

# Contemplating the Future of our Oceans

## WCMB 2018 - Mentoring program

As previously announced, the organizing committee has worked hard to develop a unique and dynamic mentoring program aimed at connecting early-career scientists with senior scientists to exchange ideas and potentially collaborate. Well wait no more! The program is ready and now is the time to get things started!

## Mentoring program

Much like a hero's journey, the mentoring program consists of three acts with their respective challenges. The journey will culminate with the publication of a series of short perspective papers in a special issue of the open access journal Peer J dedicated to the conference and a synopsis paper in a high-profile journal.

## The objective

In contrast to typical conference mentoring programs, we offer a program specifically aimed at bringing senior and early-career scientists together to tackle a specific scientific challenge. This challenge will provide the opportunity to meet and work collaboratively with other scientists who share similar interests from around the world.

## The Challenge

In 2010, the Conference of the Parties revised and updated a Strategic Plan for Biodiversity that included the [Aichi Biodiversity Targets](#) for the 2011-2020 period. With this strategic plan rapidly coming to a close, the time is ripe to start reflecting on our accomplishments and the next stage of our ocean sciences journey. With this in mind, we challenge mentoring program participants to reflect on the accomplishments of a decade of work since the establishment of the Aichi Biodiversity Targets and to contemplate perspectives for ocean sciences beyond 2020.

## The themes

Specific themes attributed to groups of mentors and mentees will reflect conference themes and include components explicitly related to upcoming changes that governing bodies will discuss and propose over the following months and years. Theme descriptions should guide but not constrain the breadth of specific subjects tackled in each theme.

1. **Application of biodiversity knowledge:** This theme explores social-ecological systems, marine stewardship, education, outreach and participatory programs, marine policy and law and the integration of local communities and traditional knowledge into ocean science, management, and policy.
2. **Biodiversity discovery & prediction:** This theme brings us on a journey into biodiversity discovery in frontier areas (*e.g.* polar regions, deep sea and tropics), the technologies developed to access them, and areas yet to be explored. It will also consider new methods and approaches to predict multiple facets of biodiversity. Thus, the theme will address the future of biodiversity exploration, both in the field and analytically.
3. **Biodiversity in a changing ocean - Holistic assessments:** This theme addresses the effects of global changes and human impacts (*e.g.* fishing and nutrients) on biodiversity through the lens of holistic assessments such as cumulative impacts assessments. It also explores the role of systematics in understanding ocean change and the sustained observations of life as an integral component of coastal and ocean observing systems.
4. **Biodiversity tools and data:** This theme explores the new age of open data by focusing on big vs smart data in ocean observation, new technologies for observation, data management, analysis and visualization both in space and time, novel analytical approaches, citizen science, collaborative processes and capacity building.
5. **Marine biodiversity in the Anthropocene - Drivers of change:** This theme focuses on drivers of biodiversity change in an age of rapid oceanic alterations, be it from a stressors perspective (*e.g.* invasive species and plastics) or a technological and exploitation perspective (*e.g.* blue biotechnologies and marine genetic resources).
6. **Integrative frameworks:** This theme focuses on holistic and integrative tools and approaches that consider oceans as complex and interconnected

systems, and will discuss progress and insights into indicator development, ocean connectivity, and large-scale biogeography.

7. **Linking biodiversity to ecosystem function and services:** This theme explores emerging insights on ecosystem function and services, approaches to integrated assessments, the link between ecological traits and ecosystem functions, ecosystem connectivity and resilience to climate change across spatial scales.
8. **Strategies for conservation of marine biodiversity:** This theme critically examines marine conservation paradigms and technologies aimed at protecting, monitoring and restoring ecosystems, species and genetic diversity and promoting sustainable use, from local to regional to global scales.

## **The mentoring groups**

Based on individual expertise and/or interest, mentoring groups of up to 3 mentors will pair with up to 8 early-career scientists in order to tackle theme-specific challenges. These groups will be joined by up to 2 International Leaders during the conference.

## **The journey**

### **Act I - Pre-conference**

#### **Objective: Receive challenge & begin preparations**

To kick things off, mentors and mentees will meet virtually and begin exchanging ideas two months before the conference. These exchanges will build relationships and initiate reflection on theme-specific accomplishments over the last decade. It will also set the stage for *Act II* of the challenge.

### **Act II - Conference**

#### **Objective: Panel mediation, group workshop & plenary session**

*Act II* of the challenge will take place during the conference. Mentors and mentees for each theme will meet in person and continue preparations begun during *Act I*. During this stage mentees from each team will moderate a theme-specific panel

during the nightly poster sessions. Mentees will give a **5-minute presentation** on theme-specific accomplishments over the last decade and moderate discussions on accomplishments and perspectives with conference participants. Mentoring groups will also attend theme-specific oral and poster presentations, and use that material as they tackle their own challenge.

Individual team workshops will be scheduled throughout the conference to meet and work, with the opportunity to invite and work with International Leaders. Discussions will focus on the work accomplished so far by each team and on theme-specific perspectives. These exchanges will structure *Act III* and provide material for a plenary session on the final day, where International Leaders will have the opportunity to present their thoughts on the broad topic of beyond Aichi 2020.

### **Act III - Post-conference**

#### **Objective: Perspective and synopsis papers**

*Act I* and *Act II* will have seen mentors and mentees learn and share thoughts on their respective themes, reflecting on perspectives for ocean sciences at the close of Aichi 2020. During the last stage of The Challenge, *Act III*, mentoring groups will write a short theme-specific perspective paper focused on the accomplishments of the last decade and the outlooks for the future of oceans sciences. Papers will be submitted to a special issue dedicated to the conference in Peer J for publication in July 2018. Each perspective piece will go through a peer-review process before publication.

We will invite International Leaders to work on a synopsis paper presenting the conference recommendations and ideas, and summary of the work accomplished through the mentoring program. This paper will be co-authored by all participants in the plenary presentation and mentoring program, and submitted to a high-profile journal (e.g. Nature) aiming for publication to coincide with the [G7 ministerial meeting on climate change, oceans and clean energy](#) in October 2018 and the [Fourteenth meeting of the Conference of the Parties to the Convention on Biological Diversity](#) (COP-14) in November 2018.

***Now a single question remains: do you accept the challenge?***