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Minister of Human Resource Development, Govt of India

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Prof. Sourav Mukherji, IIM Bangalore
(Management Schools)

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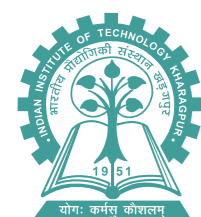
Dr. (Mrs.) Pankaj Mittal, Additional Secretary
(UGC approved Universities & Law schools)

Dr. B. L. Rama, Director, AICTE
(AICTE approved Engg. Colleges)

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Information of local Coordinators of all Institutes
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GLOBAL INITIATIVE OF ACADEMIC NETWORKS

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MINISTRY OF
HUMAN RESOURCE DEVELOPMENT, GOVT. OF INDIA



National Coordinating Institute
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR



MHRD
Govt. of India

सत्यमेव जयते

Background

Govt. 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.

GIAN is envisaged to catalyse higher education institutions in the country, and that it will initially include all IITs, IIMs, Central Universities, IISc Bangalore, IISERs, NITs and IIITs subsequently cover good State Universities where the spinoff is vast. GIAN is an evolving scheme which will initially include participation of foreign faculty in Institutes as Distinguished / Adjunct / Visiting faculty / Professors of Practice, etc., to participate in delivering Short or Semester-long Courses. Other activities will be included in due course.



The proposed GIAN is envisaged to achieve the following objectives:

- To increase the footfalls of reputed international faculty in the Indian academic institutes.
- Provide opportunity to our faculty to learn and share knowledge and teaching skills in cutting edge areas.
- To provide opportunity to our students to seek knowledge and experience from reputed International faculty.
- To create avenue for possible collaborative research with the international faculty.
- To increase participation and presence of international students in the academic Institutes.
- Opportunity for the students of different Institutes/Universities to interact and learn subjects in niche areas through collaborative learning process.
- Provide opportunity for the technical persons from Indian Industry to improve understandings and update their knowledge in relevant areas.
- Motivate the best international experts in the world to work on problems related to India.
- Develop high quality course material in niche areas, both through video and print that can be used by a larger body of students and teachers.
- To document and develop new pedagogic methods in emerging topics of national and international interest.



International Faculty

Distinguished International Faculty identified by the International Advisory Committee / GIAN Implementation Committee / Participating Institutes / various International Academies / Missions abroad and approved by the GIAN Implementation Committee have agreed to participate in the GIAN programmes at regular / annual / bi-annual periods. Their programmes will be developed by the National and Group Coordinating Institutes or Members of the GIAN Implementation Committee in consultation with the International Advisory Committee.

Honorarium to International Faculty

A maximum amount of US\$ 8000 for 12 to 14 hours of lectures and US\$ 12000 for 20 to 28 hours of lectures will be paid to the International experts covering their travel, honorarium and video recording of their Lectures. Local hospitality will be arranged by the Host Institution. The duration (number of weeks/days) can be mutually decided by the host institution and the visiting faculty.

Development of Repository

Host Institution will seek prior approval from all speakers for dissemination, archival and creation of repository of the activities conducted. A digital repository of the activities under GIAN will be kept. All permitted courses will be archived by the host institution and made available for dissemination. One copy will also be provided to the National Digital Library. Subsequently these may be used as part of various activities under various on-line programmes of MHRD like SWAYAM.



Who can apply?

Faculty members from all IITs, NITs, IISc, IISERs, IIST, National Law Schools, IIMs, Central Universities and State universities selected by AICTE and UGC.

Procedure

Proposal to offer a subject in the template available at GIAN portal should be submitted to local coordinator of your Institute. The local coordinator will login to GIAN portal and upload the proposal.

Broad Area of Interest

The proposal should be in one of the following areas:

- Physical Sciences
- Chemical, Bio-Chemical & Material Sciences
- Mathematical & Computer Sciences
- Life Sciences & Healthcare
- Electronics, Electrical, Information & Communication Technology
- Mechanical Sciences & Infrastructure
- Earth & Environment Sciences
- Management
- Social Sciences
- Humanities & Liberal Arts
- Architecture, Design, Planning and Heritage
- Law
- Other Interdisciplinary categories

Faculty / Expert from outside India

Foreign faculty/experts from academic Institution, research organisation and Industry are welcome to participate in the GIAN program. They can either submit a course proposal in the format / template available at GIAN portal or send their expression of interest to take part as International faculty to the National Coordinator, GIAN (gian@iitkgp.ac.in).



MHRDScheme onGlobalInitiativeonAcademic Network(GIAN)

COURSE TITLE

1.0 Overview

In today's highly competitive business environment, management of physical assets (their selection, maintenance, inspection and renewal) plays a key role in determining operational performance and profitability of any business unit, manufacturing plant or industry that operate assets as a part of their core business. Asset Management, being the art and science of making right decisions and optimizing these processes, attempts to minimize the total life cost of assets and directly or indirectly influences manufacturing/production/operation/service cost, processes and quality, and throughput or delivery time. There is particular interest in the application of asset management principles to the management of engineering systems in any industrial unit where the cost and performance of the assets are of major significance.

Asset Management for any engineering system needs to focus on maintenance, renewal and enhancement activities, with an integrating mechanism, on delivering sustainable outputs valued by customers and funding providers at the lowest whole-life cost emphasizing on creating knowledge of how assets degrade and fail to optimize maintenance and renewal interventions. It is essential that industries across India, many organizations of which being asset-intensive, promote a consistent asset management approach to their infrastructures and systems in overall manufacturing, production and supply chain domain to develop their own methods, standards and framework for achieving excellence in business performance.

2.0 Objectives

The primary objectives of the course are as follows:

- i) Exposing participants to the fundamentals of asset management practices,
- ii) Building in confidence and capability amongst the participants in the application of asset management tools and techniques and mapping the organizational activities and problems in terms of Asset Management framework,
- iii) Providing exposure to practical problems and their solutions, through case studies and live projects in asset management,
- iv) Enhancing the capability of the participants to identify, control and remove asset management-related problems in engineering system.

3.0 Teaching Faculty with allotment of Lectures and Tutorials

(Foreign Faculty should teach minimum 60% of the total course)

1. [Prof. Robert Langer \(RL\)](#) : 6 hrs lectures and 6hrs tutorials
2. Prof <Host Faculty>(PKR) : 4 hrs lectures and 4hrs tutorials

4.0 Course details

4.1 Tentative Duration: June 23 – June 27, 2017 (5 days) : 10 hrs lectures and 10 hrs Tutorials

4.2 Tentative Lecture Schedule

Day1

Lecture 1 : 1 hrs: RL

Process Design Paradigm, Process Synthesis Approaches, Hierarchical Systematic Generation Task Coordination and Integration

Lecture 2: 1 hrs : RL

Residue Curve Theory, Separation Scheme Synthesis and Other Uses for Residue Curves,

Opportunistic Separation Scheme Synthesis,

Tutorial 1: 2 hrs: RL

Problem solving session with examples: Heat Exchanger Networks, Heat-Integrated Distillation, Process Flowsheet Intensification

Day 2

Lecture 3 : 1 hrs: PKR

Challenges for Means-Ends Analysis Approaches, Strategic Separation Scheme Synthesis for Nonideal Systems

Lecture 4:1 hrs: RL

Residue Curve Theory, Separation Scheme Synthesis and Other Uses for Residue Curves, Opportunistic Separation Scheme Synthesis,

Tutorial 2: 2 hrs: PKR

Problem solving session with examples: Heat Exchanger Networks, Heat-Integrated Distillation, Process Flowsheet Intensification

Day 3

Lecture 5 : 1 hrs: RL

Process Design Paradigm, Process Synthesis Approaches, Hierarchical Systematic Generation Task Coordination and Integration

Lecture 6: 1 hrs: PKR

Residue Curve Theory, Separation Scheme Synthesis and Other Uses for Residue Curves, Opportunistic Separation Scheme Synthesis,

Tutorial 3.: 2 hrs: RL

Problem solving session with examples: Heat Exchanger Networks, Heat-Integrated Distillation, Process Flowsheet Intensification

Day 4

Lecture 7 : 1 hrs: RL

Challenges for Means-Ends Analysis Approaches, Strategic Separation Scheme Synthesis for Nonideal Systems

Lecture 8: 1 hrs: PKR

Residue Curve Theory, Separation Scheme Synthesis and Other Uses for Residue Curves, Opportunistic Separation Scheme Synthesis,

Tutorial 4: 2 hrs: RL

Problem solving session with examples: Heat Exchanger Networks, Heat-Integrated Distillation, Process Flowsheet Intensification

Day 5

Lecture 9: 1 hrs: RL

Nonlinear Optimization of distillation columns, Formulation of optimization problem, Solution techniques

Lecture 10: 1 hrs: PKR

Nonlinear optimization of Heat Exchanger Networks

Tutorial 5: 2 hrs: PKR

Problem solving on nonlinear optimization of distillation column and heat exchanger networks

Date of Examination: June 28, 2017

5.0 Who can attend

- Executives, engineers and researchers from manufacturing, service and government organizations including R&D laboratories.
- Student students at all levels (BTech/MSc/MTech/PhD) or Faculty from reputed academic institutions and technical institutions.

6.0 Detailed CV of Experts

6.1 CV of [Prof. Robert Langer](#)

6.2 CV of Prof <Host Faculty>

7.0 PROPOSED BUDGET

[Maximum 8000 / 12000 USD for 12-14 lectures (5 day)/ 24-28 lectures (10 day)]

Sl No	Description of budgetary head per Course	Amount (Rs.)
1	International Expert Air Fare,	1,50,000
2.	Honorarium to Expert (\$300 X 6 + \$250 X 6)*68	2,24,400
3	Lecture Notes/video-learning material preparation	50,000
4	Video recording expenses	50,000
5	Contingency & Miscellaneous	50,000
	GRAND TOTAL	5,24,400

Course Coordinators

(signature)

Professor < Name of Coordinator >

Principal Coordinator

Department of Industrial Engineering and Management, IIT Kharagpur

Kharagpur .721 302 West Bengal

Tel:

Email: