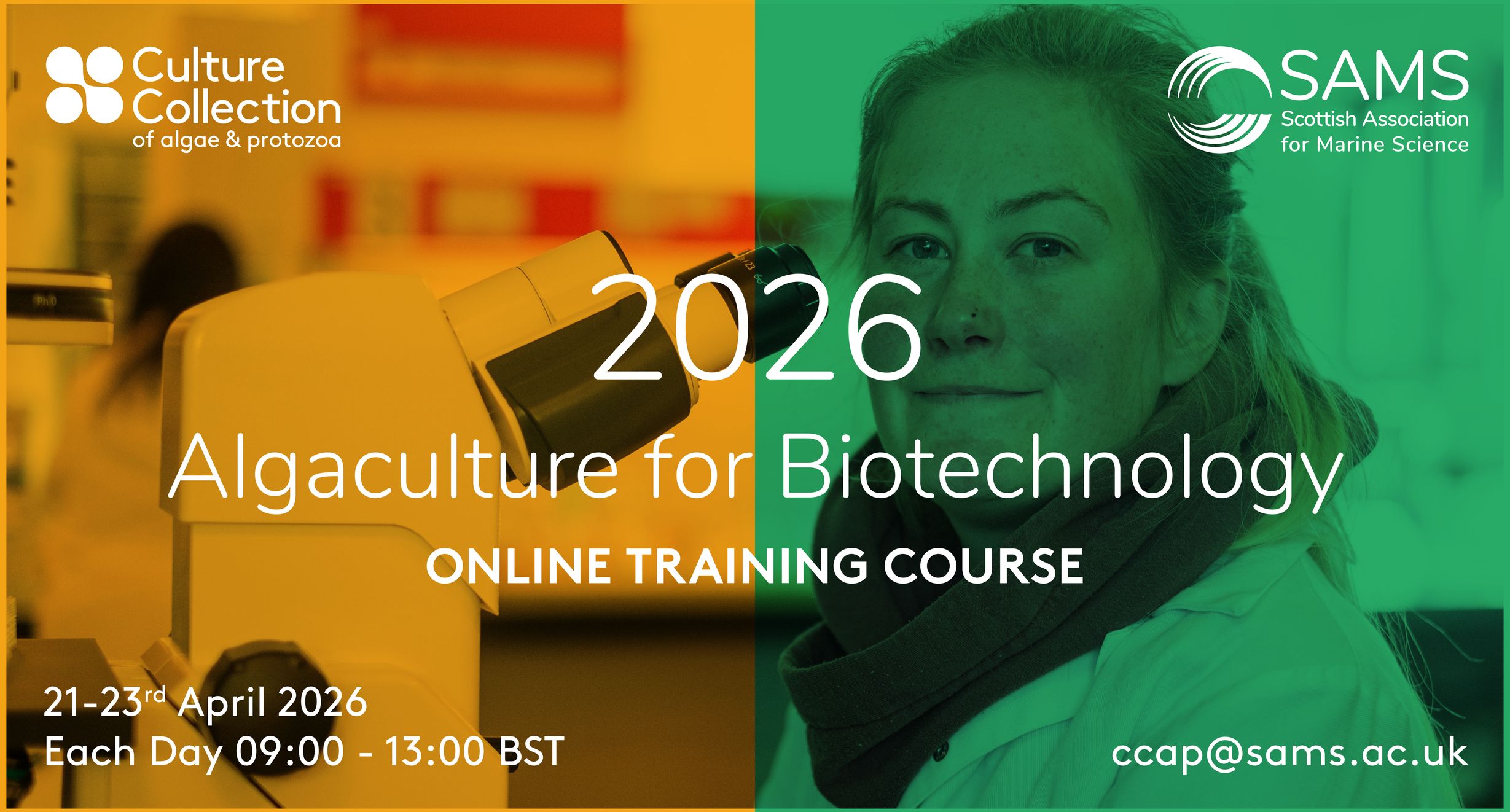


Culture Collection of algae & protozoa

SAMS Scottish Association for Marine Science

2026

Algaculture for Biotechnology

ONLINE TRAINING COURSE

21-23rd April 2026
Each Day 09:00 - 13:00 BST

ccap@sams.ac.uk

WELCOME

Scottish Association for Marine Science (SAMS) and Culture Collection of Algae and Protozoa (CCAP) look forward to welcoming you to our online *Algaculture for Biotechnology* Course. This programme details the logistics for the course including timings and tutors.

WHEN

Time of course – runs each day from 09:00 -13:00 BST on the 21-23rd of April 2026.

A full schedule is provided in the following pages and you will be provided with all necessary materials and documents.

WHERE

The *Algaculture for Biotechnology* course will run in the CCAP laboratories held within the Scottish Association for Marine Science (SAMS) facility. This course will comprise of short lectures, video-based lab practical demonstrations, and plenty of time for discussion with the tutors and other experts.

UKRI Natural Environment Research Council

DAY 01

21st April 2026

Algaculture for Biotechnology

9.00	Welcome & Housekeeping	Dr Mikey Ross
LECTURE SESSION: CCAP & Algal Fundamentals		
9:10	CCAP Overview	Dr Mikey Ross
9:30	Algal Biodiversity and Taxonomy	Cecilia Rad-Menéndez
10:00	Algal Photosynthesis	Dr Francisca Vermeulen
10:30	**Refreshment Break**	
PRACTICAL SESSION: Growth Media Preparation & Sterilisation		
11:00	Demonstration Video & slides – followed by live Q&A	Joanne Field
PRACTICAL SESSION: Strain Collection, Isolation, and Purification		
11:45	Demonstration Videos, Slides, and Q&A	Rachel Allen
12.45	**Finish**	

DAY 02

22nd April 2026

Algaculture for Biotechnology

LECTURE SESSION: Molecular Phycology, Bioinformatics, and Synthetic Biology		
09:00	Algae as Genetic Resources & Bioinformatics	Dr Frederik De Boever
09:45	Synthetic biology for algae biotechnology	Dr Katrin Geisler (University of Manchester)
10:30	**Refreshment Break**	
PRACTICAL SESSION: Algal Maintenance Techniques		
11:00	Demonstration Video, Slides, and Q&A	Cecilia Rad-Menéndez & Naomi Thomas
PRACTICAL SESSION: Algal Enumeration		
11:45	Demonstration Video, Slides, and Q&A	Joanne Field, Elaine Mitchell, and Naomi Thomas
12:30	Introducing The Seaweed Academy & Seaweed Nursery education opportunities	Jenny Black
12.45	**Finish**	

DAY 03

23rd April 2026

Algaculture for Biotechnology

LECTURE SESSION: Algal Metabolomics & Advanced Cellular Structure		
09:00	Algal Metabolomics	Associate Professor Matthew Davey
09:45	Exploring cytoskeletal diversity across eukaryotes using expansion microscopy	Dr Hiral Shah (EMBL Heidelberg/University of Geneva)
10:30	**Refreshment Break**	
PRACTICAL SESSION: Cryopreservation & Biobanking		
11:00	Demonstration Video, Slides, and Q&A	Cecilia Rad-Menéndez & Joanne Field
PRACTICAL SESSION: Algal Scale-up & Biotechnology in Practice		
11:45	Algal Scale-Up & CCAP-ARIES	Dr Mikey Ross & Evie Whyte
12:30	“GreenCoLab - Applications of algal biotechnology in aquaculture”	Dr Payam Mehrshahi & Dr Ana Teresa Gonçalves (both GreenCoLab, Portugal)
	Q&A with Guest Speakers	
	Wash-Up Q&A	
13.00	**End of Course**	

TRAINING COURSE LECTURERS

Delivered by leading algal scientists from SAMS algal scientific team, including the Culture Collection of Algae and Protozoa (CCAP). This course is one of the best introductions to algaculture.

GUEST SPEAKERS

Dr Katrin Geisler - University of Manchester

Katrin is a Research Fellow at the Manchester Institute of Biotechnology, University of Manchester, focusing on engineering plant and algal metabolism. Her previous work at the University of Cambridge explored the diatom *Phaeodactylum tricornutum* and the green alga Chlamydomonas reinhardtii as platforms for producing high-value compounds such as terpenoids.

More about Katrin

Dr Hiral Shah - EMBL Heidelberg & University of Geneva

I am an EIPOD postdoctoral fellow between the Dey and Schwab groups at EMBL Heidelberg and the Dudin group at University of Geneva. I investigate the diversity and evolution of microtubule organisation at cell cycle and lifecycle transitions. I combine light and electron microscopy with comparative genomics in a wide range of microbial eukaryotes.

More about Hiral

Dr Payam Mehrshahi - GreenCoLab, Portugal

Innovation Manager at GreenCoLab and a specialist in plant and algal biotechnology. With a PhD in Plant Biotechnology, he pioneers molecular and synthetic biology approaches to sustainable production of high-value compounds. Before joining GreenCoLab, he managed the Algal Innovation Centre at the University of Cambridge, leading R&D, educational, and outreach activities connecting academia and industry.

More about Payam

Dr Ana Teresa Gonçalves - GreenCoLab, Portugal

Leads the Animal Nutrition working group at the GreenCoLab and is a specialist in functional nutrition and nutrigenomics in aquaculture. Dedicated to bridge algae biotechnology and animal nutrition and health, she has coordinated the development of novel functional feeds for early life stages. She is currently a Senior scientist at SPAROS, a feed producing company dedicated to performance and health.

More about Ana

SPEAKERS

Dr. Francisca Vermeulen

Francisca is a PDRA in Algal Biotechnology. Francisca is an algal cultivation specialist working on assessing factors that contribute to harmful algal blooms. I also have expertise in the commercial cultivation of various microalgal species and am a member of EIT-food educational outreach programs for algal biotechnology and sustainable aquaculture. She has experience working in an industrial environment with commercial scale algal cultivation systems which are used to produce algal based nutraceuticals.

Associate Professor Matthew Davey

Matt is a Associate Professor in Algal Biotechnology specialising in algal physiology, innovation and ecology. His research interests are in the diversity and plasticity of metabolic traits, especially in extreme habitats. Using a translational approach to apply the unique techniques and expertise he has developed in these ecosystems to produce sustainable and innovative solutions in the bio-economy.

Dr Frederik De Boever

I am a microbial ecologist with a focus on microbe-host interactions. I use laboratory model systems, sequencing technologies, and bioinformatic approaches to dissect the genetic underpinnings of complex ecological interactions such as symbiosis and parasitism. I have a particular interest in how such interactions (co)-evolve, comparative genomics, and taxonomy.

SPEAKERS

Dr Michael Ross

Mikey is the manager of the Culture Collection of Algae and Protozoa (CCAP) and a Lecturer in Algal Biotechnology at the Scottish Association for Marine Science (SAMS). I have a very broad interest in applied algal biotechnology and have researched microalgae, cyanobacteria, and macroalgae for the production of biofuels, food/feed, and for the production of high-value products, namely pigments and carotenoids for inclusion into nutraceutical and cosmetic markets. My Ph.D. research undertaken at the University of Edinburgh and with SAMS, investigated the potential of a filamentous macroalgae to remove nutrients and heavy metals from wastewater.

More about Michael

Cecilia Rad-Menéndez

Ceci is the CCAP curator. She has worked in the collection for over 17 years isolating, characterizing, and maintaining different groups of cyanobacteria, microalgae, macroalgae and protozoa. She is responsible for the molecular characterization of CCAP strains and has developed several cryopreservation protocols for both, micro and macroalgae.

Her main interest is protists diversity and unveiling some of the mysteries hidden within this extraordinary group.

More about Cecilia

Joanne Field

I joined CCAP in 2007 as a support scientist. I am also the Laboratory manager responsible for day to day running of the CCAP laboratory and the SAMS Cryopreservation facility.

My primary role is the maintenance and subculture of CCAP strains, in particular many phytoplanktonic cultures such as Dinoflagellates, Chrysophytes, Raphidophytes, a range of freshwater and marine protozoan cultures and red algae and seaweeds. I am also responsible for maintenance of all patent strains deposited with CCAP.

More about Joanne

SPEAKERS

Rachel Allen

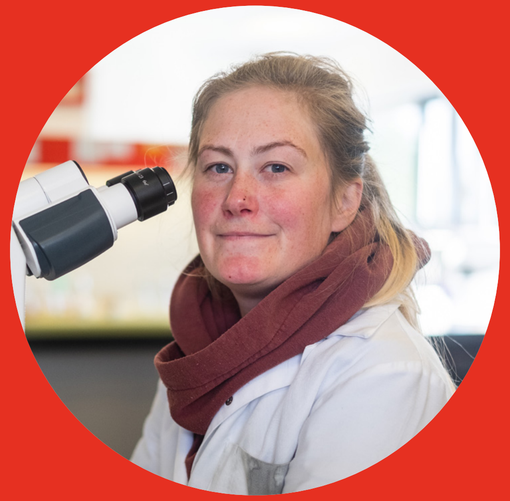
I joined CCAP in September 2017 as a support scientist, and my primary role involves the maintenance and subculture of a wide range of freshwater green algae, brown seaweeds, and protozoan strains. In addition, I am also the CCAP Quality Lead, responsible for helping to maintain the ISO 9001:2015 accredited certification awarded to us in 2021.

I am also heavily involved in outreach programmes with children from schools in the local area.

More about Rachel

Evie Whyte

I work in CCAP as a support scientist, with my time divided between subculturing strains in the collection, collaborating on research projects, and contributing to the Toxic Phytoplankton Monitoring Programme with Food Standards Scotland. I am the lab manager of the CCAP-ARIES scale-up facility, containing multiple photo bio-reactor systems for algal scale-up projects, which we have used to grow both micro- and macroalgal strains. My background is in algal biotechnology and the use of natural compounds in the blue bioeconomy, but I also have an interest in relationships between algae and their associated microbiomes.



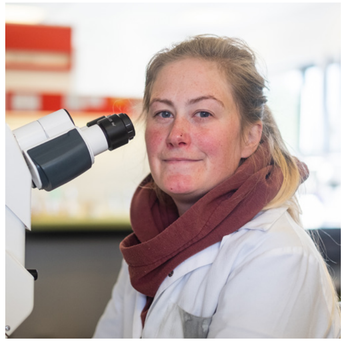
Naomi Thomas

I graduated in 2009 from the University of Liverpool and joined the SAMS team in 2010 working on Carbon Trust funded Control of Grazers project looking into the predation effect of ciliates in microalgae cultures. I have since contributed to a number of algal biotechnological projects. I became a curator in CCAP in 2013, and my main role is to look after the marine green algae collection, the freshwater diatoms, the ecotoxicology strains, the red (freshwater and marine) and green seaweeds and part of the freshwater green algae collection.

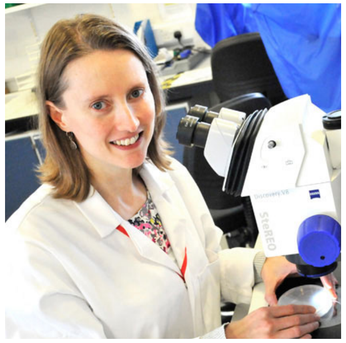
Jenny Black

I am a Project Manager and Marine Environmental Consultant specialising in leading the delivery of Restorative Aquaculture and Blue Carbon projects as well as coordinating mariculture training programmes through the Seaweed Academy. I have experience working with the finfish and seaweed aquaculture sectors as well as and coastal restoration.

MEET THE CCAP STAFF AND COURSE DEMONSTRATORS





Naomi Thomas

Joanne Field

Elaine Mitchell

Rachel Saxon

Mikey Ross

Rachel Allen

Cecilia Rad-Menéndez

Evie Whyte

TRAINING COURSE LOGISTICS

SAMS is a leading scientific institution researching and delivering Marine Science. SAMS is a partner of the University of Highlands and Islands (UHI). CCAP is a Biological Resource Centre and is supported by the Natural Environment Research Council (NERC), part of the UK Research and Innovation (UKRI) as an internationally renowned National Capability service. SAMS and CCAP has expertise in Biogeochemistry and Earth Science, Ecology, Microbial and Molecular Biology, Physics, Sea Ice and Technology. If you are interested in collaborating with SAMS or CCAP or have any commercial opportunities you would like to discuss, please let us know and we will endeavour to set up the relevant meetings.

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Culture Collection of algae & protozoa

CCAP, The Seaweed Academy and SAMS MRes offer a range of other courses and degrees relating to algaculture

THESE INCLUDE:

CCAP *Algaculture for Biotechnology* and *Algal Cryopreservation* practical skills training courses both in-person and online. These online courses run annually and may also be provided on a bespoke basis.
ccap@sams.ac.uk

THE SEAWEED ACADEMY is the UK's only dedicated seaweed industry facility offering training courses. We have now added a new **SEAWEED NURSERY** course to our portfolio.
www.seaweedacademy.co.uk

SAMS MRes Degree in Marine Science
bernadette.snow@sams.ac.uk

FURTHER INFORMATION:

We hope we've been able to provide all the information you require to enjoy your time with us, but if you have any further questions, please email **ccap@sams.ac.uk**

FEEDBACK FORM:

Please complete the feedback form and e-mail it to **ccap@sams.ac.uk**

WE LOOK FORWARD TO MEETING YOU ON THE COURSE.

SAMS
Scottish Association for Marine Science

CONTACT US

Visit our online shop to order algae & protozoa

www.ccap.ac.uk/catalogue

Contact and follow our team to learn more about our tailored products and services

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