

**Hands on Training on
Material Science Suite Simulation
Technology in Pharmaceutical
Formulation Development**

1st & 2nd March, 2019

REGISTRATION FORM

Name:.....

Qualification :.....

Designation:.....

Department:.....

Address :.....

.....

.....

Pin code:.....

Mobile No:.....

Email:.....

DD. No:.....

Date :.....

Bank & Branch :.....

.....

Signature of the Applicant:.....

.....

Forwarded by :.....

(HOD/Principal)

Date :

REGISTRATION AND ACCOMMODATION:

Last date for registration on or before
22nd February 2019

REGISTRATION FEE:

Staff, Student and Research scholars - Rs
1000/-

Spot registration (Subject to availability)-Rs
1500/-

Registration restricted to 40 participants. It is based on first cum first serve basis. Filled in application along with registration fee in the form of D.D drawn in favour of 'PSG College of Pharmacy' payable at Coimbatore should be sent to The Principal, PSG College of Pharmacy, Peelamedu, Coimbatore – 641004.

RTGS details :

Name: PSG College of Pharmacy
A/C No:1481305371
IFSC code: CBIN0280913
MICR code: 641016006

ACCOMMODATION

Accommodation is available on request and payment in hostels subject to availability. For more details please visit the college web site at <http://www.psgpharma.ac.in>.

Convenor

Dr. M. Ramanathan, Principal
principalpsgcp@gmail.com

Organizing Secretary

Dr. V. Sankar, Vice Principal
sansunv@yahoo.co.in

Staff Members

Mr. S. Karthikeyan, Assistant Professor
Mobile No : 9629373693

Mrs. R. Nithya, Assistant Professor
Mobile No : 9788887041

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Material Science Suite Simulation
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PSG College of Pharmacy

(AN ISO 9001:2008 CERTIFIED INSTITUTION)

Approved by Pharmacy Council of India, New Delhi
and All India Council for Technical Education, New Delhi
Recognized as Industrial Scientific Research
Organisation by DSIR, Govt. of India, New Delhi
Accredited with 'B' Grade by NAAC (1st Cycle)



Organized by

**Department of Pharmaceutics
PSG College of Pharmacy**

Peelamedu, Coimbatore – 641004

Contact No. 0422 – 4345841

Website: www.psgpharma.ac

ABOUT THE COLLEGE

PSG College of Pharmacy, established in 2001 is housed in a 100 acre, sprawling Campus at Peelamedu, Coimbatore, along with other medical institutions. Constant interaction with other sister institutions like PSG Hospitals, PSG Institute of Medical Sciences & Research, PSG College of Technology and PSG College of Arts & Sciences have made this college unique to be a blend of technological advancements and health care activities. It offers B Pharm, M Pharm, Pharm D and Ph. D programmes. The Institution is one among very few pharmacy colleges in India to have NAAC accreditation, DSIR certification and ranked continuously in the last 3 years among the top 50 pharmacy institutions in the NIRF ranking.

OUR MISSION

To establish a 'Centre of Excellence' for Pharma Education & Research.

OUR VISION

To impart theoretical and practical knowledge in Pharma Sciences so that those who come out from the institution will have the exact mind set up for rational thinking and scientific innovations.

QUALITY POLICY

"We, at PSG College of Pharmacy endeavour to achieve Customers' satisfaction by providing excellence in Pharma Education & Research through continuous upgrading of facilities and energizing environment."

ABOUT THE DEPARTMENT

Department of Pharmaceutics was started in the year 2007. Centre for Drug delivery is equipped with Malvern Zetasizer, Texture analyser, High

speed, pressure Homogenizer, Probe sonicator, viscometer, lyophilizer and stability chamber. Faculty members received funds from ICMR, AICTE & The TN Dr. M.G.R. Medical University under different schemes.

ABOUT THE TRAINING

The speed and performance of computational modeling methods using quantum mechanics (QM) and molecular dynamics (MD) has significantly improved in silico screening of drugs in more complex environments.

Computer modeling simulations in the early phases of the formulation development process helps to rapidly identify candidate excipients for drugs, predict key experimental properties of the formulations, and determine the formulation stability.

This approach enables formulators to efficiently select and develop an optimum set of materials and methods for use. It is especially valuable for BCS Class II and Class IV drugs, which can demand unique and challenging formulation methods.

Workshop provides a platform for all faculty, research scientists, research scholars, to learn how understanding the computer simulation and simple chemical structure of a drug and excipient(s) will help during formulation development

Throughout the course of the two days workshop, participants will have the opportunity to get theoretical lectures and hands on session / training in Maestro Material Science Software from Schrödinger experts.

COURSE PLAN

Day 1

Session 1: Introduction

i. Introductory presentation ii. Basic concepts in molecular simulations iii. Introduction to Computer Aided Pharmaceutical Formulation Design (CAPFD). Descriptive vs Mechanistic Modeling. Computer simulation (isolated tissues organs, cells, proteins and genes)

Session 2: Hands-on session with GUI – MS-Maestro

i. Basic functionalities ii. Modeling vs simulation iii. Model buildings.

Session 3: Hands-on session – Setting up simulations

i. Quantum mechanical simulations – Chemistry problems ii. Molecular mechanical simulations – Physics problems iii. How to interpret the results

Day 2

Session 1: Optimization problems in pharmaceutical formulation development

i. Solubility improvements ii. Understanding the impurity formation iii. Choosing drug carriers excipients rationally using modelling tools iv. Physicochemical stabilization of formulation as a function of temperature pH and solvent v. Understanding the nanoparticulate formation at the molecular level

Session 2: Future of pharmaceutical formulation development using computer simulations

i. How machine learning algorithms will simplify the selection of excipients ii. Understanding the chemical reactions with simulations iii. Accelerated stability studies using simulations in no time

Session 3: Question and Answer session

i. Discussion on individual projects of participants ii. Concluding remarks