

### TOPICS COVERED

- Basics of cooperation that will include bargaining, fair division, cooperative game and voting.
- Dynamic games with examples and prove some results on existence of equilibrium
- Basics of Optimization Techniques through geometrical interpretation on Optimization of Convex and Concave functions.
- Bayesian and AI Approach to optimum computation.

### SPEAKERS

- Prof. Satya Deo, HRI, Allahabad
- Prof. K.N. Raghvan, IMSc Chennai
- Prof. Shashi Kant Mishra, BHU, Varanasi
- Prof. K.S. Mallikarjuna Rao, IIT Bombay
- Prof. Surajit Borkotokey, Dibrugarh University, Assam
- Prof. Sant Sharan Mishra, Dr.RML Avadh Uni, Ayodhya
- Prof. J.K. Verma, IIT Bombay
- Prof. R.K. Sharma, IIT Delhi, New Delhi
- Prof. Dilip P.Patil, IISc, Bangalore, Karnataka
- Prof. R.P. Sharma, Himachal Pradesh University, Shimla

### HOW TO JOIN ONLINE ONE WEEK WORKSHOP

Only shortlisted participants may join it. Fill the registration form through the link <https://nitnagaland.ac.in>

*Or*

Go through link

[https://docs.google.com/forms/d/e/1FAIpQLSfRNbMDXcz5F6I5BdSVlwEzXhjpvsSTYnZhhJlLMc84Dfnx1g/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSfRNbMDXcz5F6I5BdSVlwEzXhjpvsSTYnZhhJlLMc84Dfnx1g/viewform?usp=sf_link)

Web link to join the online workshop will be send to the shortlisted participants through their Email IDs.

### ABOUT THE INSTITUTE

National Institute of Technology Nagaland, a premier institute of higher learning, is one of the 31 NITs established by the Ministry of Human Resource Development (MHRD), Government of India. The basic aim of this Institute is to provide quality technical education, conduct original research of high standard, provide leadership in technological innovations for industrial growth and primarily for enhancing the scope of technical education in the state of Nagaland. National Institute of Technology Nagaland is located at Chumukedima, about 20 kilometres from Dimapur, Nagaland. At present there are six under graduate courses in Computer Science and Engineering, Electronics and Communication Engineering, Electrical and Electronics Engineering, Mechanical Engineering, Civil Engineering and Electronics and Instrumentation Engineering and five post graduate courses in Computer Science and Engineering, Electronics and Communication Engineering, VLSI System, Power System Engineering and Physics and also Ph.D program in Mathematics and all other existing disciplines.

### ABOUT THE COURSE

The Department of Mathematics, National Institute of Technology Nagaland is pleased to announce a one-week online National Workshop on "Algebra and Optimization 2020" from 23<sup>rd</sup> to 27<sup>th</sup> November 2020. The purpose of this course is to explore the domain of young researchers and faculty members to cutting-edge research in algebra and optimization with their applications. In this course, eminent mathematicians will give a discourse on designing mathematical models and also aid in exploring new techniques to enhance problem solving skills. Furthermore, this course aims to foster interaction among researchers from various institutes and universities.

### TOPICS COVERED

- Burnside rings for finite groups and compact Lie groups.
- Group Actions, symmetry and applications.
- Counting and construction of real and complex solutions of polynomial equations.
- Algebra based Cryptography

## One Week Online National Workshop On Algebra and Optimization 2020

November 23<sup>rd</sup> - 27<sup>th</sup>, 2020

Sponsored by TEQIP - III

National Institute of Technology  
Nagaland

FOR MORE INFORMATION

and

FOR ONLINE REGISTRATION

Please visit:

<https://nitnagaland.ac.in>

### IMPORTANT DATES

- Deadline for Registration : 20<sup>th</sup> Nov. 2020
- Short listing of participants: 21<sup>st</sup> Nov. 2020
- Course Dates : 23<sup>rd</sup> - 27<sup>th</sup>, Nov. 2020

### ABOUT THE DEPARTMENT

The Department of Science and Humanities is a multidisciplinary department comprising of Mathematics, Physics, Chemistry, Sociology and English. The Department lays special emphasis on quality research and developmental activities and is actively involved in teaching courses in basic sciences and humanities for under graduate and post-graduate engineering students. The Department of Mathematics is currently engaged in active Research on 'Ring and Module Theories' and 'Optimization Techniques for Engineering and Management Science'.

### ORGANIZING COMMITTEE

#### PATRON

Prof. S. Venugopal, Director, NIT Nagaland

#### CHAIRMAN

Dr. A. Wati Walling

#### COORDINATORS

Dr. Prem Prakash Mishra

Dr. Manoj Kumar Patel

#### ADVISORY MEMBERS

Dr. Amrit Puzari

Dr. Jhimli Bhattacharyya

Dr. Jyoti Prasad Borah

Dr. Debarun Dhar Purkayastha

Dr. Nibedita Paul

Dr. Sandip Paul Choudhury

Dr. Anirban Majumdar

Dr. Sweety Supriya

### ELIGIBILITY

- B.Tech./ M.Tech./ B.Sc./ M.Sc./ Ph.D. students,
- Faculty in Educational institutions/Industry Employees.
- Mode of the Program: **Online**.
- E-Certificate to all attended participants.

### HOW TO APPLY

For online registration participants are requested to visit the NIT Nagaland website and apply on or before 20th Nov. 2020.

### REGISTRATION FEE

Registration fee: **NIL**

### IMPORTANT INFORMATION

Total Intake: 200

The shortlisting criteria is decided by committee members.

### ADDRESS FOR COMMUNICATION

**Dr. Prem Prakash Mishra**

**Dr. Manoj Kumar Patel**

**Coordinators,**

Assistant Professor in Mathematics

Department of Science and Humanities

NIT Nagaland, Chumukedima

Dimapur-797103, Nagaland, India

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## One Week Online National Workshop on Algebra and Optimization 2020

**November 23<sup>rd</sup> - 27<sup>th</sup>, 2020**  
(Under TEQIP - III)



**Coordinators**

**Dr. Prem Prakash Mishra**

**Dr. Manoj Kumar Patel**



**Organized by**

**Department of Science and Humanities  
(Mathematics)**

**National Institute of Technology Nagaland  
Dimapur - 797103, Nagaland, India**