

### Eligible candidates:

MTech/PhD/PostDoc and/  
Working graduates with more  
than 2 year experience,  
interested to learn and start their  
composites industry in India.

### Registration, Shared accommodation and food:

MTech/PhD/PostDocs:  
IITKgp: Rs6,500+GST,  
External: Rs9,500+GST  
Professionals (2+ yr experience):  
Rs12,500+GST

First 30 candidates will be  
selected on a 'first-come-first-  
served-basis.' All travel to reach  
IITKGP is to be borne by the  
candidates.

### Course Registration & online payment

Candidate should apply **online**  
through the following procedure  
by clicking 'how to apply' and  
'how to pay' on the Short term  
course SELF SPONSORED at the  
link

<https://erp.iitkgp.ac.in/CEP/courses.htm>

### How to reach IIT Kharagpur

The fully green academic  
campus about 8.5 sqkm is  
located 2 hr 50 min drive from  
Dumdum International Airport,  
Kolkata and 10 min drive from  
Kharagpur Railway Station.

### Course Duration and delivery:

4-day course (cannot be booked  
for one day). Courses will be  
delivered by experts from  
*around the world* in the field of  
advanced and automated  
composites.

### Enquiries

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## Short Term Course

### COMPOSITES 4.0

Present and Future

## COM4 2019

20 Aug -  
23 Aug  
19

Coordinators:

**Dr Nilanjan Das Chakladar**  
**Professor Surjya K Pal**



5<sup>th</sup> Floor DHI office, CRR Building

**DHI Centre of Excellence in  
Advanced Manufacturing  
Technology**

**IIT Kharagpur**

**5<sup>th</sup> Floor, CRR Building**

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### **Day 1 (9:30 – 17:30)**

- Registration
- What is Composites 4.0?
- Scope of Composite MSMEs in India
- Purpose and foundation of DHI centre
- How DHI centre could help/ collaborate with MSMEs and big industries?

### **Day 2 (10:00 – 17:00)**

- Traditional manufacture of composites and Industry 4.0
- Automation in Robotics – Robotic Manufacture
- Advancements of composites in Aerospace Industries.
- Composites in Rail Industries.
- Automotive Composites and their enhancements.

### **Day 3 (10:00 – 17:30)**

- How composites mechanics, design and fabrication are linked?
- Challenges/opportunities of setting up Composites industry in India?
- Composites in Biomedical and Spacecraft applications.

### **Day 4 (09:30 – 15:45)**

- In-situ sensing and prediction of automated composites
- Structural Health monitoring of aerospace composite systems.
- Zero-waste and zero-defect manufacture of composites.
- Interactive session, certificate, souvenir, feedback.

## **Short Term Course COMPOSITES 4.0 Present and Future COM4 2019**

**In this course, we will deliver the current stand of industrial composites in India and abroad, opportunities of MSMEs under the 'Make-In-India' initiative in Composites, or as we call 'Make-Composites-In-India'. And can we promote composite manufacturing in India as an Industry 4.0 enabled technology? We look forward to your support and help in composite growth in India toward automated composite fabrication to lead the World Composite Exports – a tiny initiative from IIT Kharagpur, India 721302.**

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Manufacturing Technology  
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