

MEMORANDUM OF UNDERSTANDING

between

**INDIAN INSTITUTE OF TECHNOLOGY
KHARAGPUR, INDIA**

and

TATA MEDICAL CENTER, KOLKATA, INDIA

Preamble

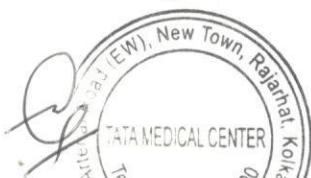
Indian Institute of Technology Kharagpur (IITKGP), founded in 1951, is the first of the IITs to be established and is an institute of National Importance as recognized by the Government of India. Apart from excellence in undergraduate and postgraduate programmes, IITKGP has a long history in cutting edge research and development. Considerable amount of interdisciplinary research is currently underway involving various Departments, Centers and Schools in IITKGP.

The Tata Medical Center (TMC) was inaugurated in 2011. TMC vision includes excellence in clinical services, improving medical education in India along with cutting edge patient centric clinical research. TMC's stated mission is to promote the prevention and cure of cancer patients and provide rehabilitation and palliative care to them. TMC is managed by the Tata Medical Center Trust, which has been formed for this purpose. The center has outpatient, inpatient, therapeutic, diagnostic, telemedicine and other services. TMC has state-of-the-art equipment to ensure top-notch diagnostic and treatment services. It has disease management teams with experts from different areas of expertise, such as surgery, radiation oncology, medical oncology, pathology, radiology, psychiatry and medical social work.

IITKGP and TMC have agreed for institutional collaboration in education, research and outreach programmes. The primary objective is to promote interaction and collaboration between faculty, medical professionals and students of the two institutions to carry out joint academic and research programmes, joint supervision of undergraduate, masters and doctoral students on a 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.

Coordination

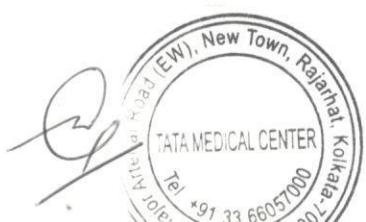
Dr. Sanjoy Chatterjee and Dr Soumendranath Ray shall be the Coordinators from TMC and Prof. Suman Chakraborty, Department of Mechanical Engineering, shall be the Coordinator from IITKGP. The participants and Coordinators may change from time to time as decided by appropriate authority of the respective institutions.



Scope of Cooperation

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

- (i) Coordinated graduate degree programme: Masters/ PhD programmes may be explored and formulated, with or without the association with other reputed academic, research or medical organisations. A detailed document related to such programmes will be required and approved by the competent authorities of both the institutions, before implementation. A short summary is given in Annexure 1.
- (ii) Coordinated certification programme/ Outreach: Certification programmes for professionals working in the relevant domains may be explored and formulated. A detailed document related to such programmes will be required and approved by the competent authorities of both the institutions, before implementation. A short summary is given in Annexure 2.
- (iii) Joint supervision of Masters/PhD: In order to promote collaboration, faculty members from IITKGP and medical scientists/ professionals from TMC, based on their common research interest, can jointly supervise Masters/PhD students.
- (iv) Joint research projects: 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.
- (v) Exchange of Faculty/ Scientists/ Researchers/ Students/ Fellows: The two parties will explore opportunities for interaction among the scientists, members of the faculty, as well as creating Visiting Faculty/ Visiting Scientist positions. The total duration of visits from each side is expected to be comparable. Similar exchange visits will be explored for students and Fellows. Each such visit shall require approval of the respective institutions.
- (vi) Use of laboratory facilities and sharing of data: The two parties will explore the use of each others' laboratory facilities and exchange of data, for education and research purpose, on mutually agreeable terms and conditions. Each party agrees to take appropriate measures for ensuring protection and privacy of the data shared in the process.



The areas of cooperation may be revised by mutual consent. However, specific programmes may require separate agreements detailed out and documented as annexures to this MoU.

Intellectual Property

Each institution will adhere to the intellectual laws of India. Intellectual property (IP) 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 the parties to explore commercialization. However, transfer of jointly developed technology and associated sharing of revenue shall be governed by a separate agreement. The IP filing, maintenance and protection costs shall be shared by both institutions.

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 shall bear the costs of their respective parts of this programme, and will consider allocating seed money to initiate this partnership. For the joint endeavours, they will try to raise funding from various sources including but not limited to fees, Trusts and Foundations (for example, TATA Trust), Government and other bodies. Special attention will be given to obtain funded projects from public and private bodies as well as from alumni to support such collaborations.

Students admitted to this programme under this MoU shall pay fees as per IITKGP rules. Travel costs for faculty shall be borne by the home institution. 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 MoU is valid for an initial period of five years and becomes effective from the date it is signed by the partners. The MoU 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 or natural expiry of this MoU shall be honoured by both the parties.



Dr. Mammen Chandy
Director
Tata Medical Centre
Kolkata, India

Date : 19. 09. 2017

Dr. Mammen Chandy
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Director
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Prof. Partha Pratim Chakrabarti
Director
IIT Kharagpur
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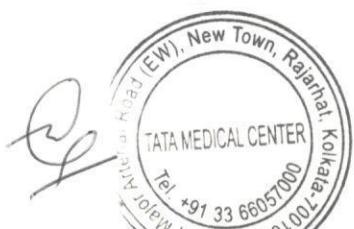
Date : 27. 11. 17

Prof. Partha P. Chakrabarti
Director
Indian Institute of Technology Kharagpur
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ANNEXURE 1: COORDINATED DEGREE PROGRAMMES

GOALS, FORMS OF COOPERATION AND GENERAL GUIDELINES

- A Ph.D. programme and an Integrated M.Sc. - Ph.D. programme shall be developed, following the relevant Institutional guidelines. The curricula and the syllabi are to be approved by the relevant statutory bodies of IITKGP. Both institutions will also aspire to get accreditation of the MSc program from the national regulatory authorities as and when applicable.
- The Integrated M.Sc. – Ph.D. programme will initially (first phase) focus on the following three areas: (1) Medical Physics (2) Nuclear Medicine (3) Molecular Medical Microbiology. For the Ph.D. programme, the area will be defined based on the interest and expertise of the Supervisor, the Co-Supervisor(s) and the student.
- The admission criteria will be based on the norms approved by the relevant statutory academic bodies of IITKGP in conjunction with TMC Kolkata.
- The academic programme will be jointly developed by TMC and IITKGP, and will need to be approved by the relevant statutory academic bodies of IITKGP in conjunction with TMC Kolkata.
- The academic rules and regulations of IITKGP, and all future revisions thereof as and when enacted, are to be followed for both the programmes. Any specific modifications need to be approved by the competent authorities of IITKGP in conjunction with TMC Kolkata.
- In the first academic year, students will visit both the Institutes. They will spend at least one semester (or a cumulative time of about six months) at each Institute during the first year of study. Beyond the first year, the students will be encouraged to visit and spend time at each Institute regularly.
- There will be compulsory core courses and elective courses in the curriculum. The specific elective courses will be offered from a common list.
- For the integrated MSc-PhD programme, up to two faculty member(s) from IITKGP and up to two scientist/physician(s) from TMC, based on their expertise and common research interest, will jointly supervise the student - (preferably) both on master's and doctoral research (provided the student decides or is allowed to continue for his/her PhD after 2 years, as described below).



- For the PhD programme, up to two faculty member(s) from IITKGP and up to two scientist/physician(s) from TMC, based on their expertise and common research interest, will jointly supervise the student on research. The DSC will be constituted with faculty members of IITKGP as per existing rules; in addition, supervisor(s) from TMC will also be part of the DSC.
- The examination pattern, schedule and grading to be governed by the rules and regulations of IITKGP.
- The final degree will be awarded by IITKGP. However, the final degree certificate will mention the involvement of TMC in the proposed programme.
- The Grade Cards and degree certificates are to be issued by IIT Kharagpur as per their approved formats for such programmes.
- A student admitted to the Integrated M.Sc.-Ph.D. programme can either leave with the M.Sc. degree after the fourth semester or join the Ph.D. programme if he/she satisfies the following criteria
- The student must express, in writing, his (or her) willingness to continue with Ph.D before the end of 3rd Semester. A minimum CGPA at the end of 2nd semester as per prevailing rules will be required in order to be eligible for continuation with PhD. Grades are also to be considered as per IITKGP rules.
- A successful Integrated M.Sc.-Ph.D. student will be awarded two degrees (M.Sc. and Ph.D.) simultaneously. Hence a student shifting to the Ph.D. programme will not be listed as a recipient of M.Sc. degree in the following Convocation. However, each such student will be given the Final Grade Card of the 4-semester M.Sc. degree **and will be considered for all Institute medals.**
The provisional certificate for completion of M.Sc. programme will be issued to the successful candidates after the PhD registration. If, after joining, a student discontinues the Ph.D. programme, then the degree of M.Sc. will be awarded in the subsequent Convocation. In that case the student will be given Provisional Certificate at the time of discontinuing the programme and the student will be admitted to the Degree in the next Convocation. All the rules existing for the Ph.D. programme with regard to admission, enrollment, comprehensive examination, registration, and award of degree, etc. are applicable to these students.
- The PhD programme will be governed by existing rules of IITKGP (revised from time to time as necessary by statutory bodies).



- Practical programs requiring clinical infrastructure will be performed in TMC Kolkata
- As and when needed certain theory classes could also be hosted at TMC Kolkata
- Reservation will be as per MHRD rules.



ANNEXURE 2: OUTREACH

- The outreach courses offered will consider the possibility of conducting customized training modules as per requirement of the organization to cater to specific needs.
- Courses may be conducted with faculty from both Institutions. The details of courses/training required will be intimated in due course in order to connect with the faculty member having the associated expertise.
- Academic norms of IITKGP will be followed, wherever applicable.
- Certification programmes may be conducted in the following ways:
 - a) Direct contact programmes
 - b) Laboratory based programmes
 - c) Live streaming of video
 - d) Visit of faculty to the Institute to conduct the course
 - e) Distance mode
- Some of the present courses being offered by IITKGP including Microspecialization and Microcredit courses may also be explored for the Coordinated Certification programme.
- Each Micro-Specialization has a defined structure in terms of three sequential components:
 - a) Component-I – One Foundation Course (2-4 credits) that constitutes a Mandatory Requirement and also a Pre-Requisite for subsequent Components.
 - b) Component-II- One/Two subjects (3-4 credits each) from a Specified list of subjects.
 - c) Component-III- Project/Design/Term Paper (4 credits) OR one subject (4 credits) from a Specified list.
- A student would be required to complete 3-4 subjects (10-14 credits) from the specified list in order to earn a Micro-Specialization. A student has to register for a Micro-Specialization.
- Micro credit subjects can also be a part of Micro-specialization.
- *Micro-credits* can be earned by attending lectures or working on design and/or laboratory components. The duration of micro-credit courses are 3-14 days that include a lecture and/or laboratory components.
- Eminent visiting experts, from academic institutions, medical or research organizations, or industry are normally associated with a faculty member from IITKGP to teach in these courses.

