



One Week National Workshop on Computational Mathematics and its Applications (NWCMA 2019)

September 12-16, 2019

Organized by *Department of Applied Mathematics, Maharaja Bir Bikram University, Agartala, Tripura, India*

CHIEF PATRON

Prof. Gautam Kumar Basu

Vice Chancellor
Maharaja Bir Bikram University

ADVISORY COMMITTEE

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Registrar, MBB University

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Tripura University

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COE, MBBU

CONVENER

Dr. Runu Dhar

ORGANIZING SECRETARY

Dr. Debadatta Adak

VENUE



Academic Building, MBB University

INTRODUCTION: Mathematics, as much as music or any other art, is one of the means by which we rise to a complete self-consciousness. The significance of mathematics resides precisely in the fact that it is an art; by informing us of the nature of our own minds it informs us of much that depends on our minds. Therefore, Mathematics is one of the essential emanations of the human spirit. In fact Mathematics is the door and key to the sciences. But Mathematics is like love; a simple idea, but it can get complicated. Fortunately to deal with analytical mathematical complicity we have computational mathematics. **Computational Mathematics** is a field closely connected with a variety of other mathematical branches. Often a better mathematical understanding of the problem leads to innovative computational techniques. Computational Mathematics is applied in a wide variety of fields, including weather forecasting, engineering, business and finance, artificial intelligence and medicine. The application of the modern methods of computational mathematics to simulate various real life problems has revolutionized interdisciplinary research and is one of the most significant achievements of the computer age. Therefore, developing & analyzing new & more efficient computational mathematical techniques so that the computer simulations can be carried out efficiently and accurately involves more than classical mathematics and elementary computer science. In our current world of interdisciplinary research there is now a significant demand for specialists who thoroughly understand the theoretical issues in computational mathematics. These specialists must be able to design new techniques, algorithms which cope with the computational demands of the simulations, and to develop robust software to implement these algorithms.

OBJECTIVE: The main objective of this workshop is to explore the new horizons of computational mathematics through the recent analytical and numerical developments. We would extensively discuss the applications of computational mathematics in theoretical and applied research. By learning to apply new techniques of computational mathematics, further opportunities of high quality, core as well as interdisciplinary research, will open in front of the young researchers. It will also provide an important platform to young researchers to interact with eminent academicians and discuss various questions & problems with esteemed scholars.

SCOPE OF THE WORKSHOP:

1. *Hands On training on methods to solve mathematical problems numerically using MATHEMATICA.*
2. *Hands On training in MATLAB and XPP AUTO.*
3. *Bio-inspired Optimization Techniques and their Applications*
4. *De-Novo Programming Approach to Solve Multi-Objective Optimization Problem.*

LOCAL ADVISORY COMMITTEE

Dr. Premtosh Majumder
Dr. Bindu Ranjan Chakma
Sri Prasenjit Roy
Dr. Anuj Kanchan Dattaroy
Dr. Sudip Bhattacharjee
Dr. Antiarbum Ranglong
Dr. Jhuma Majumder
Smt. Rebeka Debbarma
Dr. Rakesh Roy
Dr. Dipankar De

OUR SPEAKERS

Prof. Subhas Chandra Mandal

Department of Mathematics
Jadavpur University

Prof. Binod Chandra Tripathy

Department of Mathematics
Tripura University

Dr. Debasish Bhattacharya
Department of Mathematics
NIT Agartala

Dr. Paritosh Bhattacharya
Department of Mathematics
NIT Agartala

Dr. Apu Kumar Saha
Department of Mathematics
NIT Agartala

Suman Saha
Department of Mathematics
Jadavpur University

5. Applications of Fuzzy Logic, Fuzzy Graphs, Fuzzy Metric to solve real life problems. Operations on α – cuts and Fuzzy Numbers, Fuzzy Relations. Applications of Fuzzy Set.

6. Dynamics and Control of Different Types of Population Growth Model and Epidemic Model with Optimal Harvesting by some Numerical Techniques.

VENUE:

Department of Applied Mathematics, Maharaja Bir Bikram University, Agartala, Tripura-799 004

ABOUT TRIPURA AND AGARTALA:

Tripura is one of the *Seven Sisters* states of North-East India. It is immortal through the novels of the great *Rabindranath Tagore*. Agartala is the capital of Tripura. Holy shrine Tripureswari temple is situated about 50 KM from Agartala. Other attractions of Agartala are: State Museum at Ujjayanta Palace, Sipahijala Wildlife Sanctuary (habitat of spectacled monkey *Trachypitecus phayrei*), Kasba Kali Temple, Nirmahal etc. Agartala is well connected by Air with Kolkata, New Delhi and Guwahati as well as by bus/train from Silchar, Shillong, Guwahati and Dhaka (capital of Bangladesh). For sightseeing visit: www.Tripuratourism.com.

MAHARAJA BIR BIKRAM UNIVERSITY, AGARTALA:

It is a State University of Tripura and bears the name of the last King of Tripura *Maharaja Bir Bikram Kishore Manikya*. MBBU was established on 1st November, 2015. It consists of four PG Departments: Applied Mathematics, English, Public Administration and Library & Information Science. Maharaja Bir Bikram College, Bir Bikram Memorial College and Law College are affiliated to MBB University.

KEY DATES:

Last date of submission of Registration Form with fee: **14th August, 2019**

NOTE: Maximum **40 (Forty)** number of participants to be selected on “*First Come First Serve*” basis.

REGISTRATION FEE: Rs. 2000/- (Rupees Two thousand) only

- Registration fee has to be deposited directly to the Bank by **e-transfer or other procedures**
- Please send the photocopy of the Fee Submission Voucher with the registration form.

ACCOUNT NO: 38579950893

IN FAVOR OF: NWCMA2019

BANK NAME: State Bank of India, MBB College Branch

IFSC: SBIN0009126

Duly filled Registration Form has to be sent to **nwcma2019@gmail.com**.

ACCOMMODATION:

The participants have to arrange their own accommodation at Hotels/State Guest House/Youth Hostel.

TRANSPORT TO VENUE:

Rented vehicles and Autos are available from Agartala Airport (IXA) to the venue.

FOR ANY QUERY contact **Dr. Runu Dhar (08837275378)** and **Dr. Debadatta Adak (08777385202)**.