

## Registration

Academicians : 500/-  
Research Scholars 400/-

Accommodation will be made available for outstation participants on request.

## Terms and Conditions for Participation

- 1) Faculty members and Research Scholars from Fundamental Sciences, Biotechnology and Computer Science Subjects can participate.
- 2) Interested candidates can send their applications on or before 10<sup>th</sup> January 2018 by mail to  
[jain.jayashree@moderncollegegk.org](mailto:jain.jayashree@moderncollegegk.org)  
[soniajoshee@moderncollegegk.org](mailto:soniajoshee@moderncollegegk.org)
- 3) Selected candidates will be informed through E-mail by 15<sup>th</sup> January 2018. List will be displayed on college website also.
- 4) Selected candidates should submit the Registration fees on or before 20<sup>th</sup> January 2018 by CASH/NEFT/RTGS/DD in favor of "Modern College of Arts, Science and Commerce, Ganeshkhind, Pune"

### Account Details:

Bank of Maharashtra, Chatushrungi Branch,  
University Road, Pune - 411007

Saving Account Number : 60104287976  
Branch Code : 49  
MICR Code : 411014057.  
IFSC Code : MAHB0000049

Spot Registration  
(on availability of vacant seats) :  
Academicians : 700/-  
Research Scholars 500/-

\*Visit the college website [www.moderncollegegk.org](http://www.moderncollegegk.org)  
for Registration form, updates and declarations.

## ◀ Chief Patron ▶

**Prof. Dr. Gajanan R. Ekbote**

M.S., M.N.A.M.S

Chairman Business Council,

Progressive Education Society, Pune-411005

## ◀ Scientific Advisory Committee ▶

Prof. Dr. Vilas Kharat,  
Head, Department of  
Mathematics  
Savitribai Phule  
Pune University, Pune

Dr. Vijay Narkhede,  
Joint Director,  
Higher Education,  
Government of Maharashtra,  
Pune.

Prof. Dr. T. V. Ramnathan  
Head, Department of  
Statistics  
Savitribai Phule  
Pune University, Pune

Dr. Prakash Dixit  
Head, Department of  
Statistics, Modern college,  
Shivajinagar, Pune.

## ◀ Organizing Committee ▶

**Convener**  
**Dr. Sanjay Kharat**  
Principal

**Coordinator**  
**Mrs. Swati Kandharkar**  
Vice Principal (Science)  
Head, Department of Mathematics  
Contact Details: 9881091434  
Email id: [swatikandharkar@yahoo.co.in](mailto:swatikandharkar@yahoo.co.in)

All departmental staff members

## ◀ Local Advisory Committee ▶

**Mr. Shamkant Deshmukh**  
Secretary, P. E. Society (P.E.S)

**Mrs. Jyotsna Ekbote**  
Joint Secretary, P.E.S

**Mr. Suresh Todkar**  
Joint Secretary, P.E.S & Chairman LMC

**Dr. Prakash Dixit**  
Deputy Secretary, P.E. Society & Visitor

**Dr. Subhangi Joshi**  
Vice Principal (Commerce)

**Dr. Jyoti Gagangras**  
Vice Principal (Arts)

**Mr. Prakash Renuse**  
Office Superintendent



## National Workshop on

# “ USE OF APPROPRIATE SOFTWARES IN MATHEMATICAL MODELLING AND STATISTICAL ANALYSIS”.

on

9<sup>th</sup> & 10<sup>th</sup> February 2018.

**Organized by**  
**Department of Mathematics**  
&  
**Department of Statistics**

Progressive Education Society's,  
Modern College of Arts, Science & Commerce,  
Ganeshkhind, Pune - 411016

(College with 'STAR' status by  
**Department of Biotechnology (DBT),**  
Government of India, Reaccredited by  
NAAC with 'A' grade )

**Sponsored by**  
**DBT-CTEP ,**  
**Department of Biotechnology (DBT),**  
**Ministry of**  
**Science & Technology,**  
**Government of India,**  
**New Delhi**

## Invitation

It gives us immense pleasure to invite you for a two day National Level Workshop on

“ USE OF APPROPRIATE SOFTWARES IN MATHEMATICAL MODELING AND STATISTICAL ANALYSIS” Scheduled on 9<sup>th</sup> & 10<sup>th</sup> February 2018.

This Workshop is Jointly Organized by Department of Mathematics & Department of Statistics, Modern college, Ganeshkhind, Pune. It is Sponsored by DBT-CTEP, Department of Biotechnology (DBT), Ministry of Science & Technology, Government of India, New Delhi.

The workshop aims to explore the use of different Mathematical and Statistical tools and softwares. All teachers from various disciplines such as Mathematics, Statistics, Biotechnology, Life Sciences, Computer Science & researchers of all faculties can register for this workshop.

Presentations by eminent speakers followed by practical sessions will surely help the participants to enhance their skills.

We are looking forward for your valuable participation.

Mrs. Swati Kandharkar  
Coordinator

Dr. Sanjay Kharat  
Principal

## Introduction

Biological and Mathematical Sciences have been interconnected for a long time. Mathematical Sciences have an important role in various aspects of biological Sciences such as Ecology, Environmental Science, Medical Science etc. In fact, many biological processes are described by mathematical equations. Certain Mathematical concepts have arisen directly from the need to describe interactions, relationships, and processes in living systems. Modern technology allows researchers to rapidly generate a vast amount of data that are shared through virtual databases. Depending on how they are analyzed, can serve to answer a variety of questions. There are many fields of biological and life sciences, which demands the use of Mathematics and

computer science in addition to statistical tools/methods such as Regression analysis, ANOVA, Chi square tests. Thus, now more than ever, biologists need to be proficient in Mathematics, Statistics and Computer science to understand, analyze and interpret the data.

## Objective

The purpose of this workshop is to make aware & familiar with different Mathematical and Statistical tools and software's viz; R software, Mathematica, Ms-Excel, Sage Math, Python, Scilab. These softwares will help the researchers to analyze the models and the data collected or generated. Also will enhance the Teaching-Learning process.

## About Pune

Pune is an educational and cultural capital of India. It has emerged out as Information Technology and Biotechnology hub with renowned National Research Institutes like NCCS, NCL, IISER, NIV, HEMRL and DIAT. Pune city has a heritage of Savitribai Phule Pune University, NDA, Shaniwarwada, Sinhgad fort and many memorials of Maratha Empire.

## About Department of Biotechnology, Government of India, New Delhi.

In 1986, the Prime Minister of the country, late Rajiv Gandhi accepted the vision that unless India created a separate Department for Biotechnology, within the Ministry of science & Technology, Government of India, the country would not progress to the desired extent.

The well-known institutes like National Institute of Immunology, National Center for Cell Science, Pune, National Institute of Plant Genome Research, National Brain Research center, Center for Fingerprinting & Diagnostics, Institute of Life Sciences, Translational Health Science & Technology Institute, Institute for Stem Cell Biology & Regenerative Medicine, National Agri Food Biotechnology Institute at Mohali and National Institute of Biomedical Genomics at Kalyani in west Bengal function under the wings of DBT. International collaborations of DBT have become more strategic with better reach and breadth to enhance the interdisciplinary research. The main aim is to build knowledge environment and skilled workforce to strengthen the institutional capacity by giving financial assistance.

## About the College and the Departments

Progressive Education Society's, Modern College of Arts, Science & Commerce, Ganeshkhind, Pune is permanently affiliated to Savitribai Phule Pune University, Pune. College has received STAR Status from DBT, Government of India, New Delhi, Reaccredited by NAAC with 'A' grade and DST- FIST supported. The college offers 21 undergraduate, 10 Post Graduate courses and 2 Ph.D programs. Students from 18 countries and 24 states are admitted in the college. The Department of Mathematics & Department of Statistics are recipients of grants under DBT STAR scheme. Departments have conducted various workshops for teachers & students. Infrastructural facilities include ICT enabled classrooms, well equipped laboratories, departmental Library with variety of books, journals & softwares. Student Centric and co-curricular activities are also arranged by the Departments.

