



KNOWLEDGE INCUBATION FOR TEQIP, IIT KANPUR

TEQIP Winter Internship and Visiting Researcher Program
1st -23rd December, 2015



KIT announced 3 week Winter Internship and Visiting Researcher Program for PG students and faculty members of all TEQIP Institutes under IIT Kanpur quality Circle. Applicants were encouraged to apply in all departments at IIT Kanpur. Visiting Researcher Program was planned to facilitate knowledge exchange between faculty members of IIT Kanpur and guest faculties from Institutes under KIT's quality circle. It aimed at helping them enhance their teaching, research skills and overall productivity. During their stay, they worked with their host faculty at IITK on research topics of mutual interest. The Winter Internship Program aimed at exposing selected students from QC institutes to the academic culture of IIT Kanpur and to help them adopt new techniques and methods of learning their subject of interest. All the candidates were given access to library and laboratory facilities of IITK to conduct their research. They conducted their internships on approved topics given to them by their host faculty at IITK. At the end of the program all the candidates submitted brief reports on their research visit.

Visiting Researchers

S.No	Name	Institute	Research Topic	Host Faculty
1	Mr. Bhimsen Tudu	Jadavpur University	Assessment of Hybrid Renewable Energy System (HRES) Considering Degradation of System Components	Prof. S.N. Singh
2	Dr. Vinod Kumar Yadav	HBTI, Kanpur	PMS, OD interventions and cultural dimensions	Prof. RRK Sharma
3	Mr. Krishna Pandey	UIET, Kurukshetra	Communication aspects of Smart grid technology	Prof. Y. N. Singh
4	Dr. Tauseef U. Siddiqui	M.J.P. Rohilkhand, Bareilly	Micro wire Electric Discharge Machining of Mg alloy used in biodegradable orthopaedic implants	Dr. J.Ramkumar
5	Mr. A. Lava Kumar	VSS University of Technology	Effect of external length scale and strain rate on plastic deformation behaviour of commercially pure Al	Dr. Nilesh Prakash Gurao
6	Dr. Sudhir Kumar Sharma	HBTI, Kanpur	Super hydrophobic and super oleo phobic surfaces	Dr.Krishnacharya
7	Dr. S.J. A. Rizvi	Aligarh Muslim University	Organic Light Emitting Diodes-OLED	Dr. Monica Katiyar

8	Dr. Alfia Bano	NIT, RAIPUR	Buckling Response of Laminates considering Pre-buckled Stress State	Dr. P M Mohite
9	Dr. Ashwani K. Rathore	HBTI, Kanpur	Recovery of citric acid from aqueous solution using micro-porus hollow fiber membrane contractor by TOA in octanol	Prof.P.K. Bhattacharya

Internship Students

S.No	Name	Institute	Research Topic	Worked under
1	Aleena Swetapadma	NIT, Raipur	Study of RTDS and design of power transmission circuits in RTDS	Dr. S. N. Singh
2	Shipraa Srivastav	HBTI Kanpur	Elements of HRD climate and its effect	Mr. Amit Shukla
3	Roopali Agarwal	HBTI Kanpur	Peak-to-Average Power ratio reduction in SC-FDMA by pulse shaping	Dr. Ajit Chaturvedi
4	Kamal Singh Rawat	GBPUAT, Pantnagar	Simulation of Ice Slurry flow between two parallel plates	Dr. Arvind Kumar

Summary of Faculty Feedback

Workshop

<i>Questions</i>	<i>Excellent</i>	<i>Good</i>	<i>Ordinary</i>
Clarity of communication about workshop	07	01	00
Organization of the sessions	03	02	00
Quality of lectures	01	02	00
Quality of posters	01	03	00
Effectiveness of discussions	05	02	00
Effectiveness of learning experience	04	03	00
	<i>Appropriate</i>	<i>Short</i>	<i>long</i>
Duration of workshop	05	03	00
	<i>Definitely</i>	<i>Maybe</i>	<i>No</i>
Would you like to have more such sessions?	06	01	00
Would you like e-lectures by experts on special	02	02	00
Suggest specific topic that you would like additional expert lectures on	<ul style="list-style-type: none"> ➤ Fabrication of membrane for fuel cells ➤ Smart Grid ➤ FEM, Green and sustainable manufacturing 		
Additional Suggestions	<ul style="list-style-type: none"> ➤ Food and lodging facility is improper in winter season for faculty member. ➤ Program duration must be aligned with the visitor faculty's vacation period or flexible program. ➤ Visiting research program period is very short. In summer they can allow us to continue our work. ➤ Everything is very nice and do not need additional suggestions but to keep it continue in future also. 		

Teaching

Which subjects do you teach?	<ul style="list-style-type: none"> ➤ Engineering Physics ➤ Electronic and Communication ➤ Power engineering ➤ Mass Transfer and Thermodynamics ➤ Polymer Composites ➤ Polymer Science and Technology ➤ Physical Metallurgy ➤ HRM and OB ➤ Manufacturing Science, CAD/CAM, PMTD, Non-Conventional machining processes 			
What is average student to teacher ratio in your institute?	<ul style="list-style-type: none"> ➤ 1:16 ➤ 1:15 ➤ 1:20 ➤ 1:10 			
Questions	YES		NO	
Do you have additional support for teaching (tutors, graders, teaching Assistants, etc)?	03		05	
Do you give class projects for UG classes?	08		00	
Do you give class projects for PG classes?	06		02	
Do you have sufficient resources for laboratory courses?	03		05	
	Sufficient		Inadequate	
Is the library/journal/e-connection support adequate?	04		04	
	Definitely	May be	No	
Would you like to have common (TEQIP) repository of course material?	07	00	01	
Would you like to visit IITK to participate in and develop course material (existing or new)	08	00	00	
Would you like to participate in creation of the repository material(course files/lab-Manuals/questionbank/etc)	07	01	00	
	e-courses	Workshops	Content	none
How can IITK effectively help you prepare	08	02	00	00
How can TEQIP help improve your teaching?	<ul style="list-style-type: none"> ➤ By organizing this type of events. ➤ By collaborative content development. ➤ By getting new technologies and concepts. ➤ By attending visiting research programmes other such kind of events build teaching platform stronger. 			

Research

<i>Questions</i>	<i>Definitely</i>	<i>Maybe</i>	<i>No</i>
Would you like to visit an IIT for a visiting-faculty/ post-doctoral fellow, if offered (via-TEQIP)?	08	00	00
Would you like to share/use research infrastructure at IITK, if made available?	08	00	00
Would you like to conduct collaborative research with IITK?	08	00	00
Would you like lectures by experts (Indian and international) on niche research areas/topics?	08	00	00
Do you want special-topic conferences?	08	00	00
How can TEQIP help improve your research?	<ul style="list-style-type: none"> ➤ By providing opportunity to work in labs under the guidance of learned professors. ➤ By joint supervision of Ph. D students. ➤ Sharing of equipment/ testing facility without testing charges. ➤ By allowing faculty members/students of our university to visit IITK labs and provide accommodation etc as and when required. ➤ If possible try to allocate some contingency grant Rs. 10,000- 20,000 for purchase of consumables etc. ➤ By providing research information interface with faculty. ➤ TEQIP can help in improving research if e-journals and research facilities are provided. ➤ It provides a platform to enhance the knowledge by expert's discussions. ➤ We can conduct collaborative research and can do organize specific theme based workshops to extend our research base. 		

Summary of Student Feedback

Workshop

<i>Questions</i>	<i>Excellent</i>	<i>Good</i>	<i>Ordinary</i>
Clarity of communication about workshop	03	00	00
Organization of the sessions	03	00	00
Quality of lectures	02	00	00

Quality of posters	01	00	00
Effectiveness of discussions	03	00	00
Effectiveness of learning experience	03	00	00
	Appropriate	Short	long
Duration of workshop		03	00
	Definitely	Maybe	No
Would you like to have more such sessions?	03	00	00
Would you like e-lectures by experts on special topics?	03	00	00
Suggest specific topic that you would like additional expert lectures on	<ul style="list-style-type: none"> ➤ Two phase flow-liquid and vapour (flow-boiling and condensation). ➤ Detection , Estimation and Mat lab 		
Additional Suggestions	<ul style="list-style-type: none"> ➤ Winter internship duration is short allowing for summer internship on the same topic. ➤ Organize some workshop on open source software. 		

Learning

Questions	Yes	No	
Do you get enough class projects?	02	00	
Is the learning adequate?	03	00	
Do you have sufficient resources for laboratory courses?	02	01	
What is your area of specialization	<ul style="list-style-type: none"> ➤ Refrigeration ➤ Wireless Communication ➤ HR and O.B ➤ Power System Protection 		
	Sufficient		inadequate
Is the library/journal support/e-connection adequate?	01	02	
	Definitel	Maybe	No
Would you like to have common (TEQIP) repository ofcourse	02	01	00
Would you like to visit IITK to attend specializedcourses?	04	00	00
Would you like MOOCS/e-resources based courses?	02	01	00

<p>How can TEQIP help improve your learning?</p>	<ul style="list-style-type: none">➤ By providing some e-platform to learn and enhance knowledge.➤ By providing such internship and short term courses in IITK.➤ Workshop or video lecture for effective use of e-resources in research field.
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Research

<i>Questions</i>	<i>Definitely</i>	<i>Maybe</i>	<i>No</i>
Would you like to visit an IIT for a short visit/internship/post-doctoral stint, if offered(viaTEQIP)?	04	00	00
Would you like to share/use research infra-structure at IITK, if made available?	04	00	00
Would you like to conduct collaborativeresearch with IITK faculty?	03	01	00
Would you like lectures by experts (Indianand international) on niche researchareas/topics?	03	01	00
Do you want special-topic conferences?	02	02	00
How can TEQIP help improve your research?	<ul style="list-style-type: none"> ➤ By providing round the year assistance and conducting a long duration program. ➤ TEQIP can help to improve my research by providing opportunity in terms of lab facilities. ➤ Knowledge from experts in terms of internship in institutes like IITs and IISc etc. ➤ By providing excess of journals and providing help by connecting IITK faculty. 		

OUTCOME

Winter Internship and Visiting Researcher program was a step towards encouraging exchange of knowledge and skills within students and faculty members of QC institutes and IITK.

- Participants established strong relationships with their hosts for future collaborative research.
- They gained knowledge on new techniques and methods that are being used in their research field.
- Visiting researchers got a chance to interact with people in their research field at IITK which helped them gain new experience and techniques to further develop their research skills.
- Participants got an exposure to the work environment of IIT Kanpur.
- After the completion of this program students had a much better understanding of theoretical and practical aspects of their research areas.
- Students got a chance to test their interests in their current field and develop their long-range career plans.
- This program helped students develop overall maturity by strengthening resourcefulness, self-confidence, self-discipline and sense of responsibility.