

# **Memorandum of Understanding**

**Between**

**Siddaganga Institute of Technology, Tumkur**

**and**

**Tumkur University, Tumkur, Karnataka**

**for**

**Collaborative Research and Development**

## **1. Purpose, Objectives and Goals:**

**1.1. Purpose.** This Memorandum of Understanding (MoU) establishes the framework for collaborative research and development (R&D) (hereafter called "Collaboration") between Siddaganga Institute of Technology (hereafter called "SIT"), Tumkur, an autonomous college of engineering affiliated to Visvesvaraya Technological University, Belgaum, Karnataka and Tumkur University (hereafter called "TU"), Tumkur, a university engaged in the education of science, technology, social sciences and humanities.

Collaborations under this MoU are focused on, but not limited to, R&D in nano-materials, nano-electronics and nano-medicine, visiting faculty or R&D assignments, M.S./Ph.D. programs and other programs in mutually agreed upon from time to time. The MoU is intended to expedite R&D of new methods and technologies that can be implemented in support of TU missions as well as authorized organizations to enhance nation's nano-science and nano-technology capability, skilled human resource, economic growth, and defense preparedness. It is also aimed at enhancing the quality of research and education at SIT and TU.

Both SIT and TU believe that this Collaboration will contribute to more efficient resource utilization, avert or minimize duplication, and accelerate methods and technology advancement in nationally critical areas in science and engineering (S&E) education. The two organizations further believe that successful Collaboration will leverage beneficial results via method and technology transfer, education, and training.

**1.2. Objectives.** SIT and TU will work collaboratively to expedite development of methods and technologies that are needed to address the critical national needs.

### **1.3. Goals.**

i. Identify methods and science/technology needs, formulate research and development projects that address our national needs, and establish arrangements that describe how personnel and resources of SIT and TU will be effectively utilized to perform research and development projects addressing these needs (such as projects involving energy generation and storage, advanced eco-friendly structural materials, water purification, electronic and bio-sensors, drug delivery, tissue regeneration, wireless communication hardware, etc.).

ii. Perform collaborative research and development projects in an expeditious manner.

iii. Provide products from the research and development projects in a form and format that can be easily used and understood by the high technology and energy industries.

iv. Set up education and training programs at SIT or TU with resource persons from TU as well as SIT. These may involve M.S./Ph.D. programs with guides and co-guides from the two organizations, continuing education for SIT, TU, and industry employees, short-term assignments at TU for SIT faculty or staff and vice versa, etc.

## **2. Background and Program Scope:**

**2.1 Background.** R&D in nano-materials and nano-electronics around the world has provided great impetus for the development of country's nano-science research and nano-technology industry that can be utilized to meet our high-technology, defense, agriculture, and service sector needs. However, acute shortage of skilled scientists and engineers, lack of relevant academic and research programs beyond the critical mass in the universities, and poor university-university and university-industry collaborations hamper our growth. Hence there is a pressing need for collaborative R&D between and among the leading engineering colleges and science universities.

SIT has embarked on setting up of a state-of-the-art Centre for nano-technology with R&D thrust in advanced nano-materials, nano-devices, nano-medicine, and micro-systems for a variety of military, rural, and civilian applications. A significant part of this effort will be in nano-materials and devices, nano-electronics, RF communications, and nano-medicine. This Centre has the twin objectives of cutting-edge R&D in these emerging fields and steady creation of trained workforce for the advanced technology based industry. SIT plans to develop these activities through Collaborations with interested industries and institutes, national laboratories, and hardware foundries. In addition, sponsored R&D programs will also be carried out.

**2.2 Program Scope.** Under this MoU the two organizations – SIT and TU – will meet on an annual basis to identify areas of research and development, education, and training that can be efficiently addressed through a collaborative approach. R&D programs and will be carried out in SIT's Centre for Nano-technology and at TU's relevant Research Centres (such as those of nano-technology, advanced materials, physics, chemistry, and bio-technology). Further productizing the collaborative R&D efforts at either organization, such as through entrepreneurial incubation cells, also may be carried out under this MoU.

## **3. Responsibilities:**

### **3.1 Siddaganga Institute of Technology and Tumkur University agree to:**

- i) Jointly identify research areas and topics, and prepare and submit research proposals to the various funding agencies.
- ii) Implement research programs in their respective facilities and mutually cooperate in developing the educational and training programs of relevance and mutual interest.
- iii) Permit their respective faculty members to mutually guide PhD research programs and activities in their organizations.
- iv) Make all the necessary provisions to utilize the nano-science and nano-technology related research centers and other facilities in their respective organizations.
- v) Participate in joint technical activities (e.g., technical inspections, workgroups, scientific or engineering panels) with representatives from SIT and TU, and other



organizations which may be established to provide technical advice and guidance on issues related to the national needs.

vi) Be in contact and prepare an annual report of all the joint or collaborative activities conducted by the two organizations.

### **3.2 Siddaganga Institute of Technology agrees to:**

i) Work with TU to exchange information consistent with national security considerations and identify areas of Collaboration. Develop, formulate, and submit proposals of interest singly or jointly with TU to DST, DIT, DBT, DRDO, SCIR, UGC, and national laboratories (such as R&D projects, technology assessment, testing, calibration, and consultancy), and carry out such sponsored projects. Describe specific R&D projects, education activities, and training programs that will be jointly pursued by SIT and TU.

ii) Facilitate Ph.D. programs of qualified TU employees in research topics of SIT's expertise; the Guide/Major Advisor shall be from TU and Co-guide shall be from SIT for each such program.

iii) Facilitate its Center for nano-technology (nano-technology laboratories, library, office support, fields, etc.) for conducting such research work free of cost.

iv) Make provisions for TU faculty as Visiting Faculty at SIT for short durations.

v) Participate in joint technical activities (e.g., inspections, workgroups, scientific or engineering panels) with representatives from TU and other organizations which may be established to provide technical advice and guidance on issues related to the national needs.

vi) Assign a Management Point of Contact and Technical Lead(s) for interactions with the TU.

vii) Provide, in cooperation with TU Management Point of Contact, annual executive summary report on the progress made under this MoU for each of the Collaborations, or other cooperative activities, that are developed as part of this agreement (MoU).

viii) Record, produce and maintain minutes of meeting as described in this MoU.

### **3.3 Tumkur University agrees to:**

i) Work with SIT to exchange information consistent with national security considerations and identify areas of Collaboration. Develop, formulate, and submit proposals of interest singly or jointly with SIT to DST, DIT, DBT, DRDO, CSIR, UGC, & national laboratories (such as R&D projects, technology assessment, testing, calibration, and consultancy), and carry out such sponsored projects. Describe specific R&D projects, education activities, and training programs that will be jointly pursued by SIT and TU.

ii) Facilitate research training for SIT's students in areas of interest to TU and relevant to the programs pursued by the students, and make provisions (laboratories, library, workshop, office support, etc.) for such training free of cost.

iii) Take SIT faculty on deputation for short durations to work in TU on on-going TU projects so that the faculty member may gain further experience.

iv) Participate in joint technical activities (e.g., inspections, workgroups, scientific or engineering panels) with representatives from SIT, and other organizations which may be established to provide technical advice and guidance on issues related to the national needs.

v) Assign a Management Point of Contact and Technical Lead(s) for interactions with the SIT.

vi) Provide, in cooperation with SIT Management Point of Contact, an annual executive summary report on the progress made under this MoU for each of the Collaborations, or other cooperative activities, that are developed as part of this agreement (MoU).

#### **4. Memorandum of Understanding (MoU) Administration:**

**4.1 Reports.** The status of work performed under this MoU will be reviewed on an annual basis. The TU Management Point of Contact will take the lead and be responsible for organizing meetings (planning meetings and annual meetings), developing agenda and recording results of the meetings. Minutes of the meetings will be produced by SIT and be distributed to meeting participants as well as to the Registrar of TU and Director of SIT. A central file (retained by SIT) will be maintained.

**4.2 Information Releases:** Registrar, TU and Director, SIT will jointly review and approve information regarding MoU activities (meetings, new developments, etc.) prior to public release. Reports prepared under this agreement will stipulate specific procedures for the coordination, handling and public disclosure of information. All information disclosures concerning activities under this MoU or subsequent reports will comply with TU regulations governing the release of information. Where particular information protocols apply to a particular laboratory, or network of laboratories, those protocols will be followed by both parties to this MoU.

**4.3 Security Classification:** The highest security classification applied by TU or SIT will govern the handling of information and reports under this MoU, as appropriate. The security classification and procedures will be stipulated in each report.

**4.4 Facility Security, Health, Safety, and Environmental Compliance:** The host facility's security, health, safety, and environmental compliance programs will be followed by personnel when engaged in work activities as outlined in this MoU. Workers Injury Claims shall be covered by the employee's agency.

**4.5 Reimbursement Policy:** Each party to this agreement will handle and expend its own funds, except as otherwise noted in this MoU. The responsibilities assumed by each party are contingent upon funds being available from which expenditures legally may be met.

**4.6 Annual Management Meetings:** SIT and TU will meet annually to plan and coordinate Collaboration under this MoU. Such meetings will be held at a mutually agreed upon location and on a date that is compatible with the planning and budgeting cycle of each organization. At this meeting, recommendations for adjustments to current activities, projects, and budget priorities will be proposed and agreed upon by the Management Points of Contact for submission to the Director of SIT and Registrar of TU for further action.



**4.7 Semi-Annual Technical Discussions:** SIT and TU will meet at least twice a year to discuss technical progress under each project or activity. These reviews will require technical information exchange by SIT and TU Technical Leads. These meetings may include individuals from outside of SIT and TU as mutually agreed to by the respective Management Points of Contact.

**4.8 Technical Lead Responsibilities:** Technical Leads for each project or activity will strive to engage in:

- Providing scientific and technical information exchange consistent with agency regulations governing the exchange or release of information
- Delivering written or verbal scientific and technical evaluations of progress
- Conducting visit to sites where research is underway
- Organizing and participating in scientific/technical workshops and scientist-to-scientist meetings
- Reporting on any exceptional accomplishments from, or impediments to, successful program or project execution
- Recommending improvements for the MoU activities

**4.9 Approvals:** All plans and activities designed to carry out this MoU must be agreed to and approved by SIT and TU prior to commencement of any technical work.

**4.10 Inventions and Licensing:** Activities conducted to carry out this MoU and any project or other extramural arrangements may result in products or processes that are patentable or otherwise proprietary. The organization whose work results in the invention shall disclose the invention to the other organization and then prepare, file, and prosecute patent applications. If protection is granted, the inventing organization will manage the invention in accordance with its rules and regulations. If the invention is from TU-sponsored project, securing the patent rights shall be in accordance with the terms of such project. Inventions resulting from joint research and development by both SIT and TU employees shall be handled as jointly agreed to at the time of the disclosure.

## **5. Period of Agreement:**

5.1 This MoU shall be effective for seven years from the date of the last signature unless canceled in writing by either of the participating organizations with 90 days notice.

5.2 Conflicts that may arise after the MoU is in effect will be resolved by SIT and TU Management Points of Contact. If conflicts cannot be resolved at this level, then they will be taken to the respective Principals of SIT and TU. If conflicts cannot be resolved at this level, then the signatory authorities for this MoU will resolve the conflicts either by coming to informal agreement or by amending the MoU.

5.3. This MoU will be reviewed annually by the Management Points of Contact to determine if any changes or amendments should be incorporated. Such changes or amendments will be formally incorporated in the MoU within 90 days of the annual review.

5.4 Within 30 days of its expiry, this MoU may be renewed on same terms as on the date of expiry upon a signed agreement of renewal between the Director of SIT and Registrar of TU.

## 6. Notices:

All notices, requests and other communications under the present MoU shall be in writing and shall be deemed to have been duly given and made if addressed and delivered by hand, or by facsimile, or by e-mail to the addresses set forth below (or to such other addresses as may be given by written notice).

Notices to TU shall be addressed as follows:

The Registrar  
Tumkur University, Tumkur 572 103  
Fax: 0816-2255597; e-mail: [tumkuruniversity2004@gmail.com](mailto:tumkuruniversity2004@gmail.com)

Notices to SIT shall be addressed as follows:

The Director,  
Siddaganga Institute of Technology,  
B. H. Road, Tumkur 572 103  
Fax: 0816-2280995; e-mail: [director@sit.ac.in](mailto:director@sit.ac.in)

## 7. General Provisions:

7.1. Nothing in this MoU supersedes any other memorandum of understanding held by either party.

7.2. This MoU in no way restricts the parties from participating in similar activities or arrangements with other public or private agencies, organizations, or individuals.

7.3. This MoU describes in general terms, the basis upon which the parties intend to cooperate. It does not create binding, enforceable obligations against any party.

Approved and Accepted for  
Siddaganga Institute of Technology

*M. N. Channabasappa*  
Signed by: Director, SIT  
31.1.2013

**DIRECTOR**  
Siddaganga Institute of Technology,  
Tumkur - 572 103.

Date:

Approved and Accepted for  
Tumkur University

*[Signature]*  
Signed by: Registrar, TU

Registrar  
Tumkur University  
Seal: Tumkur

Date: 31-03-2013