

Directors, Principals & HoDs of GTU affiliated colleges are invited to participate in the National Workshop organized jointly by GTU and AICTE.

National Workshop on November 21-22, 2014:

Development of Policy Framework for Innovation, Student Entrepreneurship & IPR FOR UNIVERSITIES WITH A LARGE NUMBER OF AFFILIATED COLLEGES

Inauguration by:
Honorable Smt. Smiriti Zubin Irani
Minister of Human Resources Development

Chief Guest:
Dr. S. S. Mantha
Chairman, AICTE

Organized by
All India Council of Technical Education (AICTE)

in association with
Gujarat Technological University (GTU)

The national workshop is being organized to develop the policy framework for Innovation and Student Entrepreneurship for Universities so that the environment in Engineering Colleges which are affiliated with Universities, may become conducive to innovations by students.

The workshop will provide a platform to every University to present the work, which it is doing for promotion of innovations in its affiliated Colleges. There will be presentations from Universities about students start up support systems, IPR studies and efforts to encouraging student projects, which are relevant to the needs of the society and the requirements of industries.

From these discussions will emerge a set of Good Practices, a Policy Framework as well as a Roadmap, for helping the University system become both a platform for innovations in its fields of studies and an active facilitator for student entrepreneurship.

Please register for workshop on <http://startups.gtu.ac.in>

Draft Program:

21st November, 2014		Friday
09:00 A.M- 09:30 A.M	Registration/High Tea	
09:30 A.M - 10:30 A.M	Inauguration: Highlights on relevance of innovation and student start-up policy for state universities.	
10:30 A.M- 10.45 A.M	Break for Tea	
10.45 A.M – 13:00 P.M	Plenary Session -1 Best Practices and Dialogues on Next Practices THEME: Learning from policy makers about the interventions made by them for promoting start-ups and to understand the strategies, challenges in implementation and opportunities ahead.	
13: 00 P.M – 14: 00 P.M	Networking Lunch	
14: 00 P.M- 15: 30 P.M	Plenary Session -2 Success Strategies for Academic Incubators/Accelerators/Co-Working Spaces at Universities; Challenges and opportunities for affiliating-type Universities THEME: Linking Academia to Industry and Creating Supportive Ecosystem, Creating facilities at Universities for creative work, Design and Entrepreneurial Systems; participation in entrepreneurship programs as an aid to improving employability etc. Academic incubators, from tech school, B school, integrated and state colleges will share their efforts and challenges.	
15.30 P.M - 17.00 P.M	Plenary session-3 IP creation, protection and successful exploitation for creating private and public good Presentation by Policy makers, university IP Managers and others to extend best possible support to hand-hold early stage innovations, create IP frugal support systems and successful commercialization facility Chairperson: Dr. S.S. Mantha	
17.00 P.M. - 18.00 P.M.	Plenary Session -4: Rejuvenating Academic Pre-Incubation Support Systems like E cells THEME: Cases from top E cells from Indian colleges. Making entrepreneurship cells, which can play a crucial role in shaping innovation and start-up culture in engineering college campuses, an imperative and not an optional activity. Discussions on making such cells helping higher quality in skill building followed by QAs and discussion.	
18: 00 P.M – 18: 30 P.M	High Tea	
18.30 onwards	BOF meeting of Vice-Chancellors of Technology Universities about a common Certification of Modern Teaching Practices for Learning Systems in Engineering Education --	
22nd November, 2014		Saturday
09:30 A.M – 10:00 A.M	Networking over High Tea	

10:00 A.M – 11:30 A.M	Plenary Session -5: Emerging Pedagogies in Academic Incubators, PPP and other Incubators. THEME: Case studies of efforts in emerging pedagogies to develop new models of incubation including both in situ and ex situ. Cases on hub and spoke incubation process in engineering colleges having both pedagogic and co-curricular interventions. Making the academic incubation model scalable and sustainable
11:30 A.M – 13:00 P.M	Plenary Session -6: Role of Start-up Ecosystems, Start-Up Networks, NPOs, NGOs, NGIs and others for Supporting Start-Ups Across State Universities THEME: Presentations by various start-up ecosystems, start-up networks, NPOs and discussion on how these informal and formal knowledge networks can help develop/ strengthen student start-up culture across academic campuses
13:00 P.M – 14:00 P.M.	Networking lunch
14.00 P.M- 15.30 P.M	Plenary Session -7: Financing Student Start-Ups through Academic Incubation; Hand-holding at early stage of Incubation Value Chain through Alternative Funding Mechanism THEME: Presentations by experts who have intervened to support early stage innovations and discussion of challenges and opportunities in this segment. Options like Crowd-funding, Pre-angel support, Angel funding and VC supports, grants etc. Possibility of university and state level micro venture fund creation and execution followed by QAs and discussion
15.30 P.M - 17.00 P.M	Valedictory Session: Report on the Sessions and preparing an integrated action-report and policy regime
17.00 P.M 17.30 P.M	Press Interaction to share the outcome of the workshop
17.30 P.M onwards	BOF meeting of Design Experts to review the working of the Design spine at GTU at the third semester and the proposed course in the 4th and higher semesters _____
	To be followed by dinner

Background:

The need of a university Innovation and Student Entrepreneurship Policy for affiliating-type universities:

A) Missing links in Inclusive innovation ecosystem: More than 94 % engineering students are now in affiliated- type universities in Indian engineering education. On the other hand all the national innovation and start-up policies cater to the segment of single campus/ residential engineering campuses like IITs, NITs etc. **It is only GTU, which has been working to develop an innovation system for the whole of the GTU system.** However till other affiliating-type universities are also brought into the eco-system of innovation, we shall continue to exclude a large part of India from the innovation system, the nation is building. (*Very recently the state governments of Kerala,*

Andhra Pradesh, Telangana and Karnataka have developed aggressive innovation policies. We hope the Universities in the four states would become actively involved. Reports of the participation from the Universities in these states may become available only by the end of the academic year 2014-15.)

B) Urgent requirement of job creation: From data, it is evident that, to satisfy the need of university graduates, India needs to create nearly 1 million jobs every month for the next 20 years. While the public sector industries and large private sector industries would play their role, jointly they would be able to create only a fraction of the requirement. India needs to promote student start-up culture across universities.

C) Huge requirement of skill up gradation: The Union and State governments are focusing on skilled India. It has been seen that students, who have gone through exposure of entrepreneurial endeavors, understand the importance of learning practical skills and graduate out with much better skill-set. In a University, where the number of successful entrepreneurs increases, it is observed that the entire cohort of students start showing a greater interest in acquiring necessary skills. A study by UK government proves that enterprise education and employment possibility are correlated. Thus through the proposed student start-up policy, the State Universities will be able to contribute significantly to the skilled India mission of the Honourable Prime-Minister.

Pedagogies around which we wish to invite Best Practices for promoting Student Innovation and Student Start-Up Culture:

We wish to explore innovative process and policy pedagogies which can catalyze the ecosystem to achieve the desired objectives. We will look for tools, processes, interventions and other endeavors which can influence the following inputs, which influence the Start-up decisions:

1. Pedagogical Inputs (in classrooms, laboratories and workshops)
2. Extra/Co- Curricular Inputs (Beyond classrooms but in the larger academic theatre): from official/semi-official student bodies, from technology clubs and through participation in competitions
3. Community Inputs from the extended community of a student (including family, friends and alumni)

We will explore Best Practices and Next Practices & Processes for –

1. Reimagining national entrepreneurship policies for creating greater inclusion, impact and agility to constantly learn from within and outside and then to implement it in the local context;
2. Developing pedagogic and non-pedagogic processes for creating a sustainable culture of innovation and start-ups involving students;
3. Building multi-stakeholder horizontal and vertical innovation and entrepreneurship ecosystem;

4. Leveraging existing physical and virtual infrastructures and creating new resources for starting and up-scaling activities and institutions for specific targets;
5. Systematic process development for bringing design-driven innovation culture by virtue of which disruptive innovations and student start-ups will emerge from educational institutions;
6. A strong IP creation and protection for student innovations through academic processes or through extra-curricular exercises;
7. Developing innovative funding mechanism for student start-ups;
8. Developing co-working space, incubators, accelerators etc;
9. Participating in local and global linkages and knowledge networks for developing learning possibilities from one another;
10. Using effectively the complementary strengths of the public sectors and the private sectors for building an eco-system for innovation and start-up;
11. Setting processes for generating suitable incentives to trigger and sustain the motivation of all those involved in the processes;
12. *Formation of a National Knowledge Network of Innovation (NKNI may be like NACUE (National Consortium for University Entrepreneurs in UK) for student start-ups will be explored. By connecting, engaging and leveraging 100s of young student start-ups and understanding the issues on the ground may help the Universities and the nation to modulate their policies to make them more effective;*
13. Creating a set of indicators and developing its utilization process to benchmark innovative processes at college, university, state and national level and to provide them through NKNI for use by decision-makers at universities and AICTE;
14. Developing easy to use guidelines (a to-do Process Manual) for smooth execution of all the outcomes and for documenting and disseminating information about the successes and failures to others through NKNI.

Why is GTU hosting the Workshop?

GTU created GTU Innovation Council (GIC) on 2nd August 2010 while National Innovation Council framework was evolving. In a span of 4 years we have learnt a lot from our massive grassroots level efforts.

1. GIC has attempted the largest industry-academia linkage efforts in the country through 'Industrial ShodhYatras' in the summer and final year IDP/UDP process.
2. We have developed the largest IPR awareness program. For building the capacity of the GTU community, GTU continuously organizes 2-day workshops at week-ends. 4516 Faculty Members and others have participated in these workshops. The result is that GTU students and Faculty Members have filed 240 preliminary patent applications.
3. GTU has developed and implemented the largest design innovation program based on design thinking catering nearly to 1 lac students. Our ground insights are unique in scale and depth in building a design spine in engineering education of a State University.

4. GTU has built one of the largest start-up sensitization programs in the country to trigger the culture among colleges and students. We train nearly 2500 students per month about various tools and processes.
5. We have introduced the concept of co-working space /co-creation centre to help student start-ups through physical infrastructure and support.
6. We have been the most inclusive state technical university in terms of engaging stakeholders having strength in particular domains related to start-ups and innovations including industry, academic experts, public policy makers, investors, incubators, bureaucrats , NGOs, NGIs and others.
7. We have shown leadership in not only solving local challenges but also shaping ways to support universities of similar nature. More than 60 Vice-Chancellors from 23 States of India have participated in policy dialogues in seminars/ workshops at GTU. We have developed frameworks for innovation in products, processes and pedagogies.
8. We have made efforts to blend national innovation and student start-up policies to better suit state colleges. We derive insights from our vast ground-works involving not less than 40,000 degree engineering students in every academic year in BE itself.
9. We have one of the most agile frameworks to manage our own innovation council and student start-up support system (S4). Still we have hunger to strive better every single day. Our hunger for improvement and passion for collaborative growth has helped not only us but our stakeholders at different parts of our journey related to innovation and start-up making
10. We have the ambition that we will file 200 patents every year and create 1000 direct jobs within the next year through student start-up creation. We wish to take this movement not as another activity but as a critical mission mode endeavour as our contribution to knowledge economy.

All India Council of Technical Education

The All India Council for Technical Education (AICTE) is the statutory body and a national-level council for technical education, under Department of Higher Education, Ministry of Human Resource Development. AICTE is responsible for proper planning and coordinated development of the technical education and management education system in India. AICTE accredits postgraduate and graduate programs under specific categories. AICTE is vested with statutory authority for planning, formulation and maintenance of norms and standards, quality assurance through school accreditation, funding in priority areas, monitoring and evaluation, maintaining parity of certification and awards and ensuring coordinated and integrated development and management of technical education in the country as part of the AICTE Act No. 52 of 1987.

AICTE presently has 8 Regional Committees and 10 All India Boards of Studies in various sectors of technical education. AICTE has established 8 Regional Offices which act as secretariats of the Regional Committees and coordinate with the Headquarter and State Technical Education Departments.

About Gujarat Technological University

Gujarat Technological University (GTU) was established in 2007 as an affiliating type State University by the Gujarat State act and has been active in initiatives that aim to enhance human capability by providing out-of-classroom pragmatic experience to Engineering Students in addition to catering the entire field of Engineering, Pharmacy, Business Studies (MBA programs) and Computer Applications (MCA) in Gujarat. Today the University has about 500 colleges affiliated to it with 5,00,000 students. It is today the largest University in Gujarat.

As a multi-disciplinary university it is offering 34 PG, 38 UG and 27 Diploma programs. The University has robust Doctoral and Master's program involving large number of foreign co supervisors and unique way of conducting central Mid-term and Final review of thesis. To promote research, GTU has established 14 PG research centers, viz. Mobile Computing & Wireless Technologies, Environmental & Green Technologies, Global Business Studies, Pharmaceutical Studies and Drug Delivery Technologies.

GTU Innovation Council is the most active Innovation Council in the country with about 500 industry leaders as members of its 25 regional committees and working jointly with Principals/Institutes for enhancing the industry-institute inter-action.

GTU may be today the University having the largest number of result oriented initiatives & activities in Innovation, IPR & Student Start up activities compared to any other University in India.

GTU's RESEARCH PROJECT on the 'Structure Of Our Universities' & on the 'Regulatory And Admin System Of Higher Education': The Post-Graduate Research Center for Technology Education, Public Policy and Universities of the 21st Century has been working on a research project on Designing the Structure of Technological Universities (DSTU) since 27th April 2011. This research project is designed to scientifically study the evolution of the university system and to develop disruptive strategies to meet the Challenges of the 21st century. This research project is developing a system of Governance by which a University is able to integrate education, training and research in its disciplines of interest and offer to the young the best of environment for learning. This will also help to identify those organizational components which are needed to pursue the objective of the Technological Universities and to monitor its activities related to admission, education, training, research, industry interaction, studying issues of entrepreneurship as applicable to its students and alumni, inter-institute collaboration and international collaborations. It also studies the policy issues at all levels for regulation of technological education by an array of All India and provincial regulators and administrators.

The Department of Education, Government of Gujarat organized National Education Summit (NES) on January 10-11, 2014. The part of the research work done under DSTU, as applicable to all the Universities in India, was presented at a pre-NES seminar called 'Re-designing the Structure of Universities for coping with Challenges of the 21st Century (RSUC) (with a special focus on Universities in the Indian sub-continent) on 8th & 9th January, 2014. (Brief Reports of the first five plenary meetings of DSTU and the seminar of RSUC are available at http://www.gtu.ac.in/circulars/14Apr/28042014_01.pdf for and at <http://gtupgcenters.edu.in/home.aspx?id=6>). The seventh session of the research project was organized as a Seminar in the presence of four ambassadors of four Afro-Asian countries on 19th July 2014 to understand the issues in other developing countries, where higher education systems are also required to be up-graded. (A brief report of the Seminar is available at http://www.gtu.ac.in/circulars/14Aug/16082014_03.pdf.) About 60 Vice-Chancellors from outside Gujarat and many Vice-Chancellors from Gujarat and Academic

Officers like Deans & Professors from all over the country have participated in at least some meeting of the research project.

Development of Design-Based And Project-Based Learning System at GTU: In August 2012, after the first cohort of 4-year degree engineering students graduated out, GTU started the process of updating its syllabi. It was decided to develop a design-based and project-based learning system. So design orientation has been embedded into the new syllabi from July 2013 and open-ended problems were included in the practical work. A strong 6-semester spine of design engineering has been included in the syllabi. On 9th January 2014, experts in design engineering from all over the country were invited to present their views on how Universities could permeate design engineering into the whole of the engineering syllabi. At GTU, the processes of designing the project at the Final year and of the spine of Design Engineering, from third to eighth semester of degree engineering programs, have been synchronized in the interest of seamless progression of learning. In July 2014, GTU has become the Director for India on the Asia-Pacific Engineering Network (APEN). APEN has been working to introduce project-based and design-based learning systems in the engineering education systems of East Asian countries.

GTU's Innovation Council (GIC): GIC was established on August 2, 2010. The Final Year project in degree engineering and research work at Universities leads to most of the innovative technology companies in the world. GIC coordinates the work of (i) GTU's Student Start-up Support System (S4) established on 25th February 2012, (ii) study of IPR instituted from 3rd September 2011, (iii) the S4 Co-Creation Center (S4-C3) established on May 1, 2013, (iv) GTU's ShodhYatras (The first ShodhYatra was organized on 14th February 2011) to SMEs and (v) the structure of GTU Innovation Sankuls¹. GIC is one of the most active University Innovation entities and S4-C3 continues to serve the students and alumni in the evenings and at week-ends and during holidays, all through the year.

¹Sankul is a Gujarati word, which means a Community.

Address and Conference Venue:

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