

# Indo-US Workshop on EXTREMOPHILES IN BIOTECHNOLOGY



NOVEMBER 27-28, 2019

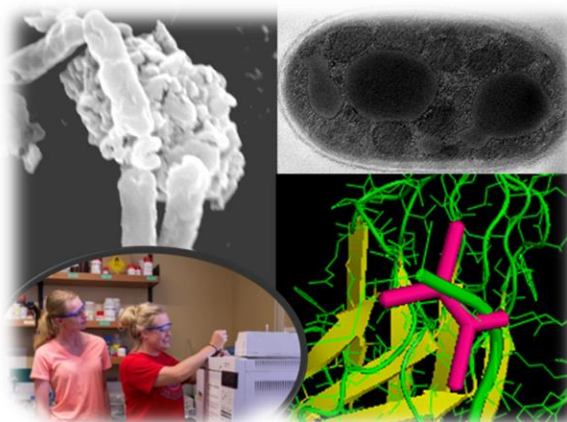
(Jointly hosted by  
KARE & SDSMT, USA)



Department of Biotechnology  
School of Bio and Chemical  
Engineering  
KALASALINGAM ACADEMY OF  
RESEARCH AND EDUCATION  
Krishnankoil – 626 126

## About the Short Course

This short course will introduce current topics in extremophilic microbial processes, emphasizing critical aspects and challenges of recalcitrant wastes conversion into bioenergy using extremophiles and their enzymes.



### Course Content

- Basic concepts of extremophilic processes design and development
- Challenges in the safe disposal of hazardous nuclear wastes and emerging pollutants
- Engineering of microbes and enzymes for industrial applications
- Case studies on the Uranium Detoxification, Crew Wastes Disposal, Greenhouse gas (methane) conversion, and Food Wastes to bioenergy project
- Recognize current trends in extremophilic bioprocessing in response to current demands from various sectors of industry
- Hands-on-training sessions

Participants are expected to learn both fundamental and applied aspects of microbial and enzymatic processing and will be able to take a lead role in developing novel integrated technologies for bioenergy generation.

## Resource Person

**Dr. RAJESH SANI**, Professor of Chemical and Biological Engineering at SDSMT, USA, and Adjunct Professor of Biotechnology at KARE will be the Resource Person for the short course. His research includes Extremophilic Bioprocessing, Genome Editing of Extremophiles, Heterologous Expression of Genes, and Metabolic Engineering. He has been the PI or co-PI on over \$44.39 million funded research. He has supervised many Postdocs, Graduate and Undergraduate students and, K12 teachers. He has one patent, seven invention disclosures, and published over 80 peer-reviewed articles in high impact journals, and has edited several books.

### BuG ReMeDEE

Building  
Genome-to-Phenome  
Infrastructure for  
Regulating Methane In  
Deep and Extreme  
Environments



He is currently leading a consortium (BuG ReMeDEE, supported by NSF) having 69 scientists and engineers from three different universities and 5 industries.

## Procedure of Selection

The course is open to college teachers, PG students and research scholars. Those who are interested can send the Registration Form to the Course Director. Registration fee for participation in the short course is Rs.800, which can be paid in cash or as DD.

**Selection** will be based on first-cum first serve basis. Selected candidates will be informed by email.

**Number of Participants: 30**

## About KARE

Kalasalingam University (*Kalasalingam Academy of Research and Education, KARE*), was established as Arulmigu Kalasalingam College of Engineering, in 1984 by the untiring efforts of philanthropist, Mr. T. Kalasalingam. The institution offers Undergraduate, Masters and Doctoral programs in various disciplines of Engineering, Technology, Sciences and Humanities. The university also offers a special undergraduate program for students impaired in speech and hearing, which makes it the only one of its kind in the country. The institution is re-accredited by NAAC with "A" grade and was awarded DIAMOND rating by QS-GAUGE.

The university campus is situated at Krishnankoil, near Srivilliputhur, an ancient town of religious significance. The university has many centers of excellence for research, including n-CARDMATH, Centre for Biotechnology and Center for Composite Materials. The International Research Center houses state-of-the-art equipment such as Scanning Electron Microscope, EDAX, X-ray diffractometer, AAS and FT-IR. The university has signed MoUs with a number of universities worldwide for research collaborations and for faculty and student exchange programs.

## About the Department

The Department of Biotechnology offers B.Tech., M.Tech. and PhD programs in Biotechnology. The department has independent teaching and research laboratories, equipped with state-of-art equipment to train students and to do research in various disciplines of modern biology. The department has well qualified faculty members who are well funded for their research by various funding agencies.

## About SDSMT

The South Dakota School of Mines & Technology (SDSMT) is committed to excellence in science and engineering academics and research, and to developing the next generation of leaders and problem-solvers. Founded in 1885, SDSMT is a science and engineering research university located in Rapid City, SD, USA offering bachelor's, master's and doctoral degrees. The university enrolls 2,778 students with a student-to-faculty ratio of 15:1. The SD School of Mines placement rate for graduates is 97 percent, with an average starting salary of \$61,300. In 2010, the School of Mines initiated a research strategic planning effort that led to the establishment of the four major research areas that will be the focus of the future. i) Energy and the Environment; ii) Materials and Manufacturing; iii) Underground Science and Engineering; and iv) Science, Technology, Engineering, and Mathematics (STEM) Education. These research areas have an initial critical mass of facilities and personnel; possess the ability to foster the future development of major new research activities within five to 10 years; enable the development of special niches of national excellence; are highly important for the state or nation, and well-supported with competitive grants and contracts by one or more components of federal funding agencies; and enable significant growth in graduate programs. SDSMT is home to a variety of research centers and laboratories contributing to economic development of South Dakota.

## Important Dates

**Last date for registration: 07/11/2019**

**Last date for payment: 20/11/2019**

## Registration Form

**Name (in block letters):**

**Organization:**

**Address:**

**Mobile:**

**E-mail:**

**Student / Research Scholar / Faculty Member:**

### Payment Details

**Amount:**

**DD. No\*:**

**Date:**

**Bank:**

**Signature**

\*The demand draft should be drawn in favour of **Department of Biotechnology, Kalasalingam University**, payable at Krishnankoil.

\**Accommodation if required can be arranged in the University Guest House / Hostels on payment basis.*

## Contact

**Dr. K. Sundar / Dr. B. Vanavil**

Course Directors

Indo-US Short Course on **Extremophiles in Biotechnology**

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