<div align="center">**Webinar on**</div>

<div align="center">**'Industry-Institute Interaction: The Institute of Chemical Technology (ICT) Story'**</div>

<div align="center">**Date:** Friday, 14th August 2020 (4.00 pm – 6.00 pm)</div>

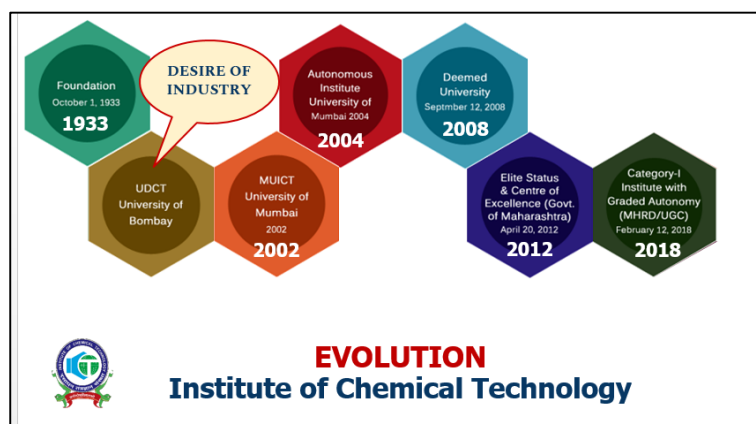<div align="center">*Minutes of the Meeting*</div>

DST-Centre for Policy Research at Panjab University hosted the 2nd webinar under webinar series on the topic 'Industry-Institute Interaction: The Institute of Chemical Technology (ICT) Story' on Friday, 14th August 2020 from 4.00-6.00 pm. The keynote speaker of the webinar was Prof. Padma Devarajan, President Innovation Council and Member Board of Governors, Institute of Chemical Technology, Mumbai. She is also In-charge of the World Bank Technical Education Quality Improvement Program (TEQIP) at ICT. Prof. Padma has published research papers and books of national and international repute. She has wide experience in pursuing collaborative research with the industry at national and international level. She has also carried out useful industrial consultancy projects with a number of pharmaceutical industries. She is the recipient of various national awards rewarding her contribution in the field of science, technology and innovation.

Prof. Padma is from The Institute of Chemical Technology which is the only ELITE University and Centre of Excellence in the state of Maharashtra in India is among the top institutes in the country and also globally acclaimed. Prof. Padma delivered her talk on strengthening Industry-Academia interactions based on ICT Model.
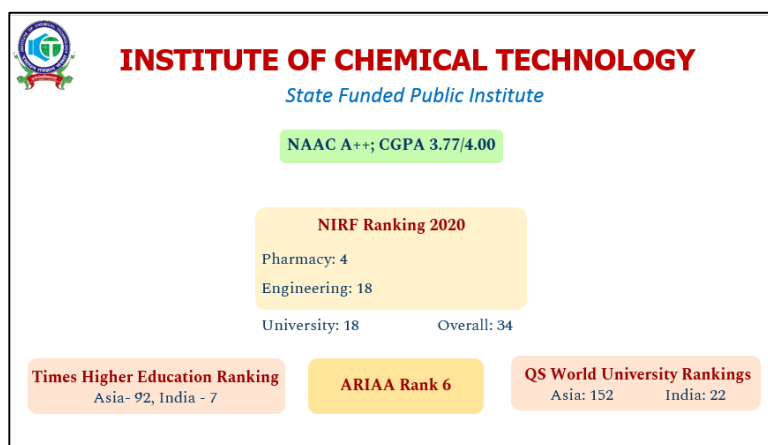
The keynote address was provided by Representative from Department of Science and Technology (DST), GoI Dr Rabindra Kumar Panigrahy, Scientist D, PCPM Division, DST, New Delhi. He formally introduced the DST-Centre for Policy Research programme launched by DST in 2014. Five Centres were set up across the country to pursue science policy research work. Each centre works with specific mandate addressing different aspects of science policies. One of the Centre DST-Centre for Policy Research at Panjab University is working with a mandate to strengthen the Industry-Academia R&D ecosystem by giving policy recommendations to be incorporated in upcoming Science, Technology and Innovation Policy 2020. Dr Rabindra also introduced STIP 2020, a joint initiative of Office of Principal Scientific Adviser (O/o PSA) and Department of Science and Technology (DST), GoI to launch India's next STI Policy. He congratulated DST-CPR at PU, Chd. to organize the webinar on 'Industry-Academia Interactions' and urged for sharing the recommendations on the above-said topic that can be integrated into the new policy document.

Following the keynote address by Dr Rabindra, Prof. Padma presented her talk on 'Industry-Institute Interaction: The Institute of Chemical Technology (ICT) Story'. The salient points of her presentation are discussed below:

➢ Firstly Prof. Padma introduced the participants about the genesis and mandate of ICT, Mumbai and spoke about how the institute worked for its sustainability after it was converted into a full-fledged Institute from the Department of Chemical Technology at the University of Bombay.

➢ Prof. Padma introduced the participants about the courses being run by the institute and the achievements of the institute. Now the institute has secured top positions in the national and international ranking as depicted below:

➢ Prof. Padma talked about the significance of Industry-Academia (I-A) collaborative research. Now ICT has become a brand name in the field of chemical technology and its commercialization as the institute works on the following attributes:

   a) *The recipe of the I-A collaborative research contains strong research culture, motivated and dedicated faculty and most important faculty interaction with the industry*

b) *The roadmap of the I-collaboration and the main attribute for the roadmap is confidence-building and sustainable collaboration with the industries.*

c) *Identify the opportunities of I-A collaboration which go beyond the sponsorship*

d) *The measures to be taken to overcome the challenges like nesting of industries in the campus, create the environment to work in systems, not in silos.*

➢ She further added that the contribution of the alumni of the institution is commendable as they contribute approximately 8% GDP of the institute. Alumni of the institute are always supportive and contribute to the institute time to time basis.

➢ She also deliberated upon how the institute is generating funds through collaborative research, consultancy projects from various industries and commercialization of patents and technologies generated by the researchers. ICT has a proper mechanism to take institutional research to the market in the form of commercial commodity.

➢ Additionally, ICT, Mumbai has signed MoUs with the national and international institutes, research labs and industries such as:

Government labs and research institutes: BARC, Mumbai; Homi Bhabha National Institute, Mumbai; Department of Biotechnology, New Delhi, etc.

Industries: Reliance Industries Ltd.; Coca Cola; Godrej; Margo, etc

International Organizations: The Queensland University of Technology, University of Nottingham, Michigan State University, etc.

➢ The most important and much-needed feature to enhance I-A collaboration is designing the courses with the integration of industrial training with it. This will make the researchers industrial environment friendly and will make familiar with the work culture of the industries.

➢ In ICT, Mumbai industries are playing a crucial role in research funding through CSR. Moreover, the institute has created endowment faculty chairs such as '***TATA Endowment Chair'*** and '***Bharat Petroleum Endowment Chair'.***

➢ The various avenues responsible for the Industry-Institute interactions are:

- *Government - Industry - Institute Projects*
- *Sponsored Research Projects from Industry*
- *DST PM fellowships*
- *IPR, technology licensing*
- *Consultancy & training*
- *Director on the Board of Companies*

➢ Prof. Padma ended her talk with the following suggestion to enhance I-A Interaction in academic institutions:

- *Strong Research Foundation and culture*
- *Collaborative research and Industry relevant research*
- *Culture of Innovation*
- *Alumni Connect - Alumni Ambassadors*
- *Awareness of Industry needs*

The talk was followed by an open discussion session in which the following topics were discussed.

- Process of MOUs between Industry and Academia in ICT-Mumbai: ICT-Mumbai faculty (7-8 faculty members) are involved in signing a MOUs under the strict legal description of work responsibilities. Specifications regarding technology transfer and technology licensing are explicitly explained in MOUs.

- Presence of dedicated IPR policy in the institute to facilitate the collaborative framework defining rules and guidelines regarding IP ownership, IP Sharing and IP transfer. ICT Mumbai has dedicated IPR policy that aids in faculty with robust IP framework.

- Industry participation in the governance board and in regular teaching and training act as a stimulator for building strong I-A interconnect.

- To build an interconnection between the institute and industry, it is very necessary to build a culture of confidence between the two entities. ICT Mumbai has developed a culture of confidence between faculty and industry. The ethical standards of timely delivery of quality research are one of the driving force for ICT's interaction with the industry.

- A number of incentives are also required at the faculty and researcher level to support their active participation in industry-oriented projects.

- Institute should also have a start-up policy to support the entrepreneurial culture in the institute. ICT is also in process of documenting its Start-up policy to provide necessary support mechanisms to institute and researchers to under entrepreneurial idea to initiate start-ups

- Creation of structural channels for promoting adequate means of technology transfer and pursuing industry-oriented research is required in each institute. ICT Mumbai is

also coming up with the dedicated structural channels to stimulate the industry-academic collaborative research and joint technology development.

The webinar concluded with vote of thanks to Dr Rabindra for his keynote address and Prof. Padma for her explicit presentation on Industry-academia channels of the ICT Mumbai. Her presentation and discussion provided the centre with strong pointers to come up with specific policy recommendations for invigorating Industry-Academia ecosystem in Indian Higher Education Institutes.

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