

BLUECONNECT Kelp Ecosystem 10-day Field Course

16 – 26 March 2020, Cape Town and De Hoop Nature Reserve

BLUECONNECT (<https://www.blueconnectproject.com/>) aims to create valuable training opportunities and research collaborations between South Africa and Norway that center around knowledge-based management of kelp forest resources under changing ocean conditions.

Kelp forests are underwater forests that provide many valuable benefits for coastal communities, and are used by many fish and other animals for shelter and food. Kelp forests are expanding in parts of Norway and South Africa with changing environmental conditions, despite declines in kelp globally.

This SANOCEAN project will measure the ecosystem services provided by kelp forests in South Africa and Norway, and build capacity for coastal research, sustainable development and management of these resources through high-level post graduate training, collaborative research, as well as scientific knowledge transfer. This will better enable communities to anticipate and prepare for future changes and possibly even benefit from these expanding ecosystems.

Kelp Ecosystem Field Course

Each year, the BLUECONNECT project will provide 8-12 graduate and postgraduate students from South Africa and Norway with a unique opportunity to interact with high-profile scientists as part of a transdisciplinary and advanced training program. This competence building will enhance science-based ocean research in the future, with strong focus on kelp forest ecology. The course will use a multi-faceted approach that includes lectures, case studies and practical field experience. In this way, participants will obtain a hands-on and integrative experience that covers a wide range of topics. Under the supervision of expert researchers in this field, practical activities will be conducted as part of an actual kelp research program. The students will participate in the field work, gaining first-hand experience in sampling and experimental design and methods. The course will also foster the development of transversal skills such as networking and international scientific collaboration, as well as science communication, and outreach.

The course syllabus will include

- Scientific research techniques (practical field work covering 200 km coastline in South Africa)
- Advanced statistics and analysis of biological data
- Use of remotely sensed data
- Fundamental principles and recent advances in Marine Ecology, Theory, Experimental Design and Kelp Forest Ecology (classroom lectures)
- Science communication, writing skills and career opportunities

Students will be assigned relative readings and assignments (in R) to complete before the course begins (8 to 12 h).

Application

Interested students should submit the following to ajsm@uwc.ac.za.

Format: single pdf document

Subject line: BlueConnect Course 2020 <last name of applicant>

Include the following information in your application:

1. Statement of Interest detailing the relevance of this course to your ongoing research, any prior experience (academic or other) and career aspirations (300 words)
2. Graduate thesis topic, description and timeline (200 words)
3. Transcript (undergraduate and/or graduate)
4. Letter of support from thesis supervisor (max 1 page)

Deadline: Jan 31, 2020

Blueconnect Remote Course Agenda

Starts 930 AM in South Africa or 830 AM in Norway.

Day 1- November 19th, 2020

9:30-10:30 AM PI Lectures: 15 minutes each followed by 5 min discussion

1. Kelps and global change – Thomas Wernberg
2. Kelps as habitat providers (fauna and fish) – Kjell Magnus Norderhaug
3. Ecosystem services from kelp – AJ Smit

10 min Break

10:40-11:20 AM Student intro talks (3 min each)

Hanne, Camille, Katharina, Kyle, Ross, Kezia, Kaya, Danelle

10 min Break

11:30-12:00 AM Panel discussions

Panel 1. Kelp field ecology – tips and tricks *Chair – AJ*

Panel 2. Threats and role of kelp in global solutions *Chair – Thomas*

Day 2- November 20th, 2020

9:30-10:30 AM PI Lectures: 15-20 minutes each followed by discussions

1. Solutions and adaptive management – Mark Rothmann
2. Remotely sensed data resources and analysis – Sabine Marty
3. Writing scientific papers – Karen Filbee-Dexter

10 min Break

10:40-11:20 AM Student intro talks (3 min each) :

Danelle, Logan, Matthew, Tashreeqah, Kimara, Antoine, Claire

10 min Break

11:30-12:00 AM Panels

Panel 3: Making your science matter *Chair – Karen*

Panel 4. Next frontiers in kelp forest research *Chair – Karen*

Resources

Ecological data entry, processing handling – Amieroh Abrahams