

2025

Algaculture for Biotechnology

TRAINING COURSE PROGRAMME

28TH & 29TH OCTOBER 2025
EACH DAY 09:00 - 17:00 GMT



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 – 17:00 GMT on the 28th & 29th of October 2025.

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.

DAY 01

28th October 2025
Algae culturing techniques



9.00	Welcome & Housekeeping	Dr Mikey Ross
LECTURE SESSION: Big Picture & Fundamental of Algal Biology		
09:15	5 mins presentations from participants	Course participants
09:30	Algal Biodiversity & Taxonomy	Cecilia Rad-Menéndez
10:00	Algal Photosynthesis – implications to algal culture	Professor Michele Stanley
10:30	Algal Nutrition & Metabolism	Dr Puja Kumari
11:00	Refreshment Break	
11:15	CCAP Laboratory Tour	Cecilia Rad-Menéndez
PRACTICAL SESSION 1: Media Preparation & Sterilisation		
11:30	Practical Session: Media Preparation & Sterilisation	Jamie Rowell
13.00	Lunch Break	
PRACTICAL SESSION 2: Algal Sampling & Isolation		
13:45	Practical Session: Algal Sampling and Isolation	Joanne Field and Rachel Allen
15:15	Refreshment Break	
PRACTICAL SESSION 3: Algal Maintenance Techniques		
15:30	Practical Session: Algal Maintenance Techniques	Cecilia Rad-Menéndez, Joanne Field & Naomi Thomas
17:00	Finish	

DAY 02

29th October 2025
Algae culturing techniques



LECTURE SESSION: Molecular Phylogeny, -omics, and Scale-Up

09:00	Algae and Genetic Resources	Dr David Green
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09:30	Bioinformatics	Dr Frederik De Boever
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10:00	Metabolomics	Assoc Prof Matt Davey
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10:30	Algal scale-up	Dr Mikey Ross
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11:00	Refreshment Break	
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PRACTICAL SESSION: Algal Isolation & Purification

11:15	Practical Session: Algal Isolation and Purification	Rachel Allen and Cecilia Rad-Menéndez
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13.00	Lunch Break	
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PRACTICAL SESSION: Algal Enumeration

13:45	Practical Session: Algal Enumeration	Joanne Field and Naomi Thomas
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15:45	Refreshment Break	
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16:00	Tour of CCAP-ARIES algal scale-up facility	Evie Whyte and Mikey Ross
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16:30	Q&A and Final Discussion	Cecilia Rad-Menéndez, Joanne Field, and Mikey Ross
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17:00	Finish	
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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.



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



Dr Matt 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.

More about Matt



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



Dr David Green

David is a molecular microbiologist and leading international researcher in algal-bacterial interactions. He has an active research programme in marine biotechnology developing marine biopolymers for commercial exploitation, cultivation of novel bacteria and exploiting their genomic potential. He also undertakes fundamental research focused on marine microbial sulphur and iron biogeochemistry. Recently he has been contributing to CCAP Genome and Microbiome research.

More about David



Dr Puja Kumari

Puja is a phycologist, interested in the interaction of algae (both microalgae and macroalgae) with its biotic and abiotic environment. Puja has been involved in international research projects based in Israel, Japan, and the UK and has extensive expertise in macroalgal cultivation, life-cycle development, (a)biotic stress physiology, host-pathogen interactions, biodiversity, chemotaxonomy, biochemical characterisation, -omics science, and bioprocessing, biorefineries, and the circular economy.

More about Puja



Professor Michele Stanley

Michele has worked on applied phycology projects for >20 years. Over the last 10 years, she has initiated and led research investigating marine biomass, both macro- and micro-algal, as forms of biofuels at SAMS and is also developing other areas of applied research investigating the biotechnology application of algae. She is a member of EPSRC's Energy Strategic Advisory Team; a member of the steering board for the European Algal Biomass Association; a member of the UK Cross Research Councils Bioenergy Group and Chair for the Scientific Advisory Board of the Industrial Biotechnology Innovation Centre (IBiolC).

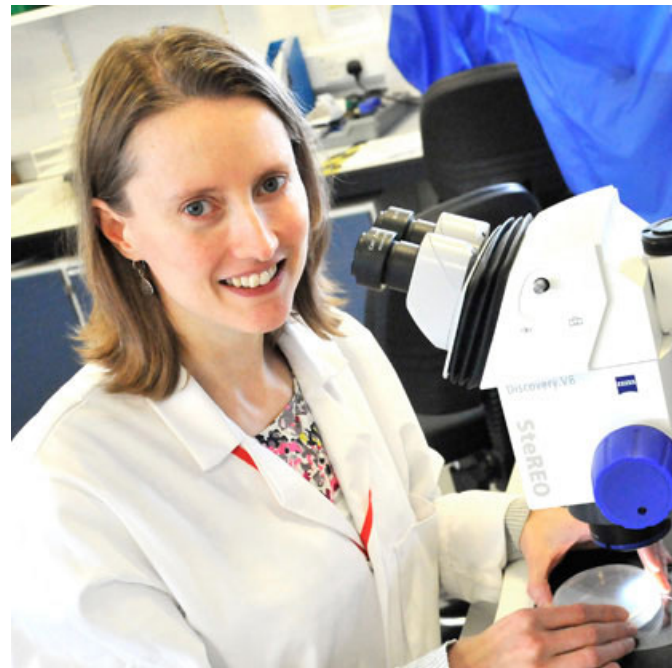
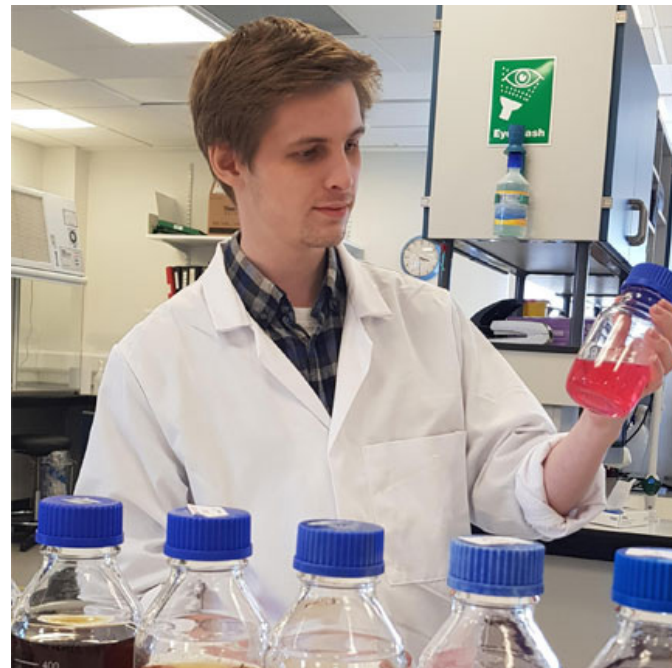
More about Michele



Dr Fred 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.

MEET THE CCAP STAFF AND COURSE DEMONSTRATORS



Naomi Thomas

Joanne Field

Elaine Mitchell

Rachel Saxon

Jamie Rowell

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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CCAP, Seaweed Academy,
EIT 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 and **SEAWEED NURSERY** courses are the UK's only dedicated seaweed industry facility offering in-person training courses.
www.seaweedacademy.co.uk

EIT FOOD *Algal Biotechnology and Restorative Aquaculture* workshops with an entrepreneurial perspective.
matt.davey@sams.ac.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.



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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