

Educational Technology

The Interdisciplinary Programme (IDP) in Educational Technology (ET) completed its second academic year in 2011-12. New batches of Ph. D. students have joined making the total number of Ph. D. students 13. As in the last year, 23 faculty members from several departments of the Institute are participating in the academic programmes. The faculty members are participating in several projects including the MHRD projects (Kannan Moudgalya, Sridhar Iyer, Sahana Murthy, Deepak Phatak, M. B. Patil, S. B. Noronha). The major research areas pursued by the faculty include a) design and deployment of virtual laboratories and remote triggered experiments, b) open source software, open source hardware, c) synchronous and asynchronous education, d) instructional design in different streams of science and engineering, e) learner centric tutoring systems, f) implementation and assessment of ICT tools to enhance learning in new environments designing collaborative environments for learning and social interactions, g) mining for textbook generation and h) exploring the role of simulations, models and animations in teaching large classes.

Academic Programme

The two courses that are being offered to the students are 1) Introduction to Education Technology and 2) Research methods in Educational Technology. A few guest lectures were given by Dr. Kinshuk and Dr. Chang, a few of the lectures using videoconferencing. The research scholars contributed to several research papers in different national and international conferences. There were ten invited talks in the IDP on different issues related to educational technology.

International Conference papers:

1. K. Vijaya Kumar and Sridhar Iyer, "Automated tagging to enable fine-grained browsing of lecture videos" Technology for Education Conference (T4E 2011), Chennai, India, July 14-16, 2011.
2. Neelamadhav G and Sridhar Iyer, "Automated building of domain ontologies from lecture notes in courseware" Technology for Education Conference (T4E 2011), Chennai, India, July 14-16, 2011.
3. S.K.Kamble and B. L. Tembe, "The use of concept maps in the teaching of the second law of thermodynamics to engineering students", *1st International Conference and 5th CSI National Conference on Education & Research (confER-2012), (Applications of Foss in Education & Research)*, 12th-13th January, 2012, Lingaya's University, Faridabad, India.
4. Inderpreet Arora, Kannan M. Moudgalya, Kaushik Venkata, Chakraborty Victor, Rupak Rokade, Rakhi R., "A low cost, scalable, virtual laboratory", The 9th IEEE International Conference on Control & Automation, ICCA11, Santiago, Chile, December 19-21, 2011.
5. A. Petiwala and Kannan Moudgalya, "Constructing a learner centric semantic open syllabus for automated text book generation, Technology Enhanced Education (ICTEE)", 2012 IEEE International Conference on, Digital Object Identifier: 10.1109/ICTEE.2012.6208624, 2012
6. Kannan Moudgalya, "Spoken Tutorial: A Collaborative and Scalable Education Tehnology". CSI Communications, September 2011, p-11-12

7. Kannan Moudgalya,

<http://spoken-tutorial.org/What is a Spoken Tutorial English>

8. Gargi Banerjee and Sahana Murthy, "Model for Rapid, Large-Scale Development of Learning Objects in Multiple Domains", 3rd IEEE International Conference on Technology for Education (T4E 2011), July 14-16, 2011, Chennai, India.

Honorary Work

Kannan Moudgalya

Member, Standing Committee, National Mission on Education through ICT

Member, Academic Council, IGNOU

Sahana Murthy

Technical Co-Chair, for the 3rd International Conference on Technology for Education (T4E 2011, July 14-16, 2011)

Faculty Members and their Specialisations

(Same as the last year)

B. L. Tembe
04/07/2012
B. L. Tembe
Convener, IDP in ET

Centre for Distance Engineering Education Programme (CDEEP)

Introduction

CDEEP continued its main activity of recording new courses and transmitting them to the participating remote centers. IIT Bombay got its Policy and Guidelines on Distance Education implemented during the year with the approval of the recommendations of a committee constituted by the Director with the Deputy Director (FEA) as its Convener. The earlier courses recorded by CDEEP are being made available to individual users at a nominal cost of copying the video courses. Many students and faculty members across the country are making use of this facility. During the past year, twenty one regular courses covering ten disciplines were recorded and transmitted during the two semesters. The technology up-gradation is continually pursued in CDEEP. As a result, there is a significant leap in the quality of Audio and Video through technologies; namely; Videoconferencing and Web transmission. This was also possible because of the HD quality equipment that is used and a good network bandwidth (through NKN) that is available. Four studios of CDEEP are fully equipped and functional to have transmission through Video Conferencing and Web in an interactive mode. CDEEP provided 64 individuals to have recorded courses of IIT Bombay available to him/ her at Rs 300/- (copying charges) per course. A 180 days uninterrupted access through internet VOD was available to another 27 users for Rs 1000/- per course. CDEEP recorded various events on campus including 48th Convocation, Foundation day, 25 Institute colloquia and 15 Distinguished Invited Speakers' talks.

Head, CDEEP attended an international convention on "Virtual Education: Issues, Challenges and Perspectives" in New Delhi on 24th and 25th February, 2012. Leading educators from several countries attended the convention. One of the main themes in the convention was how to make distance education effective.

On December 19th, a virtual panel discussion on Frontiers in Chemistry was arranged by CDEEP and the Department of Chemistry. Fifteen Institutions including IITs, IISc, NCBS and universities participated in the panel discussion and over 200 participants participated in the 2.5 hour event.

During the year, several films of interest to Institute were recorded by CDEEP. Notable among them were the films on the high performance computing facility at IIT Bombay, transportation engineering (for WCTR 2016), a film on the research activities of research scholars and the film on the radiation effects due to the use of mobile phones.

Project Activities

CDEEP's support to NPTEL phase II, MHRD I and MHRD II projects continued through the year by providing studio facilities and professional expertise. 25 video courses have been recorded by the NPTEL II project.

There are thirteen Research Scholars working in the Inter Disciplinary Programme in Educational Technology (IDP in ET) in the period under consideration and CDEEP continues to support the activities of the IDP in ET.

B Tembe
4/07/2012
B L Tembe
Head, CDEEP