A short-term course on

Cost Effective and Sustainable Solutions for Management of Hazardous Waste

under the aegis of MHRD—Global Initiative of Academic Networks

Overview

Hazardous waste is any unwanted material, the disposal of which poses a threat to the environment. Sources of hazardous waste include hospitals, petrol storage, metal finishing, paint manufacture, vehicle servicing, tanneries, agriculture/horticulture, electricity distribution and dry cleaning. To prevent landfills themselves being environmental hazards, conditions of resource constraints granted under the Resource Management Act 1991 generally control the types of waste that can be deposited in them and the landfill design. The management of hazardous waste has dramatically changed and the emphasis has been shifted from site management to site remediation. The Ministry of Environment & Forests, Government of India, notified the Hazardous Waste (Management & Handling) Rules on July 28, 1989 under the provisions of the Environment (Protection) Act, 1986, which was further amended in the year 2000 and 2003 for effective management of hazardous waste (HW), mainly solids, semi-solids and other industrial wastes. The key objectives of these rules are to minimize the hazardous waste in terms of quantity, to dispose off as close to the source and reduce the trans boundary movement.

This specialized course intends to impart essential knowledge on various aspects of generation of Hazardous Waste in Indian and Global Scenario, its characterization, sustainable remediation techniques, and monitoring of disposal sites and conducting risk analysis. Participants will be exposed to current treatment practices and scope on development of cost-effective and environmental sustainable alternatives, protection measures to control the environment from pollution problems, safe disposal and final closure for hazardous waste management. Both fundamental concepts and practical aspects will be covered with examples and case studies in this course.

Modules	The course covers the following topics over a span of 5 days, from **Dec. 11 - Dec. 15, 2018**: ▪ Generation, Characteristics, Classification of Hazardous Waste ▪ Toxicity, Risk and Impact Assessment ▪ Treatment and Management Practices ▪ Remediation Technologies and Sustainable Alternatives ***Number of participants for the course will be limited to 50.***
Who can attend?	▪ Faculty from reputed academic institutions and technical institutions and students at all levels (B.Tech./M.Sc./M.Tech./Ph.D.) ▪ Civil, Chemical and Environmental engineers, Planners, policy makers and regulators from municipal solid and industrial waste management authorities ▪ Executives, Engineers and researchers from manufacturing, service and government organizations including R&D laboratories.
Fees	The participation fees for taking the course is as follows: ▪ Participants from abroad: US $200 ▪ Industry/ Research Organizations: Rs. 4000/- per participant ▪ Academic Institutions: Rs. 2500/- per participant ▪ M.Tech./M.Sc. and Ph.D. students: Rs. 1000/- per participant ▪ UG students: Rs. 500/- per participant The above fee includes all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, free internet facility. The participants will be provided with accommodation on payment basis in Hostels/Guest House on prior request.

The Faculty

Prof. Chittaranjan Ray joined the leadership team of the Robert B. Daugherty Water for Food Institute as permanent director of the Nebraska Water Center in August 2013. Ray was a Professor of Civil and Environmental Engineering at the University of Hawaii at Manoa, where he also was interim director of the Water Resources Research Center at UH, which like the Nebraska Water Center, is part of a network of more than 54 water resources research institutes in USA that were established by US Congressional mandate in 1964. In Hawaii, Ray also has served as the Interim Director of the university's Environmental Center and served as Chief Environmental Engineer for the Applied Research Laboratory, a U.S. Navy sponsored facility at UH. Before joining the UH faculty in 1997, Ray held positions in industry and at the Illinois State Water Survey. The holder of a Ph.D. in civil engineering from the University of Illinois, he has extensive experience in many facets of managing both water quantity and water quality issues. He is a pioneer in research on riverbank filtration for water supply, soil and ground water contamination from agricultural activities, and Hazardous Waste Management.

Dr. Rajesh Roshan Dash is an Assistant Professor of Environmental Engineering in the School of Infrastructure at IIT Bhubaneswar, Odisha, India since 2010. He has served in NIT Hamirpur and MNNIT Allahabad prior to joining IIT Bhubaneswar and has about 12 years experience in teaching and research. He has received his Ph.D. in Environmental Engineering from Indian Institute of Technology Roorkee. He has guided 2 Ph.D. theses and published peer reviewed 37 Journal papers, 8 book chapters and 40 conferences papers. His major research focus is on Treatment of Industrial wastewater and Management of Solid and Hazardous Waste.

Dr. Manaswini Behera is an Assistant Professor of Environmental Engineering in the School of Infrastructure, IIT Bhubaneswar. She has received her Ph.D. in Environmental Engineering from IIT Kharagpur and M.Tech. in Environmental Engineering and Management from IIT Delhi. She has joined IIT Bhubaneswar in 2014. Prior to joining IIT Bhubaneswar Dr. Behera was associated with VSSUT, Odisha and NIT Rourkela. She has published peer reviewed 11 journal papers and 15 conference papers and 3 book chapters and filed a patent on using ceramic separator as a cost-effective alternative to expensive polymeric membrane in microbial fuel cell. Her area of research is bioenergy recovery during treatment of industrial wastewater and solid waste in microbial fuel cell, grey water treatment and reuse. She has three ongoing sponsored research projects and 4 ongoing Ph.D. theses.

Venue

School of Infrastructure
IIT Bhubaneswar, Argul Campus
Jatni, Khurda Dist. -752050

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Course Co-ordinators

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Last Date of Registration:
November 30, 2018

Visit GIAN registration portal:
http://www.gian.iitkgp.ac.in/GREGN/index

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Online Payment of Course Fee
Bank Details

A/c Name	: CEP, IIT Bhubaneswar
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