

### WORKSHOP CO-ORDINATORS

- Prof. (Dr.) Saibal Ray, IUCAA Associate & Associate Director, Centre for Cosmology, Astrophysics and Space Science (CCASS), GLA University, Mathura
- Dr. Praveen Kumar Dhankar, Assistant Professor, Faculty of Mathematics

### ORGANIZING SECRETARIES

- Prof Bhagwat Thakran, Assistant Professor, Faculty of Mathematics
- Prof. Archana Deshpande, Assistant Professor, Faculty of Mathematics

### ORGANIZING MEMBERS

- Prof. Smita Pidurkar
- Dr. Rajshri Gupta
- Dr. Nalini Vaidya
- Prof. Pranali Kamdi
- Prof. Rita Mate
- Prof. Shital Tayade
- Prof. Rekha Patel
- Dr. Akhil Sheikh

### INVITED SPEAKERS

1. **Prof. S N Hasan**, Head, Dept of Mathematics and Dean, School of Sciences, Maulana Azad National Urdu University, Hyderabad
2. **Dr. Priya Hasan**, Asst Professor, Physics, Maulana Azad National Urdu University, Hyderabad
3. **Mr. Darshan Beniwal**, Research Scholar, Department of Physics and Astrophysics, University of Delhi, Delhi-110007

### PATRONS

- Hon'ble Shri Sunilji Rasoni, Chairman, RGI
- Mr. Shreyas Rasoni, Executive Director, RGI

### EXTERNAL ADVISORY COMMITTEE

- Professor Maxim Khlopov, APC Laboratory, Paris, France
- Professor Andrew DeBenedictis, Simon Fraser University, Canada
- Dr. S.K. Maurya, University of Nizwa, Sultanate of Oman
- Professor Megandhren Govender, Durban University of Technology, South Africa

### HONORARY CHAIR

- Dr. Sachin Untawale  
Director GHRCE, Nagpur

### INTERNAL ADVISORY COMMITTEE

- Dr. Pramod Walke, Dy-Director & Dean IQAC
- Dr. Santosh B Jaju, Dy –Director & Dean R&D
- Dr. Milind Khanapurkar, Dean Academics
- Dr. Bhavana Butey, Dean, First Year Engineering



## Two Days Workshop on Python Programming in Astronomy, Astrophysics & Cosmology

Funded by  
Inter University Center for Astronomy  
and Astrophysics

7<sup>th</sup> & 8<sup>th</sup> April 2023



python™

Organized by

**Department of Applied Science**  
**G H Rasoni College**  
**of Engineering, Nagpur**

(An Autonomous Institute, NAAC A+ [Score 3.51/4],  
NIRF-163<sup>rd</sup> Rank in 2022, ARIIA -1<sup>st</sup> Rank in 2021)



## VISION

To achieve excellent standards of quality education by keeping pace with rapidly changing technologies. To create technical manpower of global standards with capabilities of accepting new challenges.

## ABOUT THE HOST INSTITUTE

G H Raisoni College of Engineering Nagpur (GHRCE) established in 1996 is the flagship institute of Raisoni Group of Institutions (RGI). It is an autonomous institution affiliated to Rashtrasant Tukadoji Maharaj Nagpur University. GHRCE ranked 163rd PAN-India in Engineering Discipline as declared by NIRF Ranking 2022. It secured 1st position in Atal Ranking of Institutions on Innovation Achievements (ARIIA) 2021, Govt. of India. The institute has dual accreditation, one is from National Board of Accreditation (NBA) Tier-I (Washington Accord) and NAAC A+ (3.51/4) grade by National Assessment & Accreditation Council (NAAC) during 2nd cycle. Institute is ranked under Platinum category for Best Industry linked institution by AICTE-CII Survey since last five years. It is consistently ranked in top 10 patent filers in India from last five years as per the Indian Patent Office report. GHRCE is proud recipient of prestigious grant of DST Government of India to establish and set up Technology Business Incubation center with state of art infrastructure facilities and has also received number of Sponsored research projects from DST, AICTE, IET, UGC, TEQIP-II etc. worth Rs. 15 Crore plus We have hosted 18 international conferences amongst which 9 IEEE, 01 Elsevier, 03 Springer, 01 Thomson Reuter, 02 ISBN, 01 IOP, 01 AIP and 34 National conferences. GHRCE is the first private college in Maharashtra and third in India to have its satellite GHRCEsat launched by ISRO in orbit. Institute received NIDHI-TBI from NSTEDB, DST, Government of India.

## ELIGIBILITY CRITERIA:

- Student in the final year B. Sc. (Physics/ Applied Mathematics/Astronomy/ Electronics)
- Students in third year and onwards of B.Tech./B.E. (any branch) / Integrated M.Sc. (Physics/Applied Mathematics/Astronomy/ Electronics)
- Students pursuing M.Sc. (Physics/Applied Mathematics/Astronomy/Electronics)

## NO REGISTRATION FEES

The workshop is intended for graduate and post-graduate students, research scholars and faculty members of our own college and from other institutions who are working in the area of astronomy, astrophysics and cosmology and plan to analyze astronomical data. The selection will be based on the Recommendation Letter of their respected Teacher/ Supervisor.

Please click the link to register  
<https://forms.gle/nKnG5L1tjVwLkXk5A>

## IMPORTANT DATES

- Last date of registration: 25<sup>th</sup> March 2023
- Workshop Duration: 07<sup>th</sup> to 08<sup>th</sup> April 2023

## FOR MORE DETAILS VISIT WEBSITE

<https://ghrce.raisoni.net/python-workshop/index.php>

## SYLLABUS COVERED

Introduction to Python for Astronomers	Reading and Writing Files
Installation and Understanding Packages	Fitting and Modeling 1-d and 2-d data
Core packages - NumPy, iPython, SciPy	VO and Online astronomy
Plotting and Images	Markov Chain Monte Carlo method

## ABOUT WORKSHOP

This workshop aims to bring a wide variety of people who use, develop or teach people about Python packages in the context of all forms of Astronomy. The workshop will include presentations, tutorials, unconference sessions, and sprints. As well as building the community around astronomical uses of Python, the workshop aims to improve collaboration and interoperability between Python, packages, share knowledge on Python packages and techniques. It will also provide training and educational materials for users and developers of Python packages. The resource persons are well established faculty members in renowned institutes, all well versed with teaching skills. This workshop has been developed with unique approaches to convey information more efficiently and enable the visualization and applications of these research tools in Astronomy, Astrophysics & Cosmology.