

ADVERTISEMENT NO. 01/2015

SELECTION OF JUNIOR RESEARCH FELLOWS

Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam is a premier research institute dedicated to the development of robust fast reactor technology based on intense multi-disciplinary research. IGCAR is empowering young, talented and motivated students to contribute to path-breaking discoveries in frontier areas of engineering/scientific research and cutting-edge technologies by offering **Junior Research Fellowships**.

Applications are invited from interested students for the award of **Junior Research Fellowships** of the Department of Atomic Energy tenable at the Centre. The selected candidates will be eligible to register for Ph.D. / Integrated Ph.D. in **Homi Bhabha National Institute** (HBNI, a deemed to be university of Department of Atomic Energy) or University of Madras or other reputed universities. IGCAR offers a unique opportunity to carry out research for their Ph.D. / Integrated Ph.D. in the areas of physical, chemical, engineering, environmental and information sciences.

The vibrant research and developmental activities of IGCAR encompass a wide spectrum of fields including condensed matter physics, high temperature chemistry, environmental science, applied mechanics, non destructive evaluation, , fluid dynamics, Robotics and Development of Intelligent Machines, Thermal Hydraulics and Structural Mechanics, Design of Critical Components, Nanotechnology, Modeling Studies, Post-accident Safety Analysis, Wireless Networking, Parallel Computing, Embedded and Simulator Systems, Advanced materials and manufacturing technologies, Reliability, Chemical Process Design, Modeling etc. [State-of-the-art](#) infrastructure is available at IGCAR for carrying out excellent research.

NO. OF FELLOWSHIPS: 50 (Indicative)

CALENDAR FOR IMPORTANT TASKS

Last date for receipt of applications	: 29-05-2015
Announcement of Shortlisted candidates	
for Written Test in IGCAR website	: 05-06-2015
Written Test	: 14-06-2015
Interview	: Last week of June
Likely Date of Joining	: 3 rd week of July

At IGCAR, we believe in 'EXCELLENCE WITH RELEVANCE'.

Our strengths are the highly stimulating and scholarly environment, knowledge and motivating faculty, excellent library and state-of-the-art facilities.

Emphasis is on research areas at the interface of science, engineering and technology. The research projects identified for the selected students are generally multidisciplinary in nature. Only those candidates interested in pursuing their research in multidisciplinary areas need apply. Selected JRFs will have to undergo one year of course work starting from August, 2015 as stipulated by HBNI.

1. AREAS OF RESEARCH PROJECTS:

CHEMICAL SCIENCES: Chemical thermodynamics, Solid state and high temperature chemistry, Electrochemistry, Spectroscopy and laser, Radiochemistry, Advanced separation techniques, Actinide Chemistry, Trace / ultra-trace analytical techniques synthesis and characterization of nano-ceramics and Chemical sensors.

PHYSICAL SCIENCES: Condensed Matter Physics: Investigations on behaviour of materials at low temperatures, high pressures and magnetic fields to explore novel properties of materials, Materials Physics : Investigations of defect properties of solids using ion beams and positrons and Computer simulations of material properties; Studies on surfaces and nanomaterials, and exploration of materials for sensors and detectors. Investigating phase transitions and dynamics in soft matter.

ENGINEERING SCIENCES: Robotics and Development of Intelligent machines, Thermal Hydraulics and Structural Mechanics, Design of critical components, Modeling studies, Post-accident Safety Analysis, Wireless networking, Parallel computing, Embedded and Simulator systems, Non-destructive Evaluation and Reliability, Chemical Process Design and Modeling.

LIFE SCIENCES: aquatic ecology, biofilms, bioremediation, nanobiotechnology, biofouling and environmental monitoring

2. DISCIPLINES:

The qualifying degrees for the above projects should be in one of the following disciplines:

- a) Physics
- b) Materials Science
- c) Chemistry
- d) Computer Science
- e) Metallurgy
- f) Materials Science & Engineering
- g) Materials Technology
- h) Applied Physics
- i) Applied Electronics
- j) Chemical Engineering

*(Those who have obtained their B.Tech degree in Chemical Engineering under the category of petroleum, polymer, sugar, oil, soap technology etc., **are not eligible to apply**)*

- k) Electronics & Communication Engineering
- l) Mechanical Engineering
- m) Atmospheric Science
- n) Nuclear Engineering/Nuclear Science & Technology
- o) Library and Information Science
- p) Life Sciences

3. ELIGIBILITY REQUIREMENT:

The candidate must be an Indian national. The candidate should be less than 28 years of age as on **29-05-2015**. A relaxation of up to 5 years in age can be given in case of Scheduled Caste and Scheduled Tribe applicants, 3 years in case of Other Backward Class applicants and 10 years in case of Physically Challenged applicants.

4. QUALIFICATIONS:

For all the categories listed below,

- I. Candidates should have consistent good academic record
- II. Category A, C-F, candidates should have secured minimum of 60% at **post graduation and graduation levels** from a recognized University
- III. Category B 60% at post graduation level

IV. Category – A: (Those who have completed or in the final year / semester of M.Sc)

- i. **Physics / Materials Science:** Mathematics/Numerical Methods must be one of the subjects studied at the M.Sc. level and Chemistry as ancillary subject at B.Sc. level
- ii. **Chemistry:** Physics and Mathematics as ancillary subjects at B.Sc. level
- iii. **Applied Physics/Applied Electronics:** Physics and Mathematics as ancillary subjects at B.Sc. level
- iv. **Life Sciences:** M.Sc. Degree from a recognized university with a First Class (minimum 60% or equivalent) in any of the following disciplines – Microbiology, Marine Biology, Life Sciences, Biochemistry, Biotechnology or Molecular Biology.

Category – B: (Those who have completed or in the final year/semester of M.LIS)

- i. **Library and Information Science:** Master of Library and Information Science with B.Sc. (any discipline)

Category – C: (Those who have completed or in the final year/semester of M.Sc/M.Tech in Atmospheric Science/Meteorology)

- i. **M.Sc in Atmospheric Science/ Meteorology** and physics, Mathematics as one of the subjects at B.Sc Level
or
- ii. **M.Tech in Atmospheric Science** with
 - Any B.E/B.Tech with Physics or Mathematics as one of the subjects.or
 - Any M.Sc degree, and Physics or Mathematics as one of the subjects at B.Sc level

* Category B and C candidates will be registered for Ph.D. with other reputed university like University of Madras, Anna University.

Category – D: Those who have completed or in the final year/semester of M.Tech **Nuclear Engineering/Nuclear Science & Technology**

Category – E:

(Those who completed B.E./B.Tech./B.Sc. Engg./B.Sc. [Tech.] from a recognized University) / M.Tech. in the following disciplines.

(i) Computer Science (ii) Metallurgical Engineering / Materials Science & Engineering / Materials Technology (iii) Chemical Engineering (iv) Electronics & Communication Engineering (v) Mechanical Engineering and (vi) Engineering Physics

Category – F: (Candidates in the final year/semester of M.Sc./B.E. /B.Tech. /B.Sc. Engg. / B.Sc. [Tech.]/M. Tech.)

The candidate should be in the final year/semester of M.Sc. /B.E. /B. Tech. /B.Sc. Engineering/B.Sc. [Tech.]/M. Tech. degree course from recognized Universities in one of the disciplines as mentioned above in **Category E**.

For all the candidates in the final year/semester should have scored marks above 60% in each previous semester/year and minimum aggregate of 60% in B.Sc./B.E./B.Tech. level [in the case of M.Sc./ M.Tech. candidates]. In case such candidates eventually join the Centre, they shall have acquired aggregate marks of 60% in the qualifying degrees. Relevant certificates to this effect should be submitted at the time of joining the Centre.

5. SELECTION PROCEDURE:

Applications will be scrutinized and suitability of candidates will be decided on the basis of their academic performance. The candidates meeting the requisite qualifications would be called for WRITTEN TEST. Hence, candidates are advised to attach copies of all necessary mark sheets along with calculation showing the average marks scored.

Only a summary scrutiny of the application would be made for short-listing of candidates for the written examination and detailed scrutiny of the eligibility of the candidate would be done only at the time of interview. Candidate fulfilling the eligibility criteria can plan to attend the written examination.

Suitable candidates under the above said **categories A - D** will be selected based on **WRITTEN TEST and INTERVIEW**. It is proposed to conduct the Written Test at **Chennai, Kolkatta, Bhubaneswar and Hyderabad, subject to sufficient number of candidates opting for a Centre.**

There will be no written examination for categories E&F. Candidates belonging to Categories E&F will be shortlisted for interview on the following basis.

- i. Candidates with valid GATE score above a cut-off and

- ii. Candidates inducted to M.E./M.Tech. degree through GATE score, with an aggregate of 60% or higher in their M.E./M.Tech. degree and above a cut-off of GATE score.

Exemption from WRITTEN TEST: Suitable candidates satisfying any of the following will be exempted from the written test and will be called directly for the selection interview.

- (a) Candidates with valid UGC-CSIR-NET Fellowship.
- (b) Candidates with valid JEST score of 90 percentile and above.
- (c) Candidates with valid GATE score above a cut-off will be called for interview

Selection Interviews:

The Interview for all short listed candidates will be conducted at **CHENNAI/ KALPAKKAM.**

6. APPLICATION PROCEDURE:

- i) The [Application form](http://www.igcar.gov.in) can be downloaded from the IGCAR website www.igcar.gov.in. Send the completed Application form along with the required enclosures by Post (Registered or Speed post of Indian Postal service), so as to reach IGCAR **on or before 29 May, 2015** to:

**The Assistant Administrative Officer [R],
Recruitment Section,
Indira Gandhi Centre for Atomic Research,
Kancheepuram District
Kalpakkam – 603 102.
Tamil Nadu**

Superscribe the envelope: **“JRF, Advt. No. 01/2015”** & also the **Discipline** clearly (as given in **2 - DISCIPLINES**)

No Correspondence / Admit Card will be sent by post to the candidates. The proforma of the Admit Card for appearing for the written examination will be published in the IGCAR website. The candidates are requested to do the following:

- i. Download the Admit Card from the IGCAR website (www.igcar.gov.in).
- ii. Fill up the necessary information (like Name, DOB, Discipline, etc.,).
- iii. Affix the recently taken passpost size photograph on the space provided.
- iv. Put the signature on the space provided.
- v. Also bring photo identity proof in original for verification, preferably those issued by government.

7. GENERAL INFORMATION:

The list of candidates selected for the award of Junior Research Fellowship will be displayed on the IGCAR website. The selected candidates will also be informed by post. The final induction of the selected candidates as JRFs will be subject to production of all necessary documents in original (Proof of Date of Birth/Caste certificate/ physically challenged certificate if applicable, B.Sc./M.Sc./MLIS/ B.E./B.Tech./ M.E./M.Tech. degree and Marks sheets) on the dates intimated to the candidates by the Department.

The number of fellowships indicated in this advertisement is approximate and may vary as per the requirement at the time of final selection. The Centre reserves the right not to fill up the fellowships if it so desires. The fellowship shall not confer any claim or right for regular employment in the Centre or any Unit of Department of Atomic Energy. Opportunity for meritorious candidates exists for the position of Visiting Scientist under KSKRA scheme.

Medical

The selected candidates are eligible to join the Contributory Health Service Scheme of this Centre as applicable.

Accommodation

The Selected candidates will be provided with subsidized bachelor Hostel Accommodation during the tenure.

TRAVEL ALLOWANCE

Candidates called for the interview will be reimbursed to and fro second class railway fare from their normal place of residence as per rules.

FELLOWSHIP AND TENURE

The selected candidates will be initially taken as **Junior Research Fellows (JRF)** and will be paid a stipend of **Rs. 25,000/- per month**. The fellowship will be provided initially for a period of **two years**. Continuation of the fellowship is subject to satisfactory performance and review at the end of each year. On satisfactory performance, the tenure of Fellowship will be further extended and upgraded to **Senior Research Fellowship (SRF)** from the **third year** onwards with a stipend of **Rs.28,000/- per month (consolidated)**. The total period of the fellowship shall in no case exceed **five years**. They are entitled for contingency grant including book allowance of **Rs.32,000/- per year**.

Candidates are advised to visit the website <http://www.igcar.gov.in/> periodically for further information and updates in this regard.

8. IMPORTANT CHECK LIST

Attested copies of the following certificates **must** accompany the application form without which the application is liable to be rejected.

- Proof of date of birth (SSC/HSC Certificate or Birth Certificate)
- Caste Certificate, if applicable
- Degree Certificates
- Mark lists of B.Sc./M.Sc./ Master in Library & Information Science MLIS/B.E./B.Tech./M.E./M.Tech./B.S. Engg./B.Sc[Tech].
- Consolidated mark sheets and calculation for aggregate marks of the qualifying exams to be attached.
- Sheet giving details of conversion from CGPA to percentage marks, where applicable
- UGC-CSIR NET Fellowship certificate, JEST score sheet, GATE score sheet where applicable.
- Proof for Induction to M.E./M.Tech. programme through a valid GATE Score

PROFORMA FOR APPLICATION

Advertisement No. IGCAR-01/2015

Application for the position: **JUNIOR RESEARCH FELLOW**

Paste your
Passport size
photograph
here and get it
duly attested

Application Number (For office use only)	:	
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1.	Discipline Applied for	:	[Please see Sl. No. 2 for valid disciplines in the advertisement]				
2.	Name in full (in block letters)	:					
3.	Father's / Husband's Name	:					
4.	Date of Birth	:	DD - MM - YYYY				
5.	Nationality	:					
6.	Gender	:	Male		Female		
7.	Marital Status	:	Married		Unmarried		
8.	Caste	:	GEN	OBC	SC	ST	PWD
9.	Wish to be considered based on	:	UGC-CSIR-NET fellowship/JEST /GATE (If applicable)				
10.	Preferred exam Centre	:	Bhubaneswar	Chennai	Hyderabad	Kolkata	

[Strike out whichever is not applicable]

11. Address:

Permanent	Correspondence
Pincode: State: Ph.No: E-Mail ID:	Pincode: State: Ph.No: E-Mail ID:

12. Educational Qualifications:

Exam. Passed	University/ Institution	Year of Passing	Subjects		Total Marks Obtained	Class/ Division and % marks
			Main	Ancillary		
B.Sc./B.E./B.Tech./B.Sc. Engg. or Tech.						
M.Sc./M.E./M.Tech.						
Master in Library & Information Science						
UGC-CSIR NET Fellowship/ Valid JEST/GATE Score (if applicable)						

Declaration

I hereby certify that the above stated information is factually correct to the best of my knowledge and belief. I have not suppressed any information and in case I give any false information or suppressed any fact, then, my fellowship would be liable for termination without any notice or reasons thereof.

Place :

Date :

Signature of the candidate