



राष्ट्रीय विज्ञान शिक्षा एवं अनुसंधान संस्थान भुवनेश्वर

परमाणु ऊर्जा विभाग, भारत सरकार का एक स्वयं शासित संस्थान

(अनुसंधान और विकास अनुभाग)

NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH BHUBANESWAR

(An autonomous research institution under Department of Atomic Energy, Govt. of India)

Jatni, Khurda, Odisha - 752050

Research & Development Section

Advertisement No.: NISER / R&D-198 / EPS2001 / 35 / 2023-24

Research opportunity in interdisciplinary Planetary Science project from Max Planck Society

Max Planck India Partner Group led by Dr. Thangjam at NISER Bhubaneswar (funded by Max Planck Society/Germany) is inviting highly motivated Indian nationals for a **Junior Research Fellow** position. The project (up to 2026) is in collaboration with Max Planck Institute for Solar System Research, Göttingen/Germany and others (University of Winnipeg/Canada, Planetary Science Institute, Arizona/USA). The work is interdisciplinary in nature (processing & analyzing NASA Dawn VIR/Visual & Infrared Imaging Spectrometer data) and the science objective is to investigate the formation of dwarf planet Ceres either in the main asteroid belt or migrated from the outer solar system. The **main work** is divided into data processing and analysis. The VIR data processing includes first 2 steps- (1) **Thermal correction**- Quantifying emissivity considering surface roughness and observation geometry in order to determine actual reflectance, (2) **Photometric correction**- Quantifying reflectance wrt a standard illumination geometry considering the wavelength dependent scattered light in a given heterogeneous natural surface. Next is data analysis and study the evolution process: (3) **Spectral analysis**- study the absorption features, mainly $\sim 3.1 \mu\text{m}$, investigating the mineral/molecule and the process ($\text{NH}_4^+/\text{H}_2\text{O}/\text{OH}/\text{ice}/\text{Mg}_2(\text{OH})_4$, and their association with Fe/Mg/Ca/Al-Si₂O₅ silicate and Fe/Mg/Ca/Na-CO₃, (4) **Evolution model**- study and model assessing the thermodynamic/kinetic conditions within or far beyond the water-snowline.

QUALIFICATION: 1. Minimum of 60% marks or equivalent GPA in Masters or M.Tech. or M.E in Physics/ Astronomy and Astrophysics / Geology/ Geophysics/ Earth Science/ Chemistry/ Space/Engineering Physics/ Mechanical engineering/Civil engineering/Computer engineering; 4 year / 8 semester Bachelor's degree program in Mechanical engineering/ Civil engineering/ Engineering physics/Computer engineering with a minimum of 75% marks in aggregate or equivalent
2. Valid National Level Examination, i.e., CSIR-UGC-NET (LS or JRF) /GATE/JEST/equivalent.

DESIRABLE: Proficiency in python program and basics in physical chemistry & spectroscopy

FELLOWSHIP: ₹31,000/- pm plus HRA (as per rules)

MAXIMUM AGE: 28 years as on 29.11.2023, age relaxation to entitled categories as per GOI rules.

Mode of selection: Online/Offline

The position is purely temporary and initially offered for a period of 6 months but extendable on satisfactory performance (to allow monitoring the progress constructively) or completion of project whichever is earlier and strictly co-terminus with the project. It would, therefore, not confer any right/ claim, implicit, or explicit for consideration/ absorption against any NISER post.

Interested candidates may send the application (page 2-3 of the advt.), CV, SOP indicating research interest and programming proficiency and knowledge in physical-chemistry/ spectroscopy/ Mineralogy/ Geochemistry, and scanned copies of relevant educational certificates, and two recommendation letters by the thesis/project/course guide to thangjam@niser.ac.in by **29th November, 2023**. Please check <https://www.niser.ac.in/users/thangjam> and contact Dr. Thangjam for further information.

No TA/DA will be paid to the candidate for appearing in the interview or joining the position.

Dean (R&D)



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भर्ती के लिए आवेदन पत्र

Application for recruitment to the post of **Junior Research Fellow**

Paste your recent
colour passport
photograph

1. पूरा नाम (स्पष्ट अक्षरों में) | Full Name (In Block Letters):

2. पिता / पति का नाम | Father's / Husband's Name: _____

3. जन्मतिथि | Date of Birth : _____

4. उम्र | Age as on (दिनांक 29.11.2023) : _____

5. पत्राचार के लिए डाक का पता : _____

Postal Address for Correspondence

6. स्थाई पता | Permanent Address : _____

7. (a) कॉन्टैक्ट नं | Contact No. : _____

(b) ई-मेल | E-mail : _____

8. क्या अ.जा./ अ.ज.जा./अ.पि.व./ शा.वि. में आते हैं? : _____

Whether belongs to SC/ST/OBC/PWD

(जाति प्रमाण-पत्र का नकल संलग्न किया जावे | Copy of Caste Certificate to be enclosed)

9. क्या CSIR-UGC NET / GATE में योग्य हैं? : _____

Whether CSIR-UGC NET / GATE qualified?

(प्रमाण-पत्र का नकल संलग्न किया जावे | Copy of the Certificate to be enclosed)

10. शैक्षणिक योग्यताएँ (स्नातक से) | Educational Qualifications (Starting from Graduation):

परीक्षा का नाम Name of the Examination	बोर्ड/ विश्वविद्यालय/ संस्थान Board/ Univ./ Institute	उत्तीर्ण होने का वर्ष Year of Passing	विषय Subjects	अंको का प्रतिशत Percentage of Marks

11. अनुभव, यदि कोई हो | Experience, if any:

संगठन/ नियोक्ताका नाम Name of Organisation/ Employer	सेवा अवधि वर्ष तथा माह Period of Service in Year & Months	पदनाम Designation	वेतनमान तथा मूल/ सकल वेतन Scale of Pay & Basic/ Gross Emoluments	कार्य की प्रकृति Nature of duties

मैं सत्यनिष्ठा से पुष्ट करता / करती हूँ कि उपर्युक्त जानकारी मेरी अधिकतम जानकारी और विश्वास के अनुसार सही है। यदि मेरे द्वारा दी गयी कोई जानकारी किसी भी चरण पर गलत पायी जाती है, तो मेरा आवेदन रद्द किया जा सकता है।

I do solemnly affirm that the above information given by me is true to the best of my knowledge and belief. If any information given by me is found to be incorrect at any stage, my candidature may be cancelled.

दिनांक | Date :

स्थान | Place :

आवेदक का हस्ताक्षर | Signature of Applicant