

# Solar ideas take IITians to US

Eight students will intern at Underwriters Laboratories for a month to develop ideas into workable models and test its performance, reliability, durability and safety

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To sustain its green drive towards renewable energy, IIT Gandhinagar has taken a unique initiative. It has signed an understanding with Underwriters Laboratories Inc, an American non-profit product safety testing and certification organisation, for a students' project.

Eight students will intern with the organisation based in Chicago.

Assistant professor (Chemical Engineering) Chinmay Ghoroi said, "A team from UL visited the institute on February 11. After researching the photovoltaic (solar cells) system, around 19 teams showcased innovative ideas including solar study lamp, solar bicycle, solar cloth hanger and solar trapper. The team chose ideas presented by four teams and the eight students were chosen for a month-long internship with UL."

The students will leave for the US in May-June. There, they will turn their ideas into workable models and test its performance, reliability, durability and safety.

## WINNING IDEAS

Sunil Patidar, third year student of mechanical engineering says, "We came up with a study lamp that could absorb solar rays through photovoltaic (PV) panels installed on the upper side of the lamp. It could be used through the night."

Says Shubham Chauhan, "We thought of a solar bicycle that would be ideal for Ahmedabad's harsh summers. The cycle has a shade where the PV panels can be installed. The



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roof protects the rider from the sun while the panels can be used to charge a laptop or cellphone."

Abhishek Kandoi designed a water tank. He says, "This idea would help rural India where there is scarcity of potable water. Solar will be used to heat the tank and purify the water."

## HANDS-ON APPROACH

After returning from their internship, the students are expected to implement what they have learnt at the institute.

To ensure that the students can research PV system, the institute has two solar systems installed on campus.

Prof Ghoroi says, "NTT Facilities

Inc from Japan sponsored a 10 kWp roof-top solar PV plant, based on thin-film CIS technology. This is the only system installed in the entire Asia-Pacific region. In exchange, the students and faculty send regular reports on the solar energy scenario in Gujarat to the company."

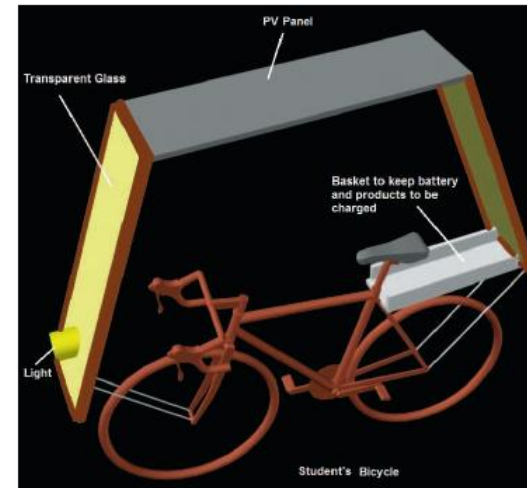
Similarly, Gujarat Energy Development Agency (GERA) has sponsored another 10 kWp PV system based on polycrystalline silicon material.

Each of the PV station is expected to generate around 15,000 kWh and help to reduce utility cost. It is also expected to eliminate 15,000 kg of carbon dioxide emissions every year for 25 years.

KALPESH BHATT



Above: A study lamp that could absorb solar rays through photovoltaic panels installed on the upper side of the lamp



Left: A cycle that has a shade where the PV panels can be installed. The roof protects the rider from the sun while the panels can be used to charge a laptop or cellphone