

UNDER THE HIGH PATRONAGE OF HSH PRINCE ALBERT II OF MONACO

2 | 3 DECEMBER 2020

ONE MONTE-CARLO CONFERENCE CENTRE

MONACO INTERNATIONAL SYMPOSIUM

# HUMAN HEALTH & THE OCEAN

IN A CHANGING WORLD

THE SYMPOSIUM  
GOES HYBRID !  
[oceanhealthmonaco.org](http://oceanhealthmonaco.org)



BOSTON  
COLLEGE



CENTRE  
SCIENTIFIQUE  
DE MONACO



FONDATION  
PRINCE ALBERT II  
DE MONACO



Gouvernement Princier  
PRINCIPAUTÉ DE MONACO



Organisation  
mondiale de la Santé



Institut  
océanographique  
Principauté de Monaco



IAEA  
International Atomic Energy Agency



CIESM  
International Centre for  
Environmental and Estuarine Science

European  
MARINE BOARD  
MARITIME AND OCEANOGRAPHY



SCRIPPS INSTITUTION OF  
OCEANOGRAPHY

Ifremer



United Nations  
Educational, Scientific and  
Cultural Organization



International  
Oceanographic  
Commission



Dear colleagues,

We are delighted to wish you a very warm welcome to the **1<sup>st</sup> International Symposium on Human Health and the Ocean in a changing world** held on December 2-3, 2020 in Monaco, further to its postponement due to the COVID-19 pandemic.

The ocean covers more than 70% of the planet's surface, regulates the Earth's climate, produces a large proportion of the oxygen in our atmosphere and is the major source of food proteins for over a billion people.

However, it is increasingly affected by global changes and degraded marine ecosystems are under persistent and growing risk of further damage from microbiological and chemical pollution, overexploitation, and climate change.

The interactions between ocean and human health are numerous, complex and yet largely unknown to the major part of the public, the stakeholders and the scientific community. While the future state of the ocean will largely determine the future health and well-being of everyone.

The purpose of the 1<sup>st</sup> International Symposium on Human Health and the Ocean in a changing world is to provide an update on the various risks human activities expose the oceans to, and the threats that those activities and the resulting ocean degradation pose to human health, but also to consider the various benefits that the Ocean can bring to the health and wellbeing of populations.

Considering the current global health situation, this 1<sup>st</sup> edition has been redesigned in order to enable our colleagues from abroad to participate from home in all the sessions. The Symposium has gone hybrid and the format has been reduced to 2 afternoons so that our colleagues from the United States and the American Continent would be on the same time zone to assist to the streamed sessions. Participants from country who will be allowed to travel to Monaco are still welcome at the One Monte-Carlo to assist live from the meeting room to all the sessions, respecting of course social distancing.

The communications will alternate mini-reviews by internationally renowned speakers - physically or virtually - and short communications open to researchers in the various fields covered.

Hoping to welcome all of you in the near future for a rich 2<sup>nd</sup> Symposium, we wish you a warm welcome to Monaco for this 1<sup>st</sup> edition – online or on site!



**Patrick Rampal, MD**  
Président du Centre Scientifique de Monaco



**Philip J. LANDRIGAN, MD, MSc, FAA**  
Directeur du Global Observatory on  
Pollution & Health Boston College

## STEERING COMMITTEE

**Dr. Patrick RAMPAL**  
Centre Scientifique de Monaco

**Pr. Philip LANDRIGAN**  
Boston College

**H.E. Bernard FAUTRIER**  
Fondation Prince Albert II de Monaco

**Mr. Olivier WENDEN**  
Fondation Prince Albert II de Monaco

**Dr. Inger ANDERSEN**  
United Nations Environment Program

**Pr. Margaret LEINEN**  
SCRIPPS Institution of Oceanography

**Pr. Frédéric BRIAND**  
CIESM

**Dr. Rick MURRAY**  
Woods Hole Oceanographic Institution

**Mrs. Minna EPPS**  
International Union for Conservation of Nature

**Dr. Maria NEIRA**  
World Health Organization

**Dr. Françoise GAILL**  
Centre National de la Recherche Scientifique

**Pr. Philippe TAQUET**  
Institut Océanographique Fondation Albert I<sup>er</sup>

**Pr. François HOULLIER**  
IFREMER

## SCIENTIFIC COMMITTEE

**Pr. Lora E. FLEMING**  
European Centre for Environment & Human Health

**Pr. John STEGEMAN**  
Woods Hole Oceanographic Institution

**Pr. Denis ALLEMAND**  
Centre Scientifique de Monaco

**Mrs. Molly AHERN**  
Food and Agriculture Organization

**Pr. Catherine Drew HARVELL**  
Cornell University

**Pr. Donald ANDERSON**  
Woods Hole Oceanographic Institution

**Dr. Patrick LANDAIS**  
Ifremer Scientific Council

**Dr. Philippe CURY**  
Institut de Recherche pour le Développement

**Dr. Niall McDONOUGH**  
Foras Na Mara Marine Institute

**Dr. Susan GARDNER**  
United Nations Environment Program

**Dr. Philippe MONDIELLI**  
Fondation Prince Albert II de Monaco

**Dr. Laura GIULIANO**  
CIESM

**Pr. Joacim ROCKLÖV**  
Umeå University

## ORGANIZING COMMITTEE

**Dr. Hervé RAPS**  
Centre Scientifique de Monaco

**Dr. Lucile COURTIAL**  
Fondation Prince Albert II de Monaco

**Dr. Christophe DUHEM**  
Thermes Marins Monte-Carlo

**Mrs. Benedetta SARTORI - Mrs. Jessica HERVIUO**  
Publi Créations

# PROGRAM DAY 1

WEDNESDAY, DECEMBER 2<sup>ND</sup>

12:30-14:00 WELCOME LUNCH

14:30-15:00 WELCOME CEREMONY

Pr. Patrick RAMPAL - Pr. Philip LANDRIGAN - Mr. Olivier WENDEN

15:00-16:00 **SESSION 1: OCEAN HEALTH AND THREATS TO HUMAN HEALTH**

CHAIRPERSONS: Mr. Olivier DUFOURNEAUD - Dr. Françoise GAILL

**MINI-REVIEW (3 x 15')**:

- **OVERVIEW OF OCEANS AND HUMAN HEALTH**

Pr. Lora FLEMING - *European Centre for Environment & Human Health*

- **CLIMATE CHANGE, MARINE EXTREME EVENTS AND HUMAN HEALTH**

Dr. Françoise GAILL - *Ocean & Climate Platform*

- **CLIMATE CHANGE AND MARINE PATHOGENS**

Pr. Rita R. COLWELL - *University of Maryland*

**Short communications (3 x 5')**:

- **Operationalizing ocean health**

Dr. Andrea FRANKE - *Helmholtz Institute, University of Oldenburg*

- **The IAEA marine environment laboratories in Monaco: a roadmap of science to address human health and our oceans**

Mrs. Florence DESCROIX-COMANDUCCI - *International Atomic Energy Agency (IAEA)*

- **Impact of climate induced salinity on women and adolescent reproductive health along the bay of Bengal coast of Bangladesh**

Mr. Abdur Rahman MUHAMMAD

*Climate Change Adaptation Mitigation Experiment & Training (CAMET) Park*

16:00-16:30 COFFEE BREAK



# PROGRAM DAY 1

## 16:30-17:15 **SESSION 2: OCEAN HEALTH AND BENEFITS TO HUMAN HEALTH – Part 1**

**CHAIRPERSONS:** Pr. Sheila HEYMANS - Pr. Denis ALLEMAND

### **MINI-REVIEW (3 x 15'):**

- **THE OCEAN, A RESERVOIR OF ACTIVE BIO-MOLECULES**  
Pr. William H. GERWICK - *Scripps Institution of Oceanography*
- **NUTRITIONAL BENEFITS OF SEAFOOD**  
Pr. Philip CALDER - *University of Southampton*
- **OVERVIEW OF “BLUE” HEALTH/WELLBEING EVIDENCE**  
Dr. Mathew WHITE - *University of Vienna*

## 17:15-17:45 **COFFEE BREAK**

## 17:45-18:00 **SESSION 2: OCEAN HEALTH AND BENEFITS TO HUMAN HEALTH – Part 2**

**CHAIRPERSONS:** Pr. Sheila HEYMANS - Pr. Denis ALLEMAND

### **Short communications (3 x 5'):**

- **Marine bacterial exopolysaccharides as a source of glycosaminoglycan (GAG)-mimetics for cancer therapy**  
Dr. Sylvia COLLIEC-JOUAULT - *Ifremer*
- **dCOD 1.0: Decoding ocean health through a systems toxicology approach**  
Pr. Anders GOKSØYR - *University of Bergen*
- **Maintaining contact with blue-green spaces during the COVID-19 pandemic associated with positive mental health**  
Pr. Sarai POUSO - *AZTI, Marine Research, Basque Research and Technology Alliance (BRTA)*

## 18:00-18:30 **ALEKSANDR SAVCHUK FOUNDATION AWARDS CEREMONY**

## 18:30-19:30 **WELCOME COCKTAIL**

Offered by the Direction of Tourism and Congresses of Monaco

# PROGRAM DAY 2

THURSDAY, DECEMBER 3<sup>RD</sup>



10:30-11:00 WELCOME COFFEE

11:00-12:00 PRESS CONFERENCE (On Invitation)

12:30-14:30 LUNCH

## 15:00-16:00 SESSION 3: OCEAN POLLUTION AND HUMAN HEALTH - Part 1

CHAIRPERSONS: Dr. Laura GIULIANO - Pr. Patrick RAMPAL

### MINI-REVIEW (3 x 15')

- **MICROORGANISMS**

Dr. Rachel NOBLE - *University of Northern Carolina*

- **HARMFUL ALGAL BLOOMS**

Dr. Marie-Yasmine DECHRAOUI BOTTEIN - *IOC-UNESCO*

- **MERCURY, LEAD AND OTHER METALS**

Dr. Pál WEIHE - *Faroese Hospital System*

### Short communications (3 x 5')

- **New approaches to harmful algal bloom (HAB) research and monitoring using in situ autonomous biosensors**

Pr. Donald ANDERSON - *Woods Hole Oceanographic Institution*

- **Transcriptomic analysis of vibrio vulnificus response to wastewater treatment plant effluent exposure**

Ms. Karlen CORREA VELEZ - *University of South Carolina*

- **Open network for water-related diseases (onward)**

Dr. Shubha SATHYENDRANATH - *Plymouth Marine Laboratory*

16:00-16:30 COFFEE BREAK



# PROGRAM DAY 2

16:30-17:30

## SESSION 3: OCEAN POLLUTION AND HUMAN HEALTH - Part 2

CHAIRPERSONS: Dr. Laura GIULIANO - Pr. Philip LANDRIGAN

### MINI-REVIEW (3 x 15')

- **PERSISTENT ORGANIC POLLUTANTS, PESTICIDES AND OTHER CHEMICALS**  
Pr. John STEGEMAN - *Woods Hole Oceanographic Institution*
- **PLASTICS AND MICRO DEBRIS**  
Pr. Richard THOMPSON - *University of Plymouth*
- **HEALTH EFFECTS OF CHEMICAL POLLUTANTS**  
Pr. Patrick FENICHEL - *University of Nice*

### Short communications (3 x 5')

- **Association between exposure to persistent organic pollutants and mercury, and glucose metabolism in Inuit Nunavik**  
Dr. Sylvaine CORDIER - *University of Rennes*
- **A joint one health of marine environment initiative: MARCO PROJECT**  
Dr. Anne BRISABOIS - *ANSES, Maisons-Alfort*
- **New toolbox to study of microplastics in the marine environment using nuclear and isotopic techniques**  
Dr. Rafael BERMUDEZ - *IAEA, Environmental Laboratories*

18:00-19:00

## OCEAN POLLUTION AND HUMAN HEALTH REPORT

CHAIRPERSONS: Pr. Patrick RAMPAL - Pr. Philip LANDRIGAN - Mr. Olivier WENDEN



CENTRE COLLABORATEUR DE  
L'OMS POUR LA SANTÉ ET LE  
DÉVELOPPEMENT DURABLE



8, Quai Antoine 1<sup>er</sup> - MC 98000 MONACO

Tél. +377 98 98 86 60

centre@centrescientifique.mc

www.centrescientifique.mc

<http://www.oceanhealthmonaco.org>

[oceanhealthmonaco@publiccreations.com](mailto:oceanhealthmonaco@publiccreations.com)



ORGANIZATION



Publi Créations

