

ALGAE BIOTECHNOLOGY – TECHNIQUES AND OPPORTUNITIES FOR THE SUSTAINABLE BIOECONOMY

All times are in Greenwich Mean Time (GMT/UTC).

DAY 1 (Tuesday 6th December 2022):

MORNING – WHAT ARE ALGAE AND WHAT CAN YOU DO WITH THEM? (Chair: Dr Payam Mehrshahi)

09:30 – 10:00: Welcome by Dr Payam Mehrshahi (Department of Plant Sciences, University of Cambridge, UK)
(Introduction & explanation of the course format and schedule)

10:00 – 10:30: What are algae? Introduction to algal biology and diversity (Dr Lorraine Archer, University of Cambridge, UK)

10:30 – 11:00 How to maintain and internationally distribute diverse algae (Dr Michael Ross, Dr Cecilia Rad Menéndez, CCAP, SAMS, UK)

11:00 – 11:15: Coffee/tea break

11:15 – 12:00: *Plenary talk:* Potential of algae in a global market]

12:00 – 12:30: Challenges and opportunities of regulating the algae market

12:30 – 13:30: Lunch break

AFTERNOON – PRODUCTION & APPLICATION OF ALGAL PIGMENTS (Chair: Dr René Groben)

13:30 – 14:00: ThermoBlue – A novel blue food colorant from thermophilic microalgae (Dr René Groben, Matís, Iceland)

14:00 – 14:30: Living Ink, algal pigments for the printing industry (Dr Scott Fulbright, Living Ink, USA)

14:30 – 15:00: Producing algae derived alternative sources of protein

15:00 – 15:15: Coffee/tea break

15:15 - 16:45: Breakout room sessions with delegates and speakers to discuss different topics of algal biotechnology

16:45 – 17:00: Close of first day & wrap-up discussion (Dr Payam Mehrshahi, University of Cambridge, UK)

18:30 – 19:30: Optional get together of the delegates to chat, network and participate in an algal-themed pub quiz

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DAY 2 (Wednesday 7th December 2022):

MORNING – SCALE UP OF ALGAL CULTIVATION & PROCESSING (Chair: Dr Ulrike Schmid-Staiger):

09:30 – 09:45: Welcome by Dr Ulrike Schmid-Staiger (Fraunhofer, Germany)

09:45 – 10:15 Applying synthetic biology to develop sustainable processes in algae

10:15 – 10:45 Coming into the light – from synthetic biology in the lab to growing transgenic algae at scale (Prof. Alison Smith, University of Cambridge, UK)

10:45 - 11:00: Coffee/tea break

11:00 – 11:30: Scale-up facilities & bioreactors tour at Fraunhofer (Dr Ulrike Schmid-Staiger, Fraunhofer, Germany)

11:30 – 12:00: Astaxanthin and its Production the Algalif way

12:00 – 13:00: Lunch break

AFTERNOON – PRODUCTION & APPLICATION OF ALGAL PIGMENTS (Chair: Dr Matt Davey)

13:00 – 13:45: Seaweed Farming as a career or aquaculture alternative

13:45 – 14:15: Fighting climate change with seaweed (Cora Taylor, Volta Greentech)

14:15 – 15:00: Starting up the Seaweed generation (Prof Mike Allan, Co-Founder & CSO Seaweed Generation)

15:00 - 15:30: Coffee/tea break

15:30 – 16:30: Panel discussion of topics covered followed by break out rooms for networking

16:30 – 17:00: Close of the course & wrap-up discussion (Dr Matt Davey)

18:30 Cooking with algae

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DAY 3 (Thursday 8th December 2022):

MORNING – Design, Build and Testing biotechnology applications in algae (Chair: Dr Payam Mehrshahi):

09:30 – 09:45: Welcome by Dr Payam Mehrshahi (Department of Plant Sciences, University of Cambridge, UK)

09:45 – 10:30 Engineering microalgae for novel valuable metabolite production (Dr Katrin Geisler, University of Cambridge)

10:30 – 11:00 Integrated biorefinery for bioeconomy at Project INDEPENDENT (Dr Berat Haznedaroglu, Bogaziçi University, Turkey)

11:00 - 11:15: Coffee/tea break

11:15 – 11:45: Utilization of biotechnology for seaweed processing (Dr Elísabet Eik Guðmundsdóttir, Matís, Iceland)

11:45 – 12:15: Analysing metabolites from algae (Dr Matthew Davey, SAMS, UK)

12:15 – 13:15: Lunch break

AFTERNOON – PRESENT & FUTURE OF THE ALGAL INDUSTRY IN THE BLUE ECONOMY (Chair: Dr René Groben)

13:15 – 13:45: Increasing awareness of seaweed among public and shareholders

13:45 – 14:15 Algae food for the future on Earth and in Space (Ellen Harrison, University of Cambridge, UK)

14:15 - 14:30: Coffee/tea break

14:30 – 15:15: Developing new algal strains for a sustainable future

15:15 – 16:00: Algae solutions for a sustainable future

16:00 – 17:00: Panel discussion of topics covered

17:00 – 17:15: Wrap-up discussion & close of the course (Dr Payam Mehrshahi)