## **MEMORANDUM OF UNDERSTANDING**

## between

# INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH- KOLKATA INDIA

### and

# S.N. BOSE NATIONAL CENTRE FOR BASIC SCIENCES KOLKATA, INDIA

#### Preamble

Indian Institute of Science Education and Research Kolkata (IISER-K), established by the Ministry of Human Resource Development in 2006 and promoted to the status of an Institute of National Importance in 2012 vide the NIT Amendment Act. Apart from excellence in undergraduate and postgraduate programmes, a considerable amount of cutting edge interdisciplinary research and development programme is currently underway involving various Departments, Centers and Schools of IISER-K.

S.N.Bose National Centre For Basic Sciences (SNBNCBS), founded in 1986. The Centre is a premier autonomous research centre fully aided by the Department of Science and Technology, Government of India. In addition, the Centre receives extramural funding from various funding agencies of India and abroad for its different research programmes. The Centre has extensive collaborative programmes with other premier institutions in India and abroad through bi-lateral exchanges in which the PhD research scholars take active part. The Centre is fully equipped with the state-of-the art infrastructure (experimental and computational) including a digital library for advanced research in chosen areas of Physical, Chemical, Biological and Mathematical Sciences. At present, the Centre has nearly 180 students in its Post-M.Sc-PhD (PhD) and Post-B.Sc Integrated PhD (IPhD) programmes. The Alumni of the Centre have gone on to work in various academic and research sectors in India and abroad.

IISER –K and SNBNCBS have agreed for institutional collaboration in research. The primary objective is to promote interaction and collaboration between faculty and students of the two institutions to carry out joint research programmes / joint supervision of doctoral students on reciprocal basis, and collaborative research projects. This document presents a general framework for such a relationship. It

also includes some specifically identified areas of cooperation, which may be updated from time to time as agreed by the two parties.

#### Coordination

Both the parties shall appoint one member of its teaching /research faculty to coordinate the programme on its behalf. Further, a coordination committee consisting of a programme coordinator from either side will periodically review and identify ways to strengthen cooperation between the institutions.

#### Scope of Cooperation

The following areas of cooperation have been identified under this agreement.

- (i) <u>Joint PhD Programme</u>: In order to promote collaboration, one faculty member from SNBNCBS and one from IISER-K, based on their common research interest, may supervise a PhD student admitted at SNBNCBS who is willing to do research for the degree conferred by IISER-K in association with SNBNCBS. During their research tenure of five years, SNB scholar to be known as Collaborative Research Scholar(CRS) both at SNBNCBS & IISER –K.
  - Students admitted at SNBNCBS would complete one year coursework at the Centre. During this one year SNB supervisor shall collaborate with IISER- K faculty member upon mutual interest for joint supervision.
  - Student must undergo necessary PhD. coursework (16 credits) or as per IISER –K requirement to acquire comprehensive understanding of the overall discipline out of which SNB students will complete Research Methodology Course as part of their Phd. Course work which is having total of 8 Credit at SNBNCBS.
  - Upon completion of one year as research student at SNBNCBS, a
    Comprehensive Examination of the student shall take place at IISER
    K before the Joint Research Progress Committee (JRPC) .

- The Joint Research Progress Committee (JRPC) would consist of supervisors, one member from IISER K and one member from SNB as recommended by the respective head of departments from each institute.
- On the recommendation of the JRPC, Phd. Registration of the student would be done at IISER –K.
- Additional courses, If any, for completion of Phd coursework of the Student will be decided by the respective joint supervisors. (as per norms of IISER K)
- Based on the requirement for the completion of the Phd. coursework, student can stay at the IISER –K hostel, if seat is available, by paying requisite charges.
- Upgradation examination would take place before completion of 2 yrs.
  tenure as JRF on a mutually agreeable terms & conditions at SNBNCBS/ IISER –K.
- SRF upgradation interview as well as pre submission open seminars would be initiated on the recommendation of the JRPC.
- Annual evaluation before the JRPC would take place yearly on a convenient date and place for each scholar. The report to be submitted in the appropriate office.
- Fellowship would be provided by SNBNCBS as per GOI norms. In case of externally funded students, necessary official assistance will be given by SNBNCBS.
- Contingency: would be as per SNB rule / as per rule of the funding agency.
  Consumable required for experimental/ theoretical/computational uses may be used from contingency grant.
- Resources to be used for experimental purposes at both institutes are chargeable & would be paid by the users.
- Thesis submission procedure will be arranged by the IISER-K. However requisite thesis submission fee will be provided by the student.
- Thesis evaluation fees and PhD. Viva voce examination fee to be borne by the student.

- (ii) <u>Joint Research Projects:</u> The two parties will explore opportunities of undertaking joint research projects and may seek research funding from external funding agencies. Each such research proposal shall require approval of the respective institutions.
- (iii) <u>Joint Resource Sharing</u>: Experimental Resource sharing would be made on a mutually agreeable terms and conditions.
- (iv) <u>Joint Discussion Meeting</u>: To create a common shared base of expertise & to initiate more intense research in specific focus area joint discussion meeting may be held.
- (v) <u>Faculty Exchange Programme</u>: The two parties will explore opportunities for interaction among members of the faculty as well as creating Visiting Faculty positions/ Adjunct Faculty position including teaching courses. The total duration of visits from each side is expected to be comparable. Visit from each side require approval of the respective institutions.
- (vi) <u>Joint outreach programme:</u> Based on the mutual interest joint outreach programe may be conducted to have greater visibility and reachbility.

The areas of cooperation may be revised by mutual consent. However, specific programmes may require separate agreements detailed out.

#### Intellectual Property

Each institution will adhere to the intellectual laws of India. Intellectual property developed during the visit of an exchange student/researcher/faculty will be governed by the rules of the host institute unless otherwise specified. The two institutions shall jointly own results of clearly defined collaborative projects and exchange programmes. This joint ownership also entitles each party to explore

commercialization. However, transfer of jointly developed technology and associated sharing of revenue shall be governed by a separate agreement.

Furthermore, if one institution receives any information from the partner under a clearly defined non-disclosure agreement, necessary and reasonable care will be taken to protect the intellectual property received.

#### Financing

The two institutions will consider allocating seed money to initiate this partnership. In addition they will also approach their respective Ministries in the Central Government. Special attention will be given to obtain funded projects from industry as well as from alumni to support such collaborations.

Students/ Scholars admitted to this programme under this MOU shall pay semester wise registration fee & Tuition fees as per IISER –K fees structure till the completion of PhD. tenure or upto the time of their thesis submission, which ever is earlier. No additional fees are chargeable. However, Thesis evaluation fee and viva voce fee would be borne by the student.

Travel expenses for faculty shall be borne by the home institution in the exchange programme. However, various external funding sources may be explored either independently or jointly.

#### Legal Status

This document is a statement of intent to foster genuine and mutually beneficial cooperation and is not legally binding on both the parties. Any disputes shall be resolved through mutual discussion.

#### Validity

This agreement is valid for an initial period of ten years and becomes effective from the date it is signed by the partners. The partnership period may be extended by mutual consent. In case one partner wishes to terminate the MoU, intimation will have to be sent at least six months in advance. However, specific commitments made prior to such intimation shall be honored by both the partners.

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Prof. Samit Kumar Ray Director

S.N.Bose National Centre For Basic Sciences

Kolkata, India Date :\_\_\_\_

16.12.2020

प्रो. समित के. राय / Prof. Samit K. Ray निदेशक / Director एस. एन. बसु राष्ट्रीय मौलिक विज्ञान केन्द्र S. N. Bose National Centre for Basic Sciences साल्ट लेक, कोलकाता - 700 108 Salt Lake, Kolkata - 700 106 Prof. Souray Pal

Director

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Date: 16/12/2020

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