

Short Term Course  
On  
**'Engineering & Materials for Sustainable Development'**

Venue  
Seminar Hall,  
Department of Electrical Engineering  
Jadavpur University

**(27<sup>th</sup> January - 2<sup>nd</sup> February), 2017**



*Organized by*



**Global Change Programme  
Jadavpur University, Kolkata-700032**

*Under*



**Global Initiative of Academic Networks (GIAN)  
MHRD, Government of India**

# Engineering & Materials for Sustainable Development

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## 1. Introduction

**Government of India** approved a new program titled **Global Initiative of Academic Networks (GIAN)** in Higher Education aimed at tapping the talent pool of scientists and entrepreneurs, internationally to encourage their engagement with the institutes of Higher Education in India so as to augment the country's existing academic resources, accelerate the pace of quality reform, and elevate India's scientific and technological capacity to global excellence.

In order to garner the best international experience into our systems of education, enable interaction of students and faculty with the best academic and industry experts from all over the world and also share their experiences and expertise to motivate people to work on Indian problems, there is a need for a Scheme of International Summer and Winter Term. During the 'Retreat' of IITs with Minister of Human Resource Development **Smt. Smriti Zubin Irani** on 29th June, 2014 at Goa, it was decided that "A system of Guest Lectures by internationally and nationally renowned experts" would be evolved along with a comprehensive Faculty Development Programme not only for new IITs, IIMs, IISERs but also other institutions in the country.

## 2. Overview of the Subject

In the context of technology led development discourse current focus is on sustainable development goals and how technology development, deployment and diffusion can be compatible with social, economic, political sustainable development agenda. New engineering practices and materials development are considered as major breakthrough to advance sustainable development in global discourse. In developing countries besides technology development, technology transfer is also reckoned as a very important strategy for leapfrogging and fast catching up with sustainable development goals. However, in this context apart from technology development and deployment adequate training/ capacity building for making things happen on the ground and for advance of it in future is very urgent. New technology led sustainable development, besides industry sector, cuts across all other sectors. Hence, capacity building is necessary for fresh engineering graduates, on-job engineers, managers and company executives so that frontiers of technology and materials for sustainable development become mainstreamed.

**Global Change Programme (GCP)** at **Jadavpur University** [[juglobalchangeprogram.org](http://juglobalchangeprogram.org)] has been working on these issues for over last ten years in collaboration with internationally acclaimed Universities, research institutes, academics, researchers and practitioners with long term exposure, experience, and proven teaching, research, and training in the proposed field. The course proposed under **Global Initiative of Academic Networks (GIAN)** scheme of **MHRD, Government of India** is planned and will be offered as per the norms.

The **primary objectives** of the course are as follows:

- ✓ *Exposing participants to the fundamentals of sustainable development discourse and evolving paradigm*
- ✓ *Exposing participants to new emerging materials and application in various fields*
- ✓ *Providing exposure to practical problems and their solutions, through case studies (some currently ongoing projects) in the field of water access, energy access and waste management in Indian context*
- ✓ *Enhancing the capability of the participants to identify, control and remove unsustainability in current practices in the said fields*

### 3. The Faculty

- a) **Prof. Ashok Gadgil** (*Distinguished Chair of Safe Water and Sanitation, Professor of Civil and Environmental Engineering, University of California, Berkeley*)
- b) **Prof. Joyashree Roy** (*Professor of Economics & Coordinator, Global Change Programme, Jadavpur University*)
- c) **Dr. Susan Amrose** (*Lecturer in Civil and Environmental Engineering, University of California, Berkeley*)
- d) **Dr. Kalyan Kumar Chattopadhyay** (*Professor in the Department of Physics, Jadavpur University*)
- e) **Prof. Biswanath Roy** (*Department of Electrical Engineering, Jadavpur University*)
- f) **Dr. Amit Dutta** (*Associate Professor, Environmental Engineering Division, Department of Civil Engineering, Jadavpur University*)
- g) **Dr. Anupam Debsarkar** (*Associate Professor, Environmental Engineering Division, Department of Civil Engineering, Jadavpur University*)

### 4. Course Coordinators

<b>Dr. Anupam Debsarkar</b> <i>Associate Professor, Department of Civil Engineering, Jadavpur University, 188, Raja, S.C. Mallik Road Kolkata: 700032 Tel: +91 33 2457 2815 (Office) +91 98300 09708 (Mobile) Email: anupamju1972@gmail.com</i>	<b>Prof. (Dr.) Biswanath Roy</b> <i>Professor, Department of Electrical Engineering Jadavpur University, 188, Raja, S.C. Mallik Road Kolkata: 700032 Tel: +91 33 2457 2886 (Office) +91 98309 68881 (Mobile), Email: bwnroy@gmail.com, broy@ee.jdvu.ac.in</i>
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5. **Date & Time of Registration:** 27<sup>th</sup> January (Friday), 2017, (4:00-4:30) p.m.

6. **Venue of Registration:** Seminar Hall, Department of Electrical Engineering, Jadavpur University

## 7. Course Schedule

<b>Date</b>	<b>Session-1 (4:30-6:00) p.m.</b>		<b>(6:00-6:15) p.m.</b>	<b>Session-2 (6:15-7:45) p.m.</b>
27.01.2017	Inauguration by <b>Dr. Pradip Kumar Ghosh</b> , Registrar, Jadavpur University & Local Coordinator, GIAN Scheme	<b>Technology Innovation for Sustainable Water Access- Part-I</b> (Dr. Susan Amrose) (Foreign Faculty)	<b>Tea Break</b>	<b>Materials for Sustainable Development- Part-I</b> (Prof. Kalyan Kumar Chattopadhyay)
28.01.2017	<b>Technology Innovation for Sustainable Water Access- Part-II</b> (Dr. Susan Amrose) (Foreign Faculty)			<b>Materials for Sustainable Development- Part-II</b> (Prof. Kalyan Kumar Chattopadhyay)
30.01.2017	<b>Technology Innovation for Sustainable Energy Access</b> (Prof. Biswanath Roy)			<b>Technology Innovation for Sustainable Solid Waste Management</b> (Dr. Amit Dutta)
31.01.2017	<b>Special Invited Lecture on Developmental Engineering</b> (Prof. Ashok Gadgil)			<b>Technology Innovation for Sustainable Liquid Waste Management</b> (Dr. Anupam Debsarkar)
02.02.2017	<b>Sustainable Development- Challenges &amp; Opportunity</b> (Prof. Joyashree Roy)			<b>Interactive &amp; Valedictory Session</b>