

pmTUC EVENTS

Another milestone for Indo-German cooperation

On January 24, 2013, the Institute for Print and Media Technology at Chemnitz University of Technology [pmTUC] has launched a new laboratory for printed solar cells in Manipal, India



The inauguration of the new innovation lab was celebrated with a ribbon cutting ceremony.

From now on, pmTUC has a second pillar in India: the pmINNOVATION lab in Manipal. The ceremonial opening was held on January 24, 2013, at 4pm (local time) in the Innovation Centre of Manipal University. Prof. Dr. Arved C. Hübler, head of pmTUC, and Prof. Dr. Arnold van Zyl, Rector of Chemnitz University of Technology, participated in the inauguration. In the future, the lab will serve as basis for analyses and projects on printed solar cells.

In a first step, the research activities of the new lab will concentrate on application-oriented tests of printed paper photovoltaics. This innovative technology, also referred to as 3PV (printed paper photovoltaics), has been developed by the research group of Prof. Hübler and offers an enormous potential. It could, for instance, be used to provide energy in poorly developed areas. In cooperation with researchers of Manipal University and other Indian institutions, the efficiency of the technology will be analysed under real-life conditions and possible business models for the market will be developed. An Indo-German Industrial Advisory Board will continually supervise the laboratory activities. The close relationship with "Manipal University Technology Business Incubator" (MUTBI)

will provide additional impulses for the development of marketing strategies.

Two researchers of pmTUC have already been in Manipal for the last three months to manage the necessary formalities and conduct and evaluate first experiments on printed solar cells. Björn Engler and Deep Prakash are alumni of the Indo-German double degree Master's programme Print and Media Technology, which is jointly offered by Chemnitz University of Technology and Manipal University. Both of them studied in India as well as Germany and, thus, know the Indian and German local conditions – a huge advantage when working in the new innovation lab. "Culture and working style of both countries couldn't be more diverse. And exactly this is the challenge", Engler said. In the future, the team as well as the research scope shall be continuously extended.

On January 24, the opening ceremony was conducted by the Rector of Chemnitz University, Prof. van Zyl, and the Vice Chancellor of Manipal University, Dr. Komattil Ramnarayan. Representatives of the German embassy, the consulate and industry and science participated in the event. The inauguration was followed by a small exhibition on current research fields of pmTUC. "The lab opening in India helps to promote the excellence of our university at an international level. As a result, more and more international students come to Chemnitz University. The number of Indian students alone has multiplied in the past years", Prof. van Zyl noted. In the winter term 2010/2011, 40 Indian students were enrolled at Chemnitz University, whereas the number increased to 192 students in the winter term 2012/13. Prof. Hübler is confident, too: "India of-



The Vice Chancellor of Manipal University and the Rector of Chemnitz University of Technology met in Manipal to open the new lab for innovative research.

fers many chances for the internationalisation of our research cooperation. The launch of pmINNOVATION in cooperation with Manipal University is another milestone, providing interesting development opportunities for both sides."

Background: Cooperation of the Institute for Print and Media Technology with Manipal University

The Institute for Print and Media Technology at Chemnitz University of Technology is world leader in the field of printed electronics and set technological milestones by inventing printed solar cells, printed loudspeakers and printed transistor circuits. Since 2004, pmTUC has been maintaining close links to Manipal University. Manipal University is the oldest private university in India and has campuses in further Indian cities, Malaysia and Dubai. The technical courses offered at Manipal Institute of Technology usually rank amongst the top courses in Indian university rankings. Together, both institutions launched the unique Indo-German double degree Master's programme Print and Media Technology, which allows students from Chemnitz to study in Manipal and vice versa. The cooperation with Manipal University also includes PhD procedures.

In addition, pmTUC carries out research projects in cooperation with other Indian partners, for instance with IIT Kanpur in the field of printed solar cells. CS



Guests of the opening ceremony in front of the Innovation Centre of Manipal University, where the new lab is situated.

More information on pmINNOVATION and inauguration:

More information is provided by Prof. Dr. Arved Hübler, phone: +49 (0)371 531-23610, email: pmhuebler@mb.tu-chemnitz.de or Conny Schuhmann, phone: +49 (0)371 531-35838, email: conny.schuhmann@mb.tu-chemnitz.de. Details about the India activities of pmTUC can be found at www.pm-india.in.

pmTUC PROJECT NEWS

Flexible Printed Integrated Disposable Electronics (FLEXIPRIDE)

Printed electronics has developed as a promising research area, as it provides the possibility to produce large quantities of low-cost flexible electronic devices by means of conventional mass printing technologies. Production costs decrease and numerous applications, e.g. solar cells, antenna, sensors, etc., become possible. Even though remarkable progress has been made in research for printed electronic components in recent years, the integration of multiple electronic components into multifunctional systems is much less mature. The Indo-German project FLEXIPRIDE, which is funded by the German Federal Ministry of Education and Research (BMBF) within the IGSTC (Indo-German Science and Technology Centre) initiative, aims to produce such multifunctional systems. Together with the project partners Chromasens GmbH (Germany), United Tectsa (India) and IIT Kanpur (India), pmTUC wants to develop different multifunctional application scenarios on the basis of mass printing technologies. The project runs for 3 years and started in August 2012.

In December 2012, the first project meeting took place in Kanpur, India, to discuss the project plan and exchange ideas.



On February 4, 2013, BMBF has invited all participants of its IGSTC campaign to introduce their Indo-German projects. The meeting provides an excellent platform to present the innovative concept of FLEXIPRIDE to a broad audience and exchange experiences with other institutions which have activities in India. SS

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