

# Ph.D. Program - July Admission 2024-25 Batch 1

**Manipal Centre for Natural Sciences (MCNS)** 

Centre of Excellence

Manipal Academy of Higher Education (MAHE)

Application deadline - May 25<sup>th</sup> 2024

## **Manipal Centre for Natural Sciences**

Manipal Centre for Natural Sciences (MCNS) is a "Centre of Excellence" at Manipal Academy of Higher Education dedicated to the pursuit of fundamental research. MCNS offers a regular PhD program for those who completed a Master's degree, and an integrated Ph.D. program for those who completed a Bachelor's degree (BSc/BE/BTech). The objective of both programs is to nurture researchers who will work in the forefront areas of natural sciences. The procedure for applying to the regular Ph.D. program is explained below.

## **Astrophysics Research in MCNS**

### Astrophysics research @ Manipal Centre for Natural Sciences

Galactic sources Extra-Galactic sources Inflationary Universe X-ray binary General relativity Sun Active Galactic Nuclei • 21 cm EOR applications Moon Transients Galaxy clusters Cosmic evolution Interstellar medium Diffuse emission Asteroids



- Star formation
- Interstellar medium
- · Chemistry of lunar soil
- Sun-Earth connection
- Solar chromospheric processes
- SED modeling of AGN outbursts
- Astrophysical disc accretion / jet
- AGN feedback to star formation
- Theory of Inflationary
- General Relativistic astrophysics
   Large scale structures and cosmi
- Large scale structures and cosmic magnetic fields

## Ph.D. Projects Offered in 2024-25

#### Offered research areas and topics in the current call

### **PHYSICS**

#### Sun and heliosphere:

1. Heating of solar atmosphere during active region evolution

#### **Extragalactic Astronomy and Cosmology:**

- 2. Study of accretion and outflow in the vicinity of a black hole by multi-band spectral and temporal analysis
- 3. A study of the nuclear regions of active galaxies with multiband observations and associated modelling
- 4. Probing warm hot intergalactic medium (WHIM) in cosmic filaments by studying Interacting galaxy clusters

#### **Computational Astrophysics:**

Cosmological parameter estimation through identification and quantification of structures and voids in the Universe

#### Particle Physics:

6. Investigation of Beyond Standard Model (BSM) Physics through the window of low energy precision observables

#### **CHEMISTRY**

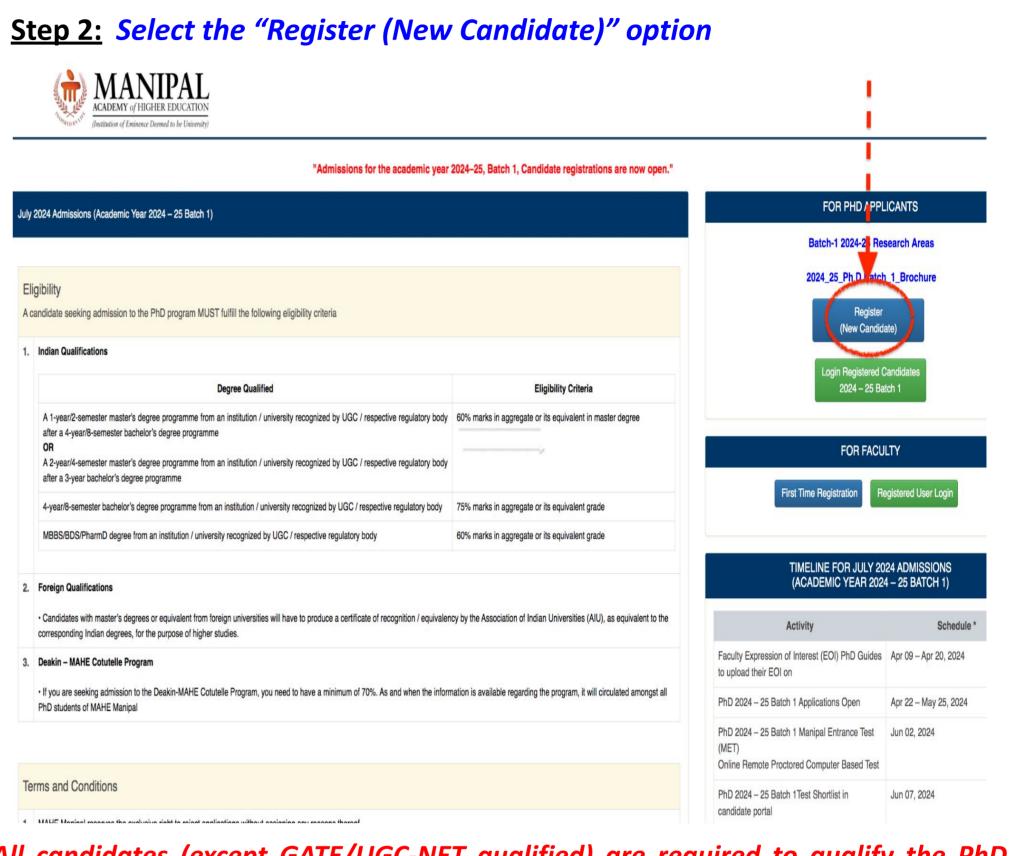
#### **Computational Chemistry:**

7. Magnetism and spin selectivity of chiral molecules

## **Online Application**

Step 1: Go to the MAHE Ph.D. portal

https://mahephd.azurewebsites.net/#no-back-button



All candidates (except GATE/UGC-NET qualified) are required to qualify the PhD Manipal Entrance Test (MET) in Basic Sciences (Physics/Chemistry).

## **Filling the Registration Form**

- PhD Type Full Time
- Select Stream Technology and Science
- Select PhD MET Test Domain Basic Sciences (Physics/Chemistry)

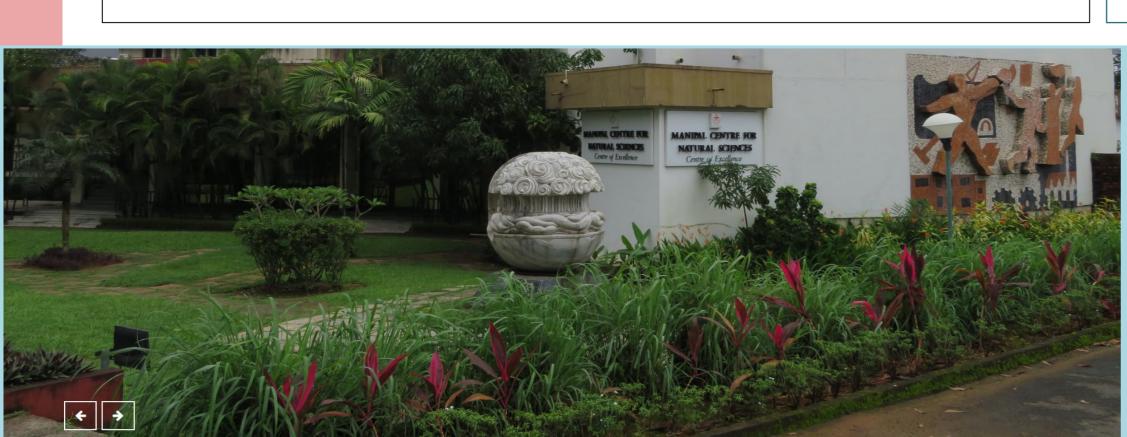
PhD Type *		
FULL-TIME		
Select Stream *	Select PhD MET Test Domain *	
TECHNOLOGY AND SCIENCE	BASIC SCIENCE: PHYSICS	
Are you GATE / UGC-NET Qualified *		
/Select YES		
NO I not realize	Middle Name	Last Name
Date Of Birth *	Age as on 1st April 2024 *	Gender *
		Select
Email Address *	Alternate Email Address *	
Mobile No (Enter a valid mobile number) *	Alternate Contact No (Enter a valid mobile number) *	
Captcha Code * 923 Enter Code Shown In Image		
I have read & understood the PhD guidelines and agree	to abide by the Rules and Regulations governing PhD Admis	sions at MAHE Manipal.
g	, ,	
☐ I accept the Terms & Conditions and Rules & Re	gulations	
	Submit and Continue Cancel	

After this step, you will be directed to the payments page for completion of the application

You will receive an acknowledgement with application no. for future reference

For further details, please refer to the brochure at:

https://mahephd.azurewebsites.net/pdf 2024/2024 25 Ph%20D%20batch 1 brochure V13.pdf



For further queries, please contact the MCNS office:

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https://www.manipal.edu/mcns-manipal/department-faculty.html

