

### **Registration:**

Course registration is to be performed on ERP of IIT Kharagpur website link:

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

### **Registration Fee:**

**For Indian Nationals**

**INR: 35,000 + GST (18%)**

**For Foreign Nationals**

**USD: 1,200 (including GST)**

Current GST rate 18%. The GST will be added as applicable.

The course fee is to be paid online through registration and payment gateway.

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

**Limited Seats: 30 (Thirty only)**

### **Address for Correspondence:**

**Prof. Neeraj Kumar Goyal** (Coordinator)

Associate Professor

Subir Chowdhury School of Quality & Reliability

IIT Kharagpur, West Bengal – 721302

Tel: +91 3222 28 3990

Fax: +91 3222 28 2290

Mob: + 91 9434741267

Email: [ngoyal@hijli.iitkgp.ac.in](mailto:ngoyal@hijli.iitkgp.ac.in)

**Dr. Ajeet Kumar** (Co-coordinator)

Technical Principal- RAMS

Global Delivery Service

Mott MacDonald, Bangalore - India

Mob: + 91 8886411889

Email: [ajeet.mnnit@gmail.com](mailto:ajeet.mnnit@gmail.com)

### **Participating Organizations (Earlier Editions):**

- AECOM India Pvt. Ltd.
- Alstom Transportation
- Atkins, Bangalore
- Bangalore Metro Rail Corporation
- Bombardier Aerospace, Bangalore
- Bureau Veritas
- Central Electronics Limited
- Dedicated Freight Corridor Corporation
- DB International GmbH
- Delhi Metro Rail Corporation Limited, Delhi
- DNV GL Business Assurance India Private Limited
- Dubai Metro
- EGIS India Consulting Engineers Pvt Ltd
- Etap Automation Pvt Ltd
- Etihad Rail DB Operations LLC
- Expolink Route 2020
- FCC - Riyadh Metro Rail
- FLOW Riyadh Metro Rail
- G. G. Tronics
- Geometric Global
- Hyderabad Metro Rail Ltd
- Indian Railways
- Kochi Metro Rail Ltd,
- Keolis Hyderabad Metro Rail Transit System
- L&T Construction - Transportation Infrastructure IC
- L & T Metro Rail
- L&T Technology Services
- Louis Berger
- Maharashtra Metro Rail Corporation, Nagpur
- MEGA Company Ltd., Gandhinagar
- Metro One Operation
- Motorola Solutions India
- Mott MacDonald India
- Mumbai Metro Rail Corporation Ltd
- National High Speed Rail Corporation Ltd
- RAMPED, Saudi Arabia
- Rapid Metro Gurgaon South Limited
- Rail Vikas Nigam Limited
- RITES Ltd
- Roads and Transport Authority, Dubai
- RSK Business Solution Limited
- QDVC (Qatari Diar Vinci Construction)
- Saudi Arabian Parsons Limited, Riyadh
- Saudi Railway Company
- Scomi Engineering Bhd.
- Sener Ingenieria Y Sistemas
- Serco Limited
- Systra MVA Consulting
- Siemens Mobility
- Shimizu Corp., Singapore
- Tata Projects Limited
- ThyssenKrupp Elevator Saudi Ltd., Riyadh
- TVM Signalling and Transportation System
- Vedanta Limited

## **Short-term Course on RAMS for Railway Systems**

(Online)

**Dec 06 - 10, 2021**



*Organized By:*  
**Subir Chowdhury School of Quality and Reliability, IIT Kharagpur, WB, INDIA**

## About Subir Chowdhury School of Quality and Reliability, IIT Kharagpur

IIT Kharagpur is the largest technical institution in India and gets ranked among best institutions in the country imparting technical education and research. The Subir Chowdhury School of Quality and Reliability was formerly known as Reliability Engineering Centre, which came into existence in 1983. The school offers M Tech, MS and PhD degrees in Quality and Reliability Engineering. Besides, the school is actively engaged in sponsored research and offers consultancy services to various public and private organizations.

### Brief About the Course

#### Earlier Courses:

RAMS for Railway Systems course is being offered since last seven years. This course has been conducted during July 21-25, 2014; July 27-31, 2015; July 11-15, 2016; July 10-14, 2017; July 9-13, 2018; July 8-12, 2019 and Dec 14-18, 2020 (Online). The programs received good response from industries in terms of participation and on completion of the course the feedbacks were highly positive. Based on the feedbacks and multiple requests received, the program is proudly being offered again. We look forward to benefit railways authorities, infrastructure managers and rail support industries through bringing awareness about RAMS concepts and provide basic training in these concepts.

#### Who Should Attend?

Practicing professionals, Engineers and Managers in the fields of design, development, consulting, manufacturing, audit, operations, maintenance, and QA/QC in the rail and rail support industries.

## Industry Problem Discussions

If your organization or project is facing any challenge or problem related to RAMS, please feel free to write to us in the form below. This can be used during the program for discussion and resolution.

Name: \_\_\_\_\_

Organization: \_\_\_\_\_

Problem Statement:

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### Program Coordinators:

#### Coordinator:

**Prof. Neeraj Kumar Goyal**  
Associate Professor  
Subir Chowdhury School of  
Quality and Reliability, IIT Kharagpur

#### Co-coordinator:

**Dr. Ajeet Kumar**  
Technical Principal- RAMS  
Mott MacDonald, Bangalore, India

### Faculty:

The program is designed and delivered by RAMS experts with years of experience in System Assurance & RAMS on railway industries with cross-functional domain understanding of transport sectors. Almost all faculty members are currently associated with the industry in a consulting role.

### Program Contents:

- Introduction to System Assurance & RAMS,
- RAMS Parameters & Reliability Prediction
- Accelerated Life Testing
- Failure Data Analysis
- Failure Mode Effects and Criticality Analysis
- Fault Tree Analysis
- System Reliability Modelling
- Apportionment of RAM Parameters
- Functional Safety: Hazard, Risk, Risk Matrix, Risk Acceptance Principle and Criteria
- Safety Analysis & Management: PHA, SHA, IHA, O&SHA, Hazard Log, Safety Case
- Concept of THR, TFFR, SIL, and SIL Determination
- Understanding RAMS Standards for Railway Application - EN 50126, 50128 and 50129
- Indicative RAMS Deliverables for Rail Projects
- Safety & RAMS Demonstration during O&M
- New Trends and Technologies