

# Indo-Japan Workshop 2018 ON

# Highly conductive CFRP using conductive polymers and nanomaterials for structural applications

# 26 - 28<sup>th</sup> November, 2018



Organized by CSIR-National Physical Laboratory Dr. K. S. Krishnan Marg, New Delhi-12 www.nplindia.org

in collaboration with Department of Science and Technology, Government of India, India & Japan Society for Promotion of Science, Japan

### About the workshop

Carbon-based materials have captured broad interest in the materials science community for decades. Carbon is an extremely light and versatile material depending on the bonding of the constituting carbon atoms, has extremely varying properties. Well-known classic examples of carbon allotropes are diamond, graphite and amorphous carbon. The carbon in the form of carbon fiber is a light weight structural material and its specific properties are higher as compared to aluminum and steel. Therefore, carbon fiber composites are used as structural materials in various applications.

The use of advanced polymer composites and new structural concepts nowadays is not restricted to highly technical areas like aerospace and automotive industry, but entering other fields of engineering and architecture. Carbon Fiber Reinforced Polymer (CFRP) is a kind of common composite material which is widely used in various light weight and high strength structural applications especially in aerospace fields. CFRP materials possess excellent specific strength but worse electric conductivity compared to traditional metallic materials, which limits its application where conductivity is highly desirable in addition to its high strength such as in aerospace where CFRP composite must be susceptible to lightning strikes. This has opened new avenue for development of conductive CFRP composites. Worldwide including the pioneers of the field like Japan and USA are exploring the possibilities of making high strength conductive CFRP. Considering the national and international scenario, CSIR-NPL in association with University of Tokyo is organizing a joint workshop on 'Highly conductive CFRP using conductive polymers and nanomaterials for structural applications" on 26-28 Nov 2018 with support of DST India and JSPS Japan under

Indo Japan workshop Programme. The motive of the workshop is to provide platform for bilateral discussion and exchange of ideas on development and studies on conductive CFRP composites amongst eminent scientists and experts from Japan and India.

### Important themes of the workshop

- 1.Carbon fiber reinforced polymer composites (CFRP) for aerospace and automobile application
- 2. Lightning strikes damages in CFRP
- 3.Conducting Carbon fiber based composites for EMI shielding
- 4.Carbon-SiC composite structure for aerospace application
- 5.Carbon -carbon composite
- 6.Carbon nanotubes based polymer composite
- 7. Graphene oxide based polymer composite
- 8.Pitch based carbon materials

# **Participations**

The scientists, faculty members, researchers and peoples from industries especially working in the area of carbon based materials from various universities, institutions and industries are invited to participate to present their work in the form of talks and posters in the workshop addressing the latest updates of the field.

# Call for technical paper

Technical papers are invited in the areas specified under the scope of workshop. Interested participant are invited to submit abstract not exceeding 300 words (Times roman, font 12 point) in English. The authors of the selected abstracts will be intimated.

### **Registration Fee**

Industry Participants : Academia/Researcher: Students Rs.6,000/-Rs.5,000/-Rs.3,000/-

15/10/2018

25/10/2018

**Important Dates** 

Deadline for Registration and submission of abstract:

Intimation Regarding Acceptance:

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