### MEMORANDUM OF UNDERSTANDING

#### Between

Indian Institute of Science Education and Research Kolkata (India)

### and

A.V. Zhirmunsky National Scientific Center of Marine Biology of the Far Eastern Branch of Russian Academy of Sciences (NSCMB FEB RAS) (Russian Federation)

A.V. Zhirmunsky National Scientific Center of Marine Biology of the Far Eastern Branch of Russian Academy of Sciences (hereinafter referred to as NSCMB FEB RAS), represented by the Acting (Interim) Director Prof. Inessa V. Duyizen, acting under the power of the Attorney, and Indian Institute of Science Education and Research Kolkata (IISER Kolkata) (hereinafter referred to as IISER Kolkata), represented by the Director Professor Sourav Pal, acting under the power of the Statute, hereinafter referred to collectively as the "Parties", and individually as the "Party" admit the value of educational, cultural, and scientific exchanges among international research institutions, and have determined that sufficient interest exists to establish this formal understanding.

### SCOPE

NSCMB FEB RAS and IISER Kolkata, hereby endorse the establishment of Centre for Excellence in Blue Economy (hereinafter referred to as CoE-BE).

# BACKGROUND OF CoE-BE

Oceans and coastal zones historically have been significant arena for cooperation and creation of new value. The Governments of India and Russia have a long standing diplomatic, cultural and scientific relationships encompassing different arenas that span more than seven decades. The importance of coastal ocean has been a focus of both the countries to develop sustainable scientific, social and economic issues between the two countries. The Bay of Bengal large marine ecosystem (LME) harbors rich coastal biotopes such as mangroves, lagoons, estuaries and intertidal zones. More than 400 million people in the Bay of Bengal region are dependent on rich marine resources including for food, livelihood and security. This LME ranks has a very high-revenue generation in terms of fishing based on yearly average total ex-vessel price of US 2013 \$5 891 million for the period 2001-2010. Moreover,

vi. exchange of academic materials, publications, bulletins, and other information;

vii. organization and implementation of joint information activities (presentations of CoE-BE educational programs, consulting and information meetings with potential applicants, informational support;

viii. special short-term programs and visits under the aegis of CoE-BE.

### BROAD AREAS OF CO-OPERATION UNDER COE-BE

Upon mutual agreement, research may be conducted in fields of current research as detailed below and those to be undertaken in the future in areas of common interest under the aegis of CoE-BE:

- (i) Marine Ecosystems and Biodiversity
- (ii) Marine Biogeochemistry and Marine Natural Products
- (iii)Coastal Aquaculture and Cage Culture Technologies
- (iv) Marine Environmental Monitoring and Automation including Sensors
- (v) Climate Change and Sustainable Blue Economy

### THE LEADERS AND FINANCIAL STANDING OF COE-BE

The scientific-business trips and needs of the participants of CoE-BE can be supported by joint projects between Indian and Russia and by governmental/intergovernmental programs. The CoE-BE will have two leaders - one from the Indian side from IISER Kolkata and one from the Russian side from NSCMB. These leaders of CoE-BE will explore financial components following each Institute mandated mechanism and through channels between the two countries to achieve the broad goals.

As Coordinators for this Memorandum of Understanding, the following are appointed:

### On behalf of NSCMB FEB RAS:

Acting Director Professor Inessa V. Dyuizen e-mail: duval@mail.ru

## On behalf of (IISER Kolkata):

Director
Professor Sourav Pal
email: director@iiserkol.ac.in

This memorandum may be terminated et the request of the either institution, provided that such request is made in writing for at least 2 (two) months before termination is to become effective.

This document, in both English and Russian, is signed in duplicate, with originals retained by each Party.

From

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Date:01.12.2021

From

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Director, Professor Sourav Pa

Date

Prof. Sourav Pal

निदेशक / Director

भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान कोलकाता Indian Institute of Science Education and Research Kolkata (Under Min str. of Education, Govt. of India)

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