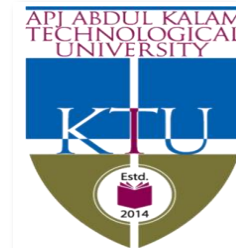




SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

KOTTAYAM, KERALA

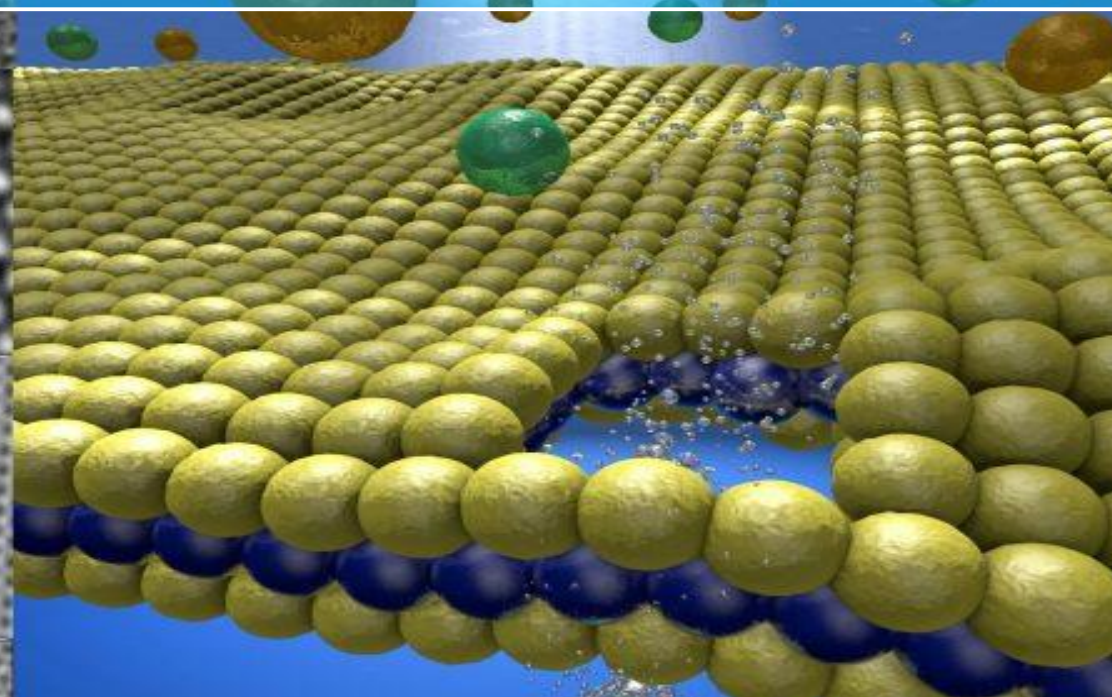
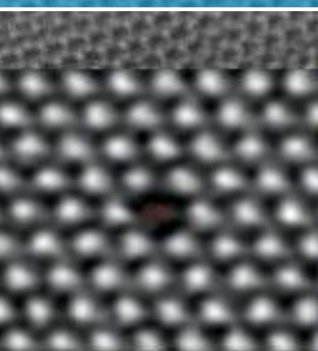
DEPARTMENT OF MECHANICAL ENGINEERING



APJ Abdul Kalam Technological University Sponsored Online Faculty Development Programme (FDP)

on

Nanofluidics: Theory, Experimentation, Computation and Applications



Date: 13 - 15 September, 2021

Registration Link : <https://forms.gle/CFjgTUtFwmtMsUng9>

No Registration Fee | E-Certificates will be provided

Last Date for Registration: 11 September, 2021

Contact:

Dr. Chacko Preno Koshy / Dr. Sreejith C C

chacko.preno@saintgits.org / sreejith.cc@saintgits.org

Phone | +91-9447369296 / +91-9496849501

LEARN . GROW . EXCEL



SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

KOTTAYAM, KERALA

DEPARTMENT OF MECHANICAL ENGINEERING



SAINTGITS
LEARN.GROW.EXCEL

About the Organizers

Life on earth is not possible without fluids. From flying planes to floating ships to the blood flow in organisms, fluid motion is inevitable. SAINTGITS College of Engineering, Pathamuttom in its desire to impart knowledge and education organize this invaluable initiative of Faculty Development Programme (FDP) sponsored by APJ Abdul Kalam Technological University, Thiruvananthapuram on “**Nanofluidics: Theory, Experimentation, Computation and Applications**”. The aim of this workshop is to provide a platform to academicians, practicing engineers and R & D professionals for sharing their knowledge and experiences in this field.

Saintgits College of Engineering, Kottayam

Right from inception, has been maintaining high levels of standards in academic and extra-curricular realms of activities. The college offers B.Tech. Degree course in 9 engineering disciplines, B.Des., and Master’s Degree courses in Engineering, Computer Applications and Business Administration. In the short span of 19 years of its existence, the college has bagged several university ranks and has a remarkably high percentage of pass. The college is also the venue of several national and state level seminars, conferences and symposia and has emerged as the hub of technical education in the state of Kerala. The college is located at Pathamuttom, Kottayam, Kerala. The college is affiliated to APJ Abdul Kalam Technological University, Thiruvananthapuram and the UGC has conferred **AUTONOMOUS** status last year. Further, the institution is accredited by the National Board of Accreditation (NBA) for 7 programmes.

Department of Mechanical Engineering

The Department currently offers UG programme in Mechanical Engineering and PG programme in Machine Design. The Department has experienced faculty and well established laboratories and liaison with reputed industries and R & D organizations. The association with California Institute of Technology (Caltech), Pasadena, USA, proves the mettle of the Mechanical Engineering Department. Moreover, the UG program run by the Department is certified with NBA Accreditation till 2022, which stands as one of the honours of the Department for providing quality based education.

Objectives

The branch of science that studies the various aspects of fluids and their dynamics is called fluid mechanics. Traditional fluid mechanics assumes the fluid to be continuous within the domain of interest. At nanoscale, where the time and length are of the order of 1×10^{-9} , this continuum assumption fails. This is because, with decrease in length scale, the particle nature of the fluid becomes increasingly significant. Theoretical nanofluidics investigate nanoscale fluid flow mechanisms using mathematical models that describe intermolecular interactions. Further, statistical mechanics is used to estimate the fluid properties from the particle motion. Knowledge on nano-confined fluids is crucial for fields such as surface technology, nanomembrane design, electronic chip heat conduction, nano-sensor design and many more. Lab-on-a-chip, Micro Electro Mechanical Systems (MEMS), Super-Capacitors, Bio-Membranes, Nanomembranes, DNA sensors etc. are few technologies that benefit from nanofluidics research.

The major course objectives are:

1. To disseminate the fundamental concepts of nanofluidics
2. To introduce various theoretical, experimental and computational methods for research in this area
3. To create awareness about the applications and opportunities in nanofluidics

It is with this background that the Department of Mechanical Engineering, SAINTGITS College of Engineering, Kottayam is organizing the FDP on “**NANOFUIDICS: THEORY, EXPERIMENTATION, COMPUTATION AND APPLICATIONS**” during 13-15 September, 2021 at our prestigious institution to reinforce the need for continued education in Nanofluidics.

The program is intended to provide a National platform for interaction between renowned Engineers of the country and the participants, comprising of teaching professionals, research and PG scholars and practicing engineers from Indian industry. Also this program intends to identify the areas where current research is being focused and to promote its viability.

Eligibility

This FDP is open to faculty members of AICTE approved Engineering colleges, Research Scholars working in various fields of Mechanical Engineering, persons from Industry, R&D organizations and PG scholars who have a genuine interest in the field of Nanofluidics.

Core Course Contents

Introduction to Nanofluidics - Micro and Nanoscale Modelling and Simulation (Computational Nanotechnology) - Molecular Dynamics : An Introduction - Nanoscale Energy Transport and Interfacial Phenomena in Nanofluidics - Modelling and Measurement Techniques in Nanoscale Heat Transport - Nanofluid flow through nanotubes and nanochannels – Industrial Applications of Nanofluids – Nano-fuels and Nano-lubricants - Thermophoretic Transport and Water Desalination through nanoporous membranes - Rarefied Gas Flows through a Nano-scale Confinement – Simulation and Experimental Studies - Flow Transport Behaviour of Red Blood Cells - Lab session of Molecular Dynamics using LAMMPS

CHIEF PATRONS

Shri. Thomas T John, Director, Saintgits Group of Institutions
Er. Punnoose George, Executive Chairman & Secretary, Saintgits Group of Institutions

ORGANIZING COMMITTEE

Prof. (Dr.) Josephkunju Paul C, Principal, Saintgits College of Engineering
Prof. (Dr.) M D Mathew, Dean – Research, Saintgits College of Engineering

ADVISORY COMMITTEE

Prof. (Dr.) Sadiq A, Dean (Academic), APJ Abdul Kalam Technological University, Thiruvananthapuram

ORGANIZING SECRETARY

Prof. (Dr.) Jacob T Varghese, Professor & Head of Department – Mechanical Engineering

FDP COORDINATORS

Dr. Chacko Preno Koshy & Prof. (Dr.) Sreejith C C, Department of Mechanical Engineering, Saintgits College of Engineering

FDP CO-COORDINATOR

Er. Philip Jacob Perakathu, Department of Mechanical Engineering, Saintgits College of Engineering

LEARN . GROW . EXCEL

Registration Link : <https://forms.gle/CFjgTUtFwmtMsUng9>

No Registration Fee | E-Certificates will be provided



SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

KOTTAYAM, KERALA

DEPARTMENT OF MECHANICAL ENGINEERING



APPLICATION FORM

Name :
 Designation :
 Department :
 Organization :
 Qualification :
 Experience :
 Mailing Address :
 Phone :
 Mobile :
 E-mail(Required) :

Date: **Signature of the Applicant**

SPONSORSHIP CERTIFICATE

Certified that Dr./Mr./Mrs. is a faculty of our institute and is hereby nominated for attending the **APJ Abdul Kalam Technological University, Thiruvananthapuram** sponsored online FDP on **“Nanofluidics: Theory, Experimentation, Computation and Applications”** to be conducted at **Saintgits College of Engineering (Autonomous), Kottayam** from 13th to 15th September, 2021.

Signature of the Sponsoring Authority
(With date and seal)