#### MEMORANDUM OF UNDERSTANDING

### BETWEEN



# SEMI-CONDUCTOR LABORATORY DEPARTMENT OF SPACE, GOVERNMENT OF INDIA S.A.S. NAGAR

**AND** 



## HERITAGE INSTITUTE OF TECHNOLOGY KOLKATA

**FOR** 

COLLABORATION ON RESEARCH AND DEVEOPMENT,
FACULTY AND STUDENT EXCHANGE

#### MEMORANDUM OF UNDERSTANDING

In furtherance of their mutual interest in the fields of education and research and as a contribution towards increased national cooperation, Semi-Conductor Laboratory, Department of Space, Government of India, Sector 72, S.A.S. Nagar – 160071, Punjab, India (hereinafter referred to as SCL) and Heritage Institute of Technology, 994, Madurdaha, Chowbaga Road, Anandapur, P.O. East Kolkata Township, Kolkata – 700107, West Bengal, India (hereinafter referred to as HITK) have entered into this Memorandum of Understanding (MOU) in the month of August 2017 as set forth below:

#### ARTICLE I

The MOU involves collaboration between SCL and HITK (both also referred to as institution) in related disciplines.

The two institutions shall seek to promote:

- 1. Exchange of Staff and Students (Faculty & Research Scholars; Under Graduate, Post Graduate & Doctoral Students and Research Project Employees) regarding Academics and Research for the mutual benefit of both institutions.
- 2. Exchange of Students for pursuing Courses of Study and Academic Programmes for mutual benefit of both institutions.
- 3. Collaboration in Teaching, Research & Development and Consultancy Activities.
- 4. Exchange of Academic & Research Material and Publications/IPs.
- 5. Cooperation in Projects and Research Activities of mutual interest.
- 6. Provision of Cultural and Intellectual enrichment opportunities for the Staff and Students of both institutions.
- 7. Collaboration in Research & Development in the areas of (i) Advanced VLSI Device Fabrication, (ii) MEMS Fabrication, (iii) VLSI Device/ MEMS Characterization, (iv) VLSI/CMOS-RF Circuit Design and(v) VLSI Device Modeling at both HITKand SCL. This also includes collaboration in setting-up and upkeep of the relevant infrastructure in both the institutions.
- 8. Publication of Research Papers in International Scientific Journals and in the Conferences.
- 9. Exchange of Students for Summer/Winter Internships
- 10. Publication of Intellectual Properties (IPs) developed jointly through Project/ Research Collaboration. Such IPs would acknowledge joint inventor-ship of Personnel/Students belonging to both the institutions, as applicable.
- 11. Writing Books/Booklets jointly in the areas of mutual interest.

#### ARTICLE II

The activities under this MOU will include:

#### 1. Staff Exchange

Staff Exchange activities cover visits to either institution for any of the following purposes:

- (i) Undertaking Joint Research
- (ii) Attachment of Staff for purposes of Curriculum Development & Review, Attendance in Courses and Upgrading of Teaching & Research Skills
- (iii) Participation in Seminars, Colloquia and other types of academic discussions
- (iv) Contributions to Teaching Programmes
- (v) Co-supervision of Post Graduate Students
- (vi) Conduct study tours, joint consultancy and research work.
- (vii) Facilitation for pursuing Academic Courses (Post Graduate & Doctoral) for Department of Space / SCL Employees at HITK.

#### 2. Student Exchange:

Student Exchange activities (for Under Graduate, Post Graduate & Doctoral Students) cover visits to either institution for any of the following purposes:

- (i) Participation in Research
- (ii) Internships for HITKStudents at SCL

#### 3. Exchange of Academic Materials:

Exchange of relevant Academic Materials will be carried-out subject to mutual agreement of both institutions.

#### ARTICLE III

Implementation of cooperation based on this MOU shall be dealt with between the relevant Faculties and Divisions/ Departments of both institutions. Wherever necessary, a specific plan shall be worked-out for each activity setting-forth detailed arrangements for collaboration. Such plans shall be subject to approval of the appropriate authorities of each institution. To facilitate development of such plans, each institution shall nominate a member of its staff to coordinate activities arising under this MOU.

#### ARTICLE IV

Both institutions agree and undertake to keep confidential at all times information and/or data that may be exchanged, acquired and/or shared in connection with the area of cooperation, as mentioned above, unless otherwise the same information already exists in the public domain.

#### ARTICLE V

Ownership of findings of any joint research shall be vested in both institutions to this MOU and any publications regarding the same shall only be possible after prior approval from both institutions.

#### ARTICLE VI

The MOU shall remain in force for a period of 10 (TEN) years commencing from the date of signing and may be reviewed by mutual consent by serving 3 (Three) months written notice to the other institution. Upon renewal, both institutions shall select either to proceed with the existing or new terms of understanding.

#### ARTICLE VII

Both the SCL and HITK reserve the right to terminate this MOU by either institution giving 3 (Three) months written notice to the other. Where such termination occurs, the provisions of this MOU shall continue to apply to ongoing activities until their completion.

#### ARTICLE VIII

Participating staff and students involved in any activities under this MOU must adhere to the law of the country and the rules &regulations of the host institutions.

#### **ARTICLE IX**

SCL and HITK welcome establishment of this MOU for cooperation and jointly agree to provisions as set out above. There are two copies of this MOU equally valid, one for each institution, effective after its signing by authorized signatories.

**Semi-Conductor Laboratory** 

Dr. Surinder Singh, Director सरिन्दर सिंह / Surinder Singh

निवेशक / Director सेमी - कंडक्टर ले**बोरेटरी** Semi-Conductor Laboratory अंतरिक्ष विभाग, भारत **सरकार** Department of Space, Govt. of India सेरोस 128आ.अ.सि. चुरस-15907ा, पंजाब, भारत

Date:

Sector-72, S.A.S. Mac

08 08 17

ग्रुप प्रमुख-परियोजना नियोजन ग्रुप Group Head-Project Planning Group सेमी-कंडक्टर लेबोरेटरी Semi-Conductor Laboratory अंतरिक्ष विषाग, षारत सरकार Department of Space, Government of India

r-160071, Punjab, INDIA

Heritage Institute of Technology, Kolkata

Prof. (Dr.) Pranay Chaudhuri, Principal

Principal

Beritage Institute of Technology

Witness

Registrar
Heritage Institute of Technology

Date:

#### **Abstract of the MOU**

- Collaboration in Research &Development in the areas of (i) Advanced Micro sensor/ device Fabrication, (ii) MEMS Fabrication, (iii) VLSI Device/ MEMS Characterization, (iv) CMOS-RF Circuit Design and(v) Micro- Device Modeling at both HITK and SCL. This also includes collaboration in setting-up and upkeep of the relevant infrastructure in both the institutions.
- 2. Exchange of Students for Summer/Winter Internships.
- 3. Facilitation for pursuing Academic Courses (Post Graduate & Doctoral) for Department of Space / SCL Employees at HITK.