



XIIth SCAR Biology symposium

# Scale matters

Leuven, Belgium, 10 - 14 July 2017

**SCAR  
BIOLOGY  
2017**

## First announcement

The XIIth Biology Symposium of the Scientific Committee of Antarctic Research (SCAR) with the general theme *Scale matters* will be held in Leuven, Belgium from Monday 10th to Friday 14th July 2017. The international SCAR Biology symposia were initiated in 1973 with the purpose of bringing fundamental and applied scientists together with an interest in Antarctic terrestrial and marine life sciences, including man. Symposium themes under consideration include: Distribution and trends; Adaptation and processes; New insights through multi-disciplinary research; Threats and impacts: from the poles to the globe to the poles; Societal impact of Antarctic biological science; Human biology at the poles.

For information, registration and abstract submission (deadline: 15th February 2017) see <http://www.scarbiology2017.org>

## Themes

### Subtheme 1: Distribution and trends

Antarctic biodiversity responds to environmental drivers at different spatial and temporal scales. Understanding past and present distribution patterns is key to developing predictive research frameworks. Modern spatio-temporal analysis serves these purposes and enables the identification of potential impacts of global and regional environmental changes at various diversity levels from genes to ecosystems.

### Subtheme 2: Adaptation and processes

Coping with a changing environment requires physiological, behavioral and evolutionary mechanisms, which may result in the survival or (local) extinction of organisms. Studying biological thresholds and/or ecological processes provides new insights in our understanding of the scope for adaptation.

### Subtheme 3: New insights through multi-disciplinary research

Building bridges between disciplines is a powerful way to address complex ecosystem-related questions. This subtheme is intended to showcase examples of new approaches and needs, arising from the combination of multiple scientific disciplines and/or that reach across several SCAR Scientific Research Programs (SRPs).

### Subtheme 4: Threats and impacts: from the poles to the globe to the poles

The Antarctic is generally considered to be a pristine environment, which plays a central role in global processes. Its ecosystems are, however, facing environmental changes believed to be linked to human activities. Major threats include swift temperature changes, ocean acidification, pollution, invasive species, and direct human interaction with the environment through tourism and research activities, etc. For conservation purposes, the impacts of these threats should be understood and addressed at multiple scales (from local to global).

### Subtheme 5: Societal impact of Antarctic biological science

Antarctic ecosystem functions have a strong impact on our society, given their central role in the Earth system. Efficiently disseminating scientific knowledge to the various stakeholders (general public, conservationists, policy makers, private sector) is pivotal to understanding the relevance of the Antarctic to society.

### Subtheme 6: Human biology at the poles

The Antarctic is an extreme working environment that impacts human bodies and minds. Understanding these impacts is also relevant for exploring other remote or extreme realms such as outer space, the Arctic, or even the deep-sea.

# Sessions

## Subtheme 1: Distribution and trends

- S01: Taxonomy Systematics, Biogeography of Antarctic Biota
- S02: Evolutionary history of terrestrial & marine biota
- S03: Distribution and trends of top predators
- S04: Modelling approaches to understanding species distributions
- S05: Large scale analyses of spatial diversity patterns
- S06: Changes in the foundation of the food web
- S07: Microbial communities & 'Meta-omics'

## Subtheme 2: Adaptation and processes

- S08: Response to climate change: understanding bio-resilience
- S09: Adaptation and processes in top predators
- S10: Understanding Physiology (including 'omics' approaches)
- S11: How to live in extreme environmental conditions & Astrobiology
- S12: Linking ecosystem structure and functioning with bio geochemical cycles

## Subtheme 3: New insights through multi-disciplinary research

- S13: Understanding the role of sea ice in the Southern Ocean ecosystem
- S14: Effects of Ocean Acidification on organisms and communities
- S15: Impact of disturbances and extreme events
- S16: Data driven insights
- S17: End-to-end ecosystem modelling in the Earth system
- S18: The use of novel biomarkers in Antarctic ecology
- S19: Multidisciplinary studies in terrestrial and marine transition zones

## Subtheme 4: Threats and impacts: from the poles to the globe to the poles

- S20: Achieving environmental outcomes through the tools of the Antarctic Treaty Systems
- S21: Horizons of change
- S22: Current impact on Antarctic Biota and ecosystems
- S23: societal impact of Antarctic biological science
- S24: The science/stakeholder interface

## Subtheme 5: Societal impact of Antarctic biological science

- S25: Education and Outreach
- S26: Assessing, understanding, and predicting Antarctic ecosystem services

## Subtheme 6: Human biology at the poles

- S27: Impact of the human presence on the ecosystem
- S28: Human acclimatization to Antarctic extreme environment



# Registration

|                          | Early Bird ends 30/04/17 | Normal ends 09/07/17 | On site  |
|--------------------------|--------------------------|----------------------|----------|
| Regular fee              | € 350,00                 | € 400,00             | € 500,00 |
| Early Career fee         | € 200,00                 | € 275,00             | € 325,00 |
| One day pass (Wednesday) | € 70,00                  | € 80,00              | € 100,00 |

The registration fee includes coffee breaks and lunches and a pdf-version of the abstracts.

If you register with an Early Career fee, please send proof of your Early Career Status to [scarbiology2017@kuleuven.be](mailto:scarbiology2017@kuleuven.be).

You are eligible for the Early Career fee if you are a Master or PhD student in the academic year 2016-2017, or if you obtained your PhD in the last year (graduation at the latest in 2016). A certificate of enrolment or a letter signed by your supervisor needs to be provided by e-mail.



## Belgium

The link between Belgium and the Antarctic has always been strong since the first overwintering of the scientific expedition led by Adrien de Gerlache from 1897 to 1899, passing through the construction of the King Baudouin Base in 1958 and Belgium's participation in the Antarctic Treaty negotiations in 1959. Currently there is the Belgian polar research station, Princess Elisabeth at Dronning Maud Land.

## The City

The city of Leuven is located at the heart of Belgium, approximately 20 kilometers east of Brussels. It is the capital of the province of Flemish Brabant and has almost 100.000 inhabitants. It has a history dating back to the 11th century and boast one of the finest town halls in Europe. As a market and university town the atmosphere is very lively, with plenty of bars, restaurants, musea, cultural events.