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The ProSPER.Net Young Researchers' School (YRS) offers doctoral students ample opportunities to discuss sustainability challenges in a multicultural and multidisciplinary environment. It aims to further knowledge, understanding, and skills in sustainability research and practice through a mixed programme that includes lectures, field trips, development of research planning and communication skills. It also promotes a network of researchers and future professionals working with sustainability-related projects.

The 6th YRS was hosted by TERI University at its main campus in New Delhi, India with 17 PhD students coming from ProSPER.Net members - namely, RMIT University and Queensland University of Technology (Australia); Chinese Academy of Sciences Institute of Applied Ecology and Tongji University (China); TERI University (India); University of Tokyo and Keio University (Japan); Asian Institute of Technology, King Mongkut's University of Technology Thonburi and Prince of Songkla University (Thailand).

Students were exposed to theory and practice of "Sustainable Energy" for transforming lives especially in the aspects of availability, accessibility and affordability in the context of the 2030 Sustainable Development Agenda and the Sustainable Development Goals. Issues such as linking energy and climate change, energy security, energy accessibility and socio-economic impact, energy-efficient technologies and systems, energy-use efficiency, energy policy and governance, economics of renewable energy, community engagement and capacity building among other topics, were discussed and thoroughly debated.

Developing research proposals and communicating research are necessary skills of leadership in the area of sustainability. The students were taught how to develop a research proposal that captures sustainability issues. They used a tested methodology aided by the use of templates to better focus on the research question at hand. They were then asked to answer it by sequentially exploring each objective thereby creating a comprehensive research plan.

Students were learning quantitative and qualitative research methods in the area of sustainable development. The core components to assist students in developing research communication skills included activities such as a three-minute thesis competition. During this exercise, researchers present an outline of their research in three minutes using only one slide. A lecture on modern ways of research dissemination allowed them to rethinking the way they may share their research output in the future. In a unique, interactive session "Life after the PhD", participants had an opportunity to interact with mid career professionals on various post PhD career options and strategies.

Field visits were designed to demonstrate how to put theory into practice. Students went to several sites such as the TERI campus in Gawal Pahari, which showcased an energy-efficient operation, the National Institute of Solar Energy, where students observed grid and off-grid solar systems, thermal, photovoltaic and solar biomass hybrid cold storage. They also visited the Firozabad glass bangle factory cluster and a brick industry, where energy efficiency measures such as preheating technology, waste heat recovery and energy efficient designs are practiced by transitioning from traditional systems to new production methods. At the Dayalbagh Educational Institute and at the Punjab Development Agency students were exposed to various energy efficient approaches such as roof-top solar photovoltaic systems with a battery bank, solar thermal systems, a tracking PV system, and net metering and energy efficient architecture. The participants also had a chance to visit the Taj Mahal.

At the end of the school, students produced four research proposals – 1) Analysis of existing technologies in the sugar industry and implications for the Punjab net metering policy; 2) Improving energy efficiency in the small and medium brick industry in Punjab; 3) Towards the adoption of green building in the commercial and institutional sector of India; and 4) Suitability of thermoelectric generation as an energy generation technology for rural communities in Rajasthan. Although these research topics were in the Indian context, they may be valid for other regions outside of India as well.

The YRS contributed to capacity building of future sustainability practitioners. It provided a platform for young researchers and scientists to brainstorm and gather thoughts around possible ways of sustaining and utilizing resources, energy resources in particular, more effectively and efficiently. Finally, it created a network of researchers to work together in pursuit of sustainable development.

Field trip reports by student groups

[Bangle Factory, Firozabad, Uttar Pradesh, India](#)

[Bharat Brick Factory, Chandigarh, Punjab, India](#)

[Dayalbagh Educational Institute, Agra, India](#)

[National Institute of Solar Energy, Haryana, India](#)

[Punjab Energy Development Agency \(PEDA\), Chandigarh, India](#)

[TERI campus, Gawal Pahari, India](#)