Government of India
Bhabha Atomic Research Centre
Trombay, Mumbai-400 085

Advertisement No: 3/2026(R-V)

THE LAST DATE FOR RECEIPT OF APPLICATION:- 24/04/2026

Applications are invited for positions of Research Associate (RA) Fellowship to work on the following R&D projects of Bhabha Atomic Research Centre, Mumbai:

Research Project No. 1

Name of the Research Project		Radiochemical Research and Chemical Quality Control (CQC) for Nuclear Fuels and Reactor Materials
Requirement of RA		1
Qualification		a) PhD in Chemical Science, Physical Science or Polymer Science with experience on synthesis of Polymer composites and their characterizations b) Candidates having experience of working in Li ion batteries and/or broadband spectroscopy will be preferred. c) Mathematics at Undergraduate level is compulsory.
Field of work		Investigation of ion conduction mechanism combining broadband dielectric spectroscopy and positron annihilation spectroscopy in in-house designed solid polymer electrolytes
Nature of work		The project focuses on synthesis of polymer composite based electrolytes, and investigation of the ion-conduction mechanism and designing of polymer electrolyte with higher ionic-conductivity and high thermo-mechanical properties, which are required for their real applications in Liion batteries. The Research Associate will primarily engage in synthesis and preparation of polymer composite based electrolytes, their characterization using conventional techniques including broadband dielectric spectroscopy and positron annihilation spectroscopy and electrochemical characterization of the polymer electrolytes in different types of cells.
Duration of RA Fellowship		Upto 30.06.2029 or maximum three years, whichever is earlier
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 2

Name of the Research Project	:	Radiochemical Research and Chemical Quality Control (CQC) for Nuclear Fuels and Reactor Materials
Requirement of RA	:	1
Qualification	:	Ph.D.
Field of work	:	Computational studies on electrochemical and spectroscopic behaviour of actinide complexes.
Nature of work	:	The project focuses on investigating the diverse aspects of nuclear chemistry, actinide chemistry, and actinide spectroscopy in a comprehensive manner. The Research Associate (RA) will primarily engage in computational modelling, specifically molecular dynamics simulation, electrochemical modelling, and spectroscopic modelling of actinides under different conditions, including solid and solution environments
Duration of RA Fellowship	:	Upto 30.06.2029 or maximum three years, whichever is earlier
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No.3

Name of the Research Project	:	Radiochemical Research and Chemical Quality Control (CQC) for Nuclear Fuels and Reactor Materials.
Requirement of RA	:	1
Qualification	:	Ph.D. in Chemical Sciences with an expertise in the field of multidentate ligand synthesis.
Field of work	:	Functionalized nanoparticles with new chromophoric ligands for cloud point extraction (CPE) for quantification of ultra trace level metal ion.

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Nature of work	:	We aim to utilize functionalized Fe304@Au, Fe304@CdSe, Fe304@CdTe, and similar materials for separation purposes, along with the development of novel chromophoric ligands for cloud point extraction (CPE). This method will facilitate simultaneous pre-concentration and quantification of lanthanides or actinides in nuclear fuels/materials.
Duration of RA Fellowship	:	Upto 30.06.2029 or maximum three years, whichever is earlier
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 4

Name of the Research Project	:	Radiochemical Research and Chemical Quality Control (CQC) for Nuclear Fuels and Reactor Materials
Requirement of RA	:	1
Qualification	:	Ph.D. in Chemical Science. Candidates having experience in working with electrochemistry will be given preference.
Field of work	:	Electrochemical Investigation of High-Temperature Indian Molten Salt Reactor Fuels: Design, Transport Properties and Modelling.
Nature of work	:	The comprehensive analysis and comprehension of the Redox and mass transport dynamics related to the fuel, fission products, and corrosion products in the coolant are imperative for the prompt realization of the IMSR (Indian Molten Salt Reactor) project. Electrochemical methodologies represent robust instruments for interrogating these phenomena, which will be used for this investigation.
Duration of RA Fellowship	:	Upto 30.06.2029 or maximum three years, whichever is earlier
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 5

Name of the Research Project	:	Radiochemical Research and Chemical Quality Control (CQC) for Nuclear Fuels and Reactor Materials
Requirement of RA	:	1
Qualification	:	Ph.D. in Chemical Sciences. Candidate who has working experience in thermo-physical property evaluation of materials will be given preference.
Field of work	:	Studies into the thermophysical and structural characteristics of nuclear materials.
Nature of work	:	Interactions between fuel and fission products in nuclear materials are a significant yet difficult research area, primarily because of the chemical complexity of the fission products formed during reactor operation. Various phases of a multi-component system containing fission products will be synthesized. The main focus of the project will be comprehensive structural investigations using techniques like XRD and SEM, correlating the structural findings with thermophysical properties such as thermal expansion and heat capacity under different environmental conditions.
Duration of RA Fellowship	:	Upto 30.06.2029 or maximum three years, whichever is earlier
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 6

Name of the Research Project	:	Development of Laser, Plasma, Electron Beam Technologies and their Applications.
Requirement of RA	:	2
Qualification	:	Ph.D. (Chemical Engineering/ Metallurgical Engineering/ Chemistry, or a related field with a focus on materials science, oxidation processes, or corrosion)
Field of work	:	R&D of rare earth/lanthanide metal evaporation and oxidation processes

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Nature of work	:	1.Experimental Design & Execution: Design and develop experimental setups for rare earth/lanthanide metal evaporation and oxidation under controlled conditions. Conduct experiments to study evaporation and oxidation behaviour across a range of oxygen concentrations and pressures, including high vacuum conditions using specialised vacuum analytical balance and Quartz Crystal Microbalance (QCM) Optimise experimental parameters to achieve desired oxidation outcomes. 2.Materials Characterisation: Perform detailed characterisation of raw materials and oxidation products using techniques such as Scanning Electron Microscopy (SEM) with Energy-Dispersive X-ray Analysis (EDAX), Transmission Electron Microscope (TEM), X-ray Diffraction (XRD), Raman Spectroscopy, Residual Gas Analysis (RGA), and Thermal Gravimetric Analysis/Differential Thermal Analysis (TG-DTA/DSC). Analyse data to determine material properties, oxidation states, and product purity. 3.Thermodynamic Analysis and Process Development: Conduct thermodynamic analysis to guide process development and optimise conditions for metal extraction using commercial thermochemical software and database packages such as FACTSAGE/CALPHAD to predict thermodynamic, kinetic, and other properties of multicomponent material systems. Develop and refine processes for converting rare earth oxides to metals using various chemical, electrochemical, and hydrometallurgical methods. 4. Materials Testing & Analysis: Develop materials for high-temperature applications, focusing on performance under extreme conditions. Analyse corrosion samples to evaluate material durability and performance in aggressive environments.
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 7(a)

Name of the Research Project	:	Development of Laser, Plasma, Electron Beam Technologies and their Applications
Requirement of RA	:	1
Qualification	:	Ph.D. (Physics/Bio-physics)
Field of work	:	Laser assisted surface modification of bio-implant materials and characterization
Nature of work	:	Selective laser sintering of ceramics/polymers/composites for 3D scaffold and artificial structures, Pulsed laser deposition of thin films and multilayered coatings for biological and terahertz applications, laser assisted surface modification, and hybrid structures. Thin film coating of bio-ceramics on laser modified various metallic biomaterials to improve their functionality in terms of biocompatibility, osseointegration, antibacterial properties, corrosion, wear, simulation of the process, and detailed correlation with characteristics of the modified samples etc. shall be part of the work. Experience involving operation of pulsed laser system, surface characterization, mechanical and biological tests and simulation of laser material interaction.
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 7(b)

Name of the Research Project	:	Development of Laser, Plasma, Electron Beam Technologies and their Applications
Requirement of RA	:	1
Qualification	:	Ph.D in Chemistry/Biochemistry
Field of work	:	Fluorescence spectroscopy, supramolecular host-guest chemistry, bioanalyte sensing.

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Nature of work	:	To develop various supramolecular assemblies comprising of organic dyes along with suitable host molecules. Formation of these supramolecular host-guest assemblies facilitates the bound dye molecules to display notable modulations in their optical properties compared to their free state. Being highly reversible in nature, these host-guest complexes are highly susceptible to the external stimuli, making them a very useful optical probe for the detection of various bioanalytes. Depending upon the mode of interaction with the bioanalytes, these supramolecular assemblies offer a significant decrease or further augmentation in their fluorescence properties, forming the basis of fluorescence based bioanalyte sensing. Additionally, fast response, nondestructive nature, high selectivity and sensitivity, user friendly operation make the fluorescence based biosensing far more attractive than many other alternative methods available till date. In this project, we propose to use different dyes, especially emitting in the longer wavelength region (>550 nm) for the detection and estimation of various bio-analytes such as, milk allergens (beta lactoglobulin), heparin, biogenic amines and other related bio-analytes in real samples and intracellular matrices. But our focus will be mainly on the utilization of economically viable and environment friendly supramolecular assembly for the detection of charge bio-analytes such as protamine, ATP and cancer bio-marker, spermine.
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 8

Name of the Research Project	:	Development of Laser, Plasma, Electron Beam Technologies and their Applications.
Requirement of RA	:	1
Qualification	:	PhD in thermal plasma (Physics)
Field of work	:	Thermal Spray Coating Development and Characterization
Nature of work	:	The selected candidate will be responsible for supporting advanced research and development activities related to plasma spray coating of metallic and ceramic materials. Key responsibilities include operation and maintenance of plasma spray systems, powder preparation, process optimization, materials characterization (microstructure, mechanical testing, phase analysis), and data analysis. Candidates having strong background in materials science, surface engineering, or mechanical engineering, with hands-on experience in thermal spray technologies, characterization techniques, and laboratory practices will be given preference. This role offers an opportunity to contribute in cutting-edge research and development in coating technology for industrial and scientific applications.
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 9

Name of the Research Project	:	Development of Laser, Plasma, Electron Beam Technologies and their Applications.
Requirement of RA	:	1
Qualification	:	Ph.D inPhysics in the area of Plasma / Electromagnetic design and simulation using Multiphysics software / CFD / material science
Field of work	:	High power Air plasma thermal torch experiment and simulation

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Nature of work	:	This research activity focuses on the development of comprehensive physical and numerical models of high-power air plasma thermal torches, coupled with systematic experimental validation, with the objective of improving electrode life and overall torch performance. High-power air plasma torches are critical components in several strategic and industrial applications; however, electrode erosion and limited operational lifetime remain key technological challenges. Addressing these issues requires an integrated approach combining multiphysics modeling, controlled experimentation, and advanced diagnostics. A key component of the work involves electrode performance evaluation using advanced material characterization techniques. Post-operation analysis of electrodes will be conducted using SEM, TEM, XRD, and XPS to study surface morphology, phase evolution, elemental composition, and chemical states, enabling correlation between operating conditions and material degradation.
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 10

Name of the Research Project	:	Development of Laser, Plasma, Electron Beam Technologies and their Applications.
Requirement of RA	:	1
Qualification	:	PhD in Physics
Field of work	:	Design of magnets, RF devices for particle accelerator
Nature of work	:	Accelerator & Pulse Power Division, BARC is engaged in the development of electron accelerators for the societal and industrial applications. Particle accelerators especially electron accelerators have become popular in the industry, medicine and basic research. They have numerous applications like Cable and Food Irradiation, Sterilization of medical equipment, Cargo scanning, Waste Water treatment, Flue gas treatment and medical isotope production. A candidate will work on the development of magnets, RF devices and beam diagnostics for the accelerators. The work involves study of high energy electron beam propagation in electromagnetic fields, study of beam optics. It also involves simulation studies using standard codes like CST Microwave studio, COMSOL. A candidate having PhD in Physics/ Engineering Physics with experience in the field of RF & electromagnetics with good knowledge of programming is preferred
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 11

Name of the Research Project	:	Development of Laser, Plasma, Electron Beam Technologies and their Applications.
Requirement of RA	:	1
Qualification	:	Ph. D in Physics Experience in the field of Laser Spectroscopy is preferred.
Field of work	:	Laser spectroscopy for atomic/plasma characterization
Nature of work	:	The RA is expected to perform pulsed or CW laser based experiments for atomic/ionic structure characterization of lanthanides and other elements in the range z = 25 to 72. The generated atomic structure data will be used to design element selective laser photoionization pathways for various diagnostics as well as studies on involved photoionization dynamics. Spectroscopic techniques like RIMS, LIBS, fluorescence spectroscopy, etc. will be used. Hands on experience on any of these techniques is preferred. The RA will be responsible for developmental work, planning & performing experiments, experimental data analysis, documentation of experimental outcomes, manuscript preparation and coordination with other collaborators.
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

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Research Project No.12

Name of the Research Project	:	Development of Laser, Plasma, Electron Beam Technologies and their Applications.
Requirement of RA	:	1
Qualification	:	Ph. D in Physics
Field of work	:	Development of a highly stable narrow-linewidth Ti:Sapphire Laser system for Ion trap based quantum computing
Nature of work	:	The project aims at indigenous development of a highly stable narrow-linewidth Ti:Sapphire laser operating at 729 nm, specifically designed for $^{40}Ca^{+}$ ion qubit manipulation in trapped-ion quantum computing system. The scope includes the design, development and demonstration of the complete laser system including a 10 W continuous-wave single-mode 532 nm pump laser enabling efficient pumping of the Ti:Sapphire gain medium. The Ti:Sapphire system is targeted to deliver an output power of > 300 mW at 729 nm with a passive cavity frequency stability of approximately 500 kHz. To enable narrowing of spectral linewidth to below 1 kHz, the laser system will incorporate Pound–Drever–Hall (PDH) locking technique using an ultra-stable reference cavity.
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 13

Name of the Research Project	:	Development & Deployment of Chemical engineering technologies for nuclear fuel cycle, hydrogen production and water purification
Requirement of RA	:	1
Qualification	:	PhD in Chemical Engineering/ Chemistry/ Materials Science
Field of work	:	Experimental and modelling studies in chemical engineering/ hydrometallurgy/ materials science/ chemical science
Nature of work	:	Experimental studies on gas-liquid-liquid flows in air-pulsed columns used in hydrometallurgical processes. Analysis of the experimental data, mathematical modelling and validation.
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 14

Name of the Research Project	:	Development & deployment of chemical engineering technologies for nuclear fuel cycle, hydrogen production and water purification
Requirement of RA	:	1
Qualification	:	PhD in Chemistry/Chemical Engineering
Field of work	:	Experimental studies in Chemistry/ Chemical Engineering
Nature of work	:	Development, Characterization and performance assessment of MEAs and barrier coatings, development of analytical methods for online measurement assessment of ionic species for application in Copper-Chlorine thermochemical cycle for green hydrogen production.
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No.15

Name of the Research Project	:	Development & deployment of chemical engineering technologies for nuclear fuel cycle, hydrogen production and water purification
Requirement of RA	:	2
Qualification	:	PhD in Chemical Engineering
Field of work	:	Experimental studies in Chemical Engineering

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Nature of work	:	1. Experimental studies of catalytical hydrogenation reactions for synthesis of Strontium selective ligand, catalyst deactivation mechanism and development of catalyst regeneration process 2. Experimental studies of reaction mechanism for organic synthesis reactions. Development of purification process for synthesized ligands and scale-up of synthesis and purification process.
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 16

Name of the Research Project	:	Development & deployment of chemical engineering technologies for nuclear fuel cycle, hydrogen production and water purification
Requirement of RA	:	3
Qualification	:	PhD in Chemistry/Physics/Materials Science
Field of work	:	Computational and Experimental Chemistry/Physics/Material Science
Nature of work	:	1. Design and development of functionalized ligands and catalyst for metal ion and isotope purification using experiments and modeling 2. Fundamental understanding of radionuclide doped multi-component glass for waste immobilization using machine learning and molecular dynamics simulations 3. First principles simulations for the evaluation of structural and thermophysical properties of reactor materials
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 17

Name of the Research Project	:	Development & deployment of chemical engineering technologies for nuclear fuel cycle, hydrogen production and water purification
Requirement of RA	:	3
Qualification	:	PhD in Chemical Engineering (2) / Chemistry (1)
Field of work	:	Design, development, and simulation of processes for high-recovery desalination and sustainable brine management.
Nature of work	:	**First RA**: Design, development, simulation, and pilot-scale validation of an integrated Zero Liquid Discharge (ZLD) system for high-purity salt recovery and selective extraction of critical minerals from complex brines. **Second RA**: Development and prototype testing of advanced Membrane Distillation (MD) and Counter-Flow Reverse Osmosis (CFRO) systems for enhanced water recovery and volume reduction from hypersaline and industrial waste brines. **Third RA**: Design, development, and experimental evaluation of an adsorbent-enhanced Humidification-Dehumidification (HDH) desalination system for modular, scalable, and off-grid water production in decentralized applications
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No.18

Name of the Research Project	:	Development & deployment of chemical engineering technologies for nuclear fuel cycle, hydrogen production and water purification
Requirement of RA	:	2
Qualification	:	PhD in Chemistry/Chemical Engineering/Material Science
Field of work	:	**First RA :**Development of cation and anion exchange membranes **Second RA :**Development of bipolar membranes and devices

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Nature of work	:	Major deliverables of the project are as follows: **First RA :** i. Development of cation exchange membranes stable in high acid concentration. ii. Development of anion exchange membranes stable at 60 to 80 C. iii. Characterization of ion exchange membranes for conductivity and other physicochemical characterization. **Second RA :** i. Development of bipolar membranes and their optimization ii. Development of Chronopotentiometry setup iii. Testing of bipolar membranes for different processes iv. Development of bipolar membranebased devices
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 19

Name of the Research Project	:	Development & deployment of chemical engineering technologies for nuclear fuel cycle, hydrogen production and water purification
Requirement of RA	:	2
Qualification	:	PhD in Chemistry/Chemical Engineering
Field of work	:	Experimental studies in advance membrane preparation and its applications
Nature of work	:	**First RA**: Development of polypropylene (PP) membrane module for Membrane Distillation and its performance evaluation for recovering water from brine **Second RA**:Development and performance assessment of capillary membrane module for treatment of Cesium and Strontium bearing effluent
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 20

Name of the Research Project	:	Development of indigenous technologies for the production of high purity rare earth oxides, phosphors, rare earth metals, alloys and recovery of uranium and other metals from different sources.
Requirement of RA	:	4
Qualification	:	PhD (Chemistry/Chemical Engineering)
Field of work	:	Rare earths hydrometallurgy and pyrometallurgy
Nature of work	:	Laboratory/bench scale experimental work
Duration of RA Fellowship	:	Upto 31.01.2029
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 21

Name of the Research Project	:	Design, setting up and demonstration of Muon tomography-based ICS.
Requirement of RA	:	2
Qualification	:	**First RA**: B. Tech / B.E. / M. Tech / M.E. in Electronics/ Electronics & Telecommunication/ Electronics & Computer Engineering. One year experience in design, development and debugging of high-speed digital and embedded systems is preferable. **Second RA:** B. Tech / B.E. / M. Tech / M.E. in Computer Science/ Information Technology/ Electronics & Computer Engineering. One year experience in Monte Carlo simulations, experimental data acquisition, handling, analysis, image reconstruction algorithm, or related work are preferable.

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Field of work	:	**First RA**: Design and development of high-speed digital electronic systems and embedded systems. **Second RA**: Monte Carlo/Python based simulation, software development, experimental data acquisition, handling & analysis for particle tracking and image reconstruction in High energy physics experiments.
Nature of work	:	**First RA**: 1. Design, development and testing of high-speed, high-density FPGA based electronic modules for data acquisition systems of particle detectors. 2. Integration and interfacing of multiple data acquisition modules with data acquisition software through high-speed interfaces like Ethernet. 3. Skills required: • Working experience in high-speed digital PCB designs. (Essential) • Knowledge of FPGAs, Hardware description language (VHDL/Verilog), Micro-controllers and high-speed Serial/ Ethernet communications. (Essential) • Knowledge on frontend electronics and data acquisition systems for physics experiments using particle detectors. (Desirable) • Knowledge of commercial data acquisition software tools based on C++/Python. (Desirable) **Second RA**: 1. Development and testing of data acquisition software for particle tracking and visualization. 2. Management and analysis of experimental data from large number of particles detectors. 3. 3D tomographic image reconstruction. 4. Skills required. • Proficiency in C++ and Python (Essential) • Experience with Monte Carlo based toolkit for detector modelling, event generation, and simulation data analysis (Desirable). • Experience in track reconstruction algorithms (Desirable). • Knowledge of 3D image reconstruction techniques, tomographic reconstruction or compressive sensing methods. (Desirable) • Understanding of data acquisition systems, FPGA, Microcontroller and serial/Ethernet communications (Desirable)
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 22

Name of the Research Project	:	Nuclear agriculture and food preservation to enhance food security
Requirement of RA	:	15
Qualification	:	Ph.D. (Ph.D in Agriculture, Biotechnology, Biochemistry, Microbiology, Molecular Biology, Genetics, Botany, Zoology, Soil Science, Plant Science, Genetics and Plant Breeding, Plant Pathology, Entomology, Life Sciences, Bioinformatics, Food Technology) 1. Practical experience in molecular biology, bioinformatics, biochemistry, genetics and plant breeding, agricultural microbiology, entomology, pathology, soil science and biotechnological research 2. Knowledge and experience in data collection and analysis, usage of computer, and bioinformatics 3. Research publications relevant to the qualifications mentioned above
Field of work	:	Agriculture & Biotechnology, Food Technology
Nature of work	:	Research & Development
Duration of RA Fellowship	:	Maximum 3 Yrs
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 23

Name of the Research Project	:	Upgradation of facilities for enhanced production of radiochemicals and development of new radiochemicals, radiopharmaceuticals and radiation sources
Requirement of RA	:	04
Qualification	:	Ph.D. in Chemistry – 03 Ph.D. in Biosciences – 01 (Animal Molecular biology, genetic engineering, Biotechnology or related field). Experience in phage display or ribosomal display techniques and animal experimentation is desired.
Field of work	:	**First RA (Ph.D. in Chemistry)**: - R & D on radiochemical separation and purification of radioisotopes for medical applications. **Second RA (Ph.D. in Chemistry)**: - Synthesis and evaluation of cancer-specific peptides/molecules. **Third RA (Ph.D. in Chemistry)**: - Synthesis of radiolabeled functionalized nanoparticles for multi-modality cancer management. **Fourth RA (Ph.D. in Biosciences)**: - Development and Biological evaluation of radiolabeled molecular targeting agents.
Nature of work	:	**First RA (Ph.D. in Chemistry)**: - Research and development on various techniques required for radiochemical separation and purification of new as well as emerging radioisotopes from target materials irradiated in research reactor and accelerator. Extensive quality control of the purified products ensuring their suitability for medical applications. The candidate shall be supporting ongoing research activities while carrying out independent research in the field. **Second RA (Ph.D. in Chemistry)**: - R&D to synthesize and develop cancer-targeting molecules/peptides. Solid phase synthesis of peptides, HPLC purification and thorough characterization. Labelling of synthesized molecules with different radionuclides, optimization of radiochemistry, HPLC analysis. Candidate shall support ongoing research program as well carry independent research in the field. **Third RA (Ph.D. in Chemistry)**: - The work will involve synthesis and in-depth characterization of functionalized cancer targeting nanoformulations and establishment of their radiolabeling protocol with suitable radioisotopes for multi-modality cancer management. **Fourth RA (Ph.D. in Biosciences)**: - The work will involve in depth evaluation of mechanism of interaction of novel targeting agents using advanced techniques. Development of animal models of disease for *in vivo* evaluation is also envisaged. The candidate will also be supporting ongoing research programs as well as conducting independent research in the field.
Duration of RA Fellowship	:	Maximum 3 Yrs.
Level of Fellowship	:	RA-I / RA-II / RA-III

Research Project No. 24

Name of the Research Project		Development of Niobium Quarter Wave Resonator, ECRIS upgrade and Utilisation, Production Target for RIBs and Precision Reactor Neutrino Studies using enhanced ISMRAN Setup.
Requirement of RA		2
Qualification		Ph.D. in Physics in areas related to accelerator development or Experimental Nuclear Physics.
Field of work		Radioactive ion beam (RIB) production and extraction
Nature of work		Simulations and experiments related to Radioactive Ion Beam Production target, ion source and low energy beam line.
Duration of RA Fellowship		Upto 31.12.2027
Level of Fellowship	:	RA-I / RA-II / RA-III

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Research Project No. 25

Name of the Research Project	:	Accelerator & Reactor Based Nuclear Physics Research
Requirement of RA	:	1
Qualification	:	Ph.D. in experimental nuclear physics.
Field of work	:	Experimental nuclear physics
Nature of work	:	Development and utilization of new detectors and experimental facilities for low energy experimental nuclear physics and nuclear astrophysics
Duration of RA Fellowship	:	Upto 31.01.2028
Level of Fellowship	:	RA-I / RA-II / RA-III

The Fellows recruited will have the opportunity to carry out research under various R&D projects of BARC under the guidance of senior scientists.

Interested candidates may apply in the prescribed format with complete bio-data, one set of photocopies of mark-sheets, degree certificates (from SSC to M.E./M.Tech./Ph.D.), other academic credentials and work experience and the duly filled-in application may be sent to Deputy Establishment Officer, Recruitment-V, Central Complex, BARC, Trombay, Mumbai–400085 superscribing the Research Project No. on the envelope.

CANDIDATES SHOULD APPLY SEPARATELY FOR EACH RESEARCH PROJECT WITH A SEPARATE SET OF DOCUMENTS.

NOTE :

1. Educational Qualification: As indicated against each Research Project.
2. Amount of Fellowship:

(i)	RA-I	: ₹58,000/- p.m. plus Contingency Grant of ₹60,000/- per annum plus HRA as applicable.
(ii)	RA-II	: ₹61,000/- p.m. plus Contingency Grant of ₹60,000/- per annum plus HRA as applicable.
(iii)	RA-III	: ₹67,000/- p.m. plus Contingency Grant of ₹60,000/- per annum plus HRA as applicable.

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NOTES :-

A) The Research Associates will be fixed at one of the 3 fellowship as indicated above depending on qualifications and experience. The level at which a fellow will be placed will be decided by the interview committee based on the following;

i) Quality of Ph.D. thesis;

ii) Post-Ph.D. research experience as evidenced from the quality of the publications and/or products/processes designed and developed and

iii) Performance in the Selection interview.

B) The Department does not grant any such fellowship to the Scholars who have submitted Ph.D. thesis and are awaiting evaluation of thesis.

C) A person with Provisional/Regular Ph.D. will be treated at par with Research Associates and will be eligible for fellowship as per extant rates.

CANCELLATION OF THE CANDIDATURE:-

Candidate is cautioned not to furnish any incomplete, false or misleading information or submit any document which is defective, forged or fabricated or otherwise not admissible or claim fraudulently SC/ST/OBC/Person with Disability status etc., or resort to any sort of malpractice during the selection process. Notwithstanding verification of original documents during various stages of the selection process, if any such case is detected at any stage of the selection process or later on, this Centre reserves the right to withdraw/cancel candidature or selection apart from taking other appropriate legal action.

Candidates will not be allowed to appear for the interview if they fail to bring a copy of the Application and a valid photo identity card (such as AADHAR Card, Passport, Driving License, College ID, Voter ID) and all the documents in original at the time of interview.

Important Notes :

1) Selection will be on interview basis only. Applications received will be subject to screening. Only screened-in candidates will be interviewed. All information related to the selection will be made available on the website i.e. http://www.barc.gov.in. Candidates are advised to visit the website periodically for information and updates in this regard. Information displayed on the website will be deemed as intimation to the candidates.

2) Hostel accommodation will not be provided to the Research Associates.

3) Any legal disputes arising out of this notification are subject to Mumbai jurisdiction only and in case of any dispute, English version of detailed Advertisement placed on BARC website shall be referred.

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4) Corrigendum/Addendum, if any, pertaining to this advertisement will be uploaded only on BARC website.

5) **Applications received through email will not be accepted/ considerd.**

6) In case of any query, candidates may email at niyukti5@barc.gov.in.

CANVASSING IN ANY FORM WILL BE A DISQUALIFICATION

RECORD OF THE NON-SELECTED CANDIDATES SHALL NOT BE PRESERVED BEYOND SIX MONTHS FROM THE DATE OF PUBLICATION OF SELECT LIST.