#### **About the Short-term Course**

The aim of this short-term course is to introduce about the Machine Learning using Python programming and its applications in various interdisciplinary fields, for example, Particle Physics, Space Physics, Medical Physics, Solid State Physics, Computer Science & Engineering, Electronics etc. During this program, the participants will be trained to prepare the mini projects as per their interests in their working areas.

In this short-term course, talks and tutorials by the speakers will mainly focus on:

Week 1: Machine learning software packages (open sources e.g. python) and their installation, Supervised and Unsupervised learning.

Week 2: Regression, Classification, Principal component analysis, Singular value decomposition.

Week 3: Support vector machines, Clustering, K-Nearest Neighbors.

Week 4: Decision trees, Neural Networks, Deep Learning

Week 5: Application of machine learning in physics research. Training on preparation of the mini projects in astrophysics, particle physics, space physics, medical physics, solid state physics, electronics, and computer science.

## **Eligibility Criteria**

Undergraduate Students, Postgraduate Students, Ph.D. Students, Faculty from Colleges/Universities, Industry People.

No prerequisite is required for this course.

Classes: Every week Saturday & Sunday 10:30 AM to 12:30 PM

# Online Short-term Course

on

Machine Learning using Python

3<sup>rd</sup> February 2024 to 3<sup>rd</sup> March 2024



Organized by:
Department of Physics,
Malaviya National Institute of
Technology Jaipur,
Rajasthan - 302017, India

www.mnit.ac.in

#### **Patron**



**Prof. N. P. Padhy**Director, MNIT Jaipur

# **Program Chair**



Prof. Kanupriya Sachdev
Head, Department of Physics, MNIT Jaipur

#### Convene



**Dr. Kavita Lalwani**Department of Physics,
MNIT Jaipur

Coordinator

**Dr. Anirban Dutta**Department of Physics,
MNIT Jaipur

# **Address for Communication**

E-mail: stcphy.mnit@gmail.com

# Last date of registration

January 30, 2024

# **Speakers**



Prof. Ankhi Roy
IIT Indore



**Dr. Kavita Lalwani**MNIT Jaipur



**Dr. Mahipal Jadeja**MNIT Jaipur



Dr. Amit Yadav
RBS Engineering Technical
Campus, Agra



**Dr. Kasturi Ghosh** Suresh Gyan Vihar University, Jaipur

### **About MNIT Jaipur**

MNIT Jaipur, is one of the NITs established by Ministry of Human Resource Development, Government of India. The Institute, earlier known as MREC, was established in 1963 as a joint venture of the state and central Governments. Later in 2002, the college was given the status of National Institute of Technology and on August 15, 2007, proclaimed Institute of National Importance through Act of Parliament. MNIT campus spreads over 325 acres of lush green area in the prime location of Jaipur city. At present, in addition to research, consultancy and developmental activities, the Institute offers undergraduate and postgraduate courses (B.Tech., M.Tech./M.Sc./MBA & Ph.D.) to about 5000 students, in fields of engineering, architecture, science, management and humanities & social sciences. MNIT Jaipur ranked at 37<sup>th</sup> position in NIRF 2023 Ranking.

#### Registration Fee & Procedure

All Participants (Students/Faculties/Scientist/ Post-doctoral Fellows/Industry personnel): Rs. 1000/ Registration fee includes 18% GST and is non-refundable \*Registration fees have beed revised due the several request from the participants.

The online link will be shared with the registered participants later, and a certificate will be issued to the successful candidates.

The applicable registration fee must be deposited online as per the below details:

Payment Mode: NEFT/IMPS
Bank Name: ICICI, MNIT Campus
Account Name: Registrar, MNIT Jaipur
Current Account No: 676801700388

IFSC Code: ICIC0006768 Branch: MNIT Campus, Jaipur.

After fee submission, save the payment receipt in pdf format and register yourself using the link: https://forms.gle/p2fwyx1qhKX9rMNJA

### **About Department of Physics**

The Department of Physics is an important Basic and Applied Science Department dedicated to impart quality education at undergraduate and postgraduate level. The Department runs M.Sc. and Ph.D. Programs and offers Physics core and various open elective courses to B.Tech. students. Faculty members of the Department are actively engaged in various thrust areas of research in experimental as well as theoretical physics with national/international collaboration. Department has the following objectives: To impart high quality Physics education to engineering graduates at all levels by introducing latest curricula based on the present and future needs of engineering and technological education in the country. To produce excellent post-graduate in Physics (M.Sc. Physics) who can take a lead role in basic & application-oriented research and development activities in industries and academia in the country.