



Important dates

Registration closing date: October 04, 2020

Workshop date: October 05, 2020



Program venue



Host details

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About the workshop

Under the Scheme for Promotion of Academic and Research Collaboration (SPARC) program of Ministry of Human Resources and Development, Government of India; IIT Kharagpur, International Centre for Genetic Engineering and Biotechnology, Washington University in St. Louis, USA and Arizona State University, USA have joined hands for the workshop on 'Recent Advances in Metabolic Engineering for Microbial Cell Factories' where Indian and American project partners aims to cover state-of-the-art research challenges & breakthrough technologies behind the current trends in the field of Bioengineering Technology. The objective is to cover the recent research efforts across the globe by involving lectures delivered by distinguished academicians & researchers from India & the USA.



Target audience

Academicians, research scholars, UG, PG students, faculty members / professionals & industry personnel working in the concerned / allied discipline.

Registration URL: <https://erp.iitkgp.ac.in/CEP/courses.htm> to apply ONLINE.



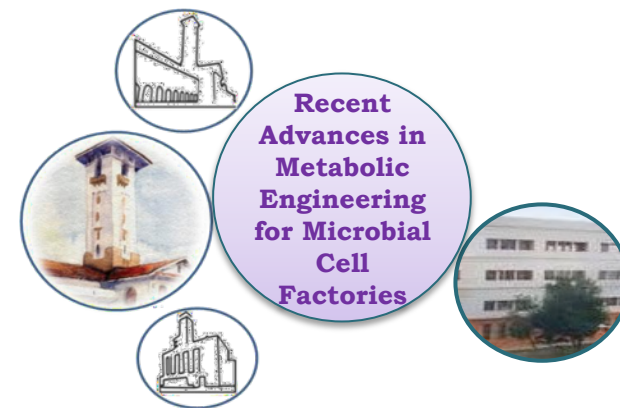
The maximum number of participants will be 50 (Fifty) on first-come-first-serve basis. The list of selected participants will be notified to their personal e-mail address.



Registration Fee

There is **NO REGISTRATION / PROGRAM FEE** for attending the workshop.

INDO-US SPARC WORKSHOP



October 05, 2020



Sponsored by

Scheme for Promotion of Academic and Research Collaboration (SPARC), MHRD, GoI



Organized by

School of Energy Science and Engineering
IIT Kharagpur

In collaboration with



International Centre for Genetic Engineering and Biotechnology



Washington University in St. Louis, USA



Arizona State University, USA



About SPARC

Scheme for Promotion of Academic and Research Collaboration (SPARC) is a Ministry of Human Resource Development (MHRD), GoI initiative to improve research ecosystem in India. It supports national premier educational institutions by facilitating academic and research collaborations between Indian institutions and the best and selected institutions across the world's 28 nations. The collaborative educational networks will work on common issue of national or international relevance. It encourages international faculty, for Indian institution visits and short- / long-term stays to teach courses and conduct workshops for the benefit of Indian researchers and students in the selected research area.



About IIT Kharagpur

Indian Institute of Technology Kharagpur (IIT KGP), the first and largest of 26 members IIT family was established in the year 1951 at Hijli detention camp at Kharagpur in West Bengal, India. This is probably one of the very few Institutions in the World which started its journey in a prison house. Since its inception in May 1951, this Institute has been transformed into a breeding ground for the dissemination of knowledge in the field of engineering and technology to reach the frame of a world class Institute. The Institute takes pride in its relentless effort to provide the best platform for both education as well as research in the areas of science and technology, infrastructure designs, entrepreneurship, law, management, and medical science and technology. The campus is lush green, calm and quiet and free from urban noise and pollution, an ideal temple for education and research. The campus is imaginatively laid out with a beautiful lake, green parks, huge playgrounds, big auditoriums, students' hostels, residential zones for faculty and staff members, health centre, cultural-cum-social and recreational zones for campus community. The Institute campus has all elements to fall in love at first sight.



Key resource persons



Dr. Yinjie Tang
Professor,
Department of Energy, Environment and
Chemical Engineering,
Washington University in St. Louis, USA



Dr. Arul Mozhy Varman
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Department of Chemical Engineering
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Dr. Shireesh Srivastava
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Dr. Pinaki Sar
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Organizing team

Workshop Coordinator



Amit Ghosh
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School Energy Science & Engineering,
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Workshop Co-coordinator



Riddiman Dhar
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Workshop outline

Metabolic Engineering is an emerging field of purposeful modification of cellular networks for biotechnological applications. It aims to introduce major insights into emerging paradigms that apply systems concept and engineering formalisms to design and construct new biological parts, devices, and systems for novel functions or life forms that do not exist in nature. It has gained a huge momentum in past few years for enhanced microbial production of metabolites including biofuels, pharmaceuticals, biochemicals and other value-added products. Model-guided prediction will help in rewiring of microbial physiology through synthetic biology tools for designing cell factories.

This one-day workshop will bring together Indian and the USA speakers to define a bird's eye view on metabolic engineering strategies for designing microbial cell factories. This workshop will enlighten upon the cutting edge tools, their applications, associated challenges in the field of systems and synthetic biology with customized tailoring of microbial cells for enhanced production of desired metabolites.

Talk content

- Principal challenges in microbial bioproduction for sustainable future.
- Opportunities in systems and synthetic biology for designing novel cell factories
- Synergistic approaches integrating systems and synthetic biology for metabolic engineering.
- Constraints-based Flux analysis for understanding cellular networks.
- CRISPR/Cas9: An emerging frontier in synthetic biology applications.
- Process development towards greener industrial bioproduction