FY 2028 Recruitment Announcement for Research Positions

No.	Theme	Positions
101	Research and development of radiation detection technologies related to the revision of protection quantities for external exposure	1
102	Research and Development on the Environmental Behavior, Exposure Assessment, and Biological Effects of Radon	1
103	Development of High Temperature Gas-cooled Reactors for a Carbon-Neutral Society	2
104	Measurement, Anlysis and Simulation Technologies for FDNPS Decommissioning	3
105	Safety Research on Risk Assessment for Nuclear Installations	2
106	Research on the feature expansion of PHITS for applications in the field of nuclear engineering	1
107	Experimental study on the evaluation of software errors in semiconductors	1
108	Development of Advanced Radiation Measurement Technologies and Their Applications	1
109	Research for Advancing Core Analysis Technologies for LWRs	2
110	Research on the Fabrication, Maintenance, and Upgrading of the Moderator and Reflector and Radiation Safety for the J-PARC Spallation Neutron Source	1
111	Research and development for the realization on fast reactor cycle systems	8
112	Research and Development of MOX Fuel Fabrication Technology and Backend Technologies for the Realization of the Nuclear Fuel Cycle	1
113	Fundamental R&D of Geological Disposal Technologies for High-level Radioactie Waste	3
114	R&Ds on applied laser technologies for decommissioning	1

※For details on each theme, please see the following sections.

FY 2028 Recruitment Announcement for Research Positions

Theme No.101

(1) Research Topic	**Research and development of radiation detection technologies related to the revision of protection quantities for external exposure**			
(2) Job Description	This research theme focuses on advancing dosimetry for external radiation exposure in light of revisions to the definition of operational quantities for external radiation exposure. Proper management of external dosimetry is essential for the safety operation of nuclear facilities and radiaiation facilities. This requires the accurate measurement of various doses in workplaces using the dosematers whose quality is verified through proper testing and calibration. In December 2020, the International Commission on Radiation Units and Measurements (ICRU) published Report 95, which recommends significant revisions to the definitions of operational quantities for external radiation exposure. In anticipation of the future adoption of these revised quantities, we have initiated the following research and development activities; - Systematic measurement and analysis of radiation characteristics, including energy spectra, in various workplaces. - Development of testing and calibration methods of dosemeters compatible with the new operational quantities. - Development of new radiation detection instruments and related simulation techniques required for aforementioned activities. These R&D activities are primarily conducted using the Facility of Radiation Standard (FRS) which provides various irradiation fields (X-ray, gamma-ray, beta-ray and neutron). Furthermore, research fields will be expanded to other nuclear and radiation facilities both inside and outside of JAEA.			
(3) Desired Candidate Profile	- Individuals capable of leading the development of standards such as JIS and ISO. - Those who can facilitate smooth communication with researchers, specialists, and engineers in other divisions, and collaborate effectively on experiments and problem-solving. - Those with experience in developing radiation measurement instruments or conducting radiation measurements at nuclear or radiation facilities. - Those with experience in radiation transport simulation calculations.			
(4) Position Highlights	The FRS is equipped not only with accelerators but also with various radiation sources, including X-ray, gamma-ray, beta-ray, and neutron. As the only JIS-certified testing laboratory in the field of radiation in Japan, we provide high-quality testing services for radiation measurement instruments across multiple radiation types and wide energy ranges. In this theme, we will proceed with research and development utilizing this FRS. Additionally, our institute operates various nuclear and radiation facilities that are available for use. Notably, the development team for the radiation transport Monte Carlo code PHITS also works at the same institute, allowing for close collaboration. We provide an ideal environment where you can conduct excellent research using these world-leading facilities.			
(5) Duty Station (Expected)	Ibaraki Prefecture (Tokai Village)			
(6) Research Fields	(Major Category)	Natural_Science	(Subcategory)	Experimental studies related to particle-, nuclear-, cosmic ray and astro-physics
	(Major Category)	Natural_Science	(Subcategory)	Semiconductors, optical properties of condensed matter and atomic physics
	(Major Category)	Energy_Engineering	(Subcategory)	Nuclear engineering
	(Major Category)	Energy_Engineering	(Subcategory)	Quantum beam science
	(Major Category)	Natural_Science	(Subcategory)	Applied mathematics and statistics
	(Major Category)	Informatics	(Subcategory)	Computational science
	(Major Category)	Life_Science	(Subcategory)	Radiological sciences
	(Major Category)	Manufacturing_Technology	(Subcategory)	Measurement engineering
	(Major Category)	Manufacturing_Technology	(Subcategory)	Electron device and electronic equipment
(7) Eligible Degree Level(s)	Master's or Doctoral Program Graduates and Expected Graduates			
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FY 2028 Recruitment Announcement for Research Positions

Theme No.102

(1) Research Topic	**Research and Development on the Environmental Behavior, Exposure Assessment, and Biological Effects of Radon**			
(2) Job Description	The Ningyo-toge Environmental Engineering Center conducts research to support the closure of former uranium mines, the decommissioning of uranium-related nuclear facilities, and the treatment and disposal of uranium waste. In this context, this research focuses on investigating the transport of radon and its decay products in these facilities, surrounding areas, everyday environments, and hot springs, as well as assessing exposure, radiation doses, and biological effects. Depending on their expertise, the successful candidate will pursue research linking environmental behavior with exposure, radiation doses, and biological effects through approaches such as field surveys, radioactivity measurements, and mathematical modeling, or biological experiments at the cellular, tissue, and whole-organism levels.			
(3) Desired Candidate Profile	・We seek a researcher who can apply their expertise, take initiative in research, and collaborate with colleagues across disciplines and with on-site staff. ・We value a willingness to acquire knowledge and skills in radioactivity measurement after joining us and to investigate research questions using measurement data. ・Prior specialist knowledge of radon or experience in radon measurement is not required.			
(4) Position Highlights	You can pursue research linking environmental behavior with biological effects using unique field sites such as former uranium mines and radon hot springs, together with facilities for measurement, calibration, and radon exposure experiments. Collaboration with researchers and technical staff both within and outside JAEA offers opportunities to deepen your expertise and explore new research questions based on your own ideas. By working closely with staff involved in environmental monitoring and radiation protection, you can turn practical challenges into research questions and use your findings to improve environmental safety and radiation protection. Our center's small size also makes it easy to exchange ideas with colleagues and seek advice.			
(5) Duty Station (Expected)	Okayama Prefecture (Kagamino Town)			
(6) Research Fields	(Major Category)	Environmental_science	(Subcategory)	Radiation influence
	(Major Category)	Environmental_science	(Subcategory)	Environmental impact assessment
	(Major Category)	Life_Science	(Subcategory)	Hygiene and public health: including laboratory approach
	(Major Category)	Energy_Engineering	(Subcategory)	Nuclear engineering
	(Major Category)	Nanotechnology_Materials	(Subcategory)	Green sustainable chemistry and environmental chemistry
(7) Eligible Degree Level(s)	Master's or Doctoral Program Graduates and Expected Graduates			
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FY 2028 Recruitment Announcement for Research Positions

Theme No.103

(1) Research Topic	**Development of High Temperature Gas-cooled Reactors for a Carbon-Neutral Society**			
(2) Job Description	Achieving carbon neutrality requires significant reductions in carbon dioxide emissions from industrial sectors such as steelmaking and chemical manufacturing. To support the decarbonization of these hard-to-abate industries, we are developing next-generation energy systems utilizing High-Temperature Gas-cooled Reactors (HTGRs), a technology attracting worldwide attention, for hydrogen production and industrial heat supply. At the forefront of HTGR development, we work with experts from diverse fields in Japan and around the world to help realize the future energy infrastructure through the following challenges: (1) World's first hydrogen production demonstration using an HTGR (2) Research on advanced industrial systems based on hydrogen and heat supply from HTGRs (3) Development of advnaced fuels and materials for high temperature heat applications (4) Development of advanced HTGR design and safety assessment technologies using data obtained from the test reactor "the HTTR".			
(3) Desired Candidate Profile	An individual who can collaborate effectively with diverse stakeholders in Japan and abroad and contribute to the successful realization of HTGR projects. An individual who demonstrates initiative, creativity, and a strong commitment to achieving challenging goals.			
(4) Position Highlights	Our project enables participants to acquire experience and knowledge in a wide range of technologies, including experiments, numerical simulations, design, component manufacturing, and demonstration tests in a wide variety of fields such as fuels and materials, thermal fluid, reactor physics, instrumentation and control, chemical engineering, etc., through the HTGR development. In addition, we provide an environment for international activities through collaboration with overseas organizations such as the UK National Nuclear Laboratory and participation in projects of international organizations such as the IAEA.			
(5) Duty Station (Expected)	Ibaraki Prefecture (Oarai Town)			
(6) Research Fields	(Major Category)	Energy_Engineering	(Subcategory)	Nuclear engineering
	(Major Category)	Energy_Engineering	(Subcategory)	Earth resource engineering, Energy sciences
	(Major Category)	Manufacturing_Technology	(Subcategory)	Design engineering
	(Major Category)	Manufacturing_Technology	(Subcategory)	Mechanics of materials and materials
	(Major Category)	Manufacturing_Technology	(Subcategory)	Chemical reaction and process system engineering
	(Major Category)	Manufacturing_Technology	(Subcategory)	Fluid engineering
	(Major Category)	Manufacturing_Technology	(Subcategory)	Thermal engineering
	(Major Category)	Social_Infrastructure	(Subcategory)	Safety engineering
(7) Eligible Degree Level(s)	Master's or Doctoral Program Graduates and Expected Graduates			
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FY 2028 Recruitment Announcement for Research Positions

Theme No.104

(1) Research Topic	**Measurement, Anlysis and Simulation Technologies for FDNPS Decommissioning**			
(2) Job Description	You will contribute to building the scientific foundation that supports the decommissioning of the Fukushima Daiichi Nuclear Power Station (FDNPS). For this purpose, you will be conducting comprehensive measurements and analyses of fuel debris, structures, waste, and the environment, and using simulations to clarify the various phenomena that occur within these processes. The work spans three interconnected areas: (1) Characterization and behavior analysis of fuel debris, structural materials, and solid waste; (2) Dust behavior analysis in work environments and treatment processes; (3) Advanced analysis, inspection and simulation technologies for remote and autonomous operations. You will combine a wide range of expertise, including physics, chemistry, measurement/analysis, materials, and simulation, to conduct research and development of technologies that can be implemented at the Fukushima Daiichi Nuclear Power Plant site and in the decommissioning process.			
(3) Desired Candidate Profile	We welcome applicants with strengths in any of the following: physical chemistry, radiochemistry, measurement technologies, chemical analysis, fine particle and powder mechanics, material properties, imaging, or computational modeling. Candidates should be comfortable working across disciplinary boundaries and collaborating with diverse teams. A positive attitude toward field tests and research activities connected directly to real decommissioning operations is highly expected.			
(4) Position Highlights	This role provides a rare opportunity to conduct research directly linked to one of the world's most challenging and socially significant engineering projects. You will work with leading universities, research institutes, and industry partners in Japan and abroad. The position offers an excellent environment for developing broad and internationally relevant expertise. Research outcomes can have immediate practical impact on operational safety and efficiency at Fukushima Daiichi, enabling you to experience real-world implementation of your work.			
(5) Duty Station (Expected)	Fukushima Prefecture (Tomioka Town, Naraha Town, Minamisoma City, Okuma Town), Ibaraki Prefecture (Tokai Village)			
(6) Research Fields	(Major Category)	Energy_Engineering	(Subcategory)	Nuclear engineering
	(Major Category)	Nanotechnology_Materials	(Subcategory)	Metallic material properties
	(Major Category)	Manufacturing_Technology	(Subcategory)	Control and system engineering
	(Major Category)	Informatics	(Subcategory)	Robotics and intelligent system
	(Major Category)	Informatics	(Subcategory)	Software
(7) Eligible Degree Level(s)	Master's or Doctoral Program Graduates and Expected Graduates			
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FY 2028 Recruitment Announcement for Research Positions

Theme No.105

(1) Research Topic	**Safety Research on Risk Assessment for Nuclear Installations**			
(2) Job Description	At Nuclear Safety Research Center, we conduct research focusing on long-term operation, promotion of isk-informed applications, environmental safety associated with decommissioning, and optimization of measures nuclear or radiological emergencies, considering current situation in nuclear power. Specifically, we carry out multifaceted and comprehensive research on nuclear facilities such as light water reactors and nuclear fuel reprocessing plants. This research includes understanding thermal-hydraulic phenomena during accidents, evaluating the integrity of fuel and structural materials, safety assessment during accidents at nuclear fuel cycle facilities, and providing technical support for IAEA safeguards activities through radioactive nuclide analysis.			
(3) Desired Candidate Profile	Persons who are motivated by scientific interests on nuclear safety research field.			
(4) Position Highlights	Nuclear Safety Research Center aims to be trusted by society by developing human resources of specialists who are able to respond to the social needs such as nuclear safety and nuclear emergency preparedness. The center offers a wide range of research opportunities, such as activities using large experimental facilities, conducting elemental experiments, developintg codes, etc. Every researcher in the center enjoys the freedom to utilize his/her own personality and strengths in the wide variety of research fields. The center encourages researchers to be autonomous, allows them to propose and expand research even early in their careers. In addition, through joint researches with utility companies, manufacturers and/or foreign organizations, they will be able to tackle issues in the worldwide nuclear indsutry and to gain knowledge by studying in foreign research institutes or universities.			
(5) Duty Station (Expected)	Ibaraki Prefecture (Tokai Village)			
(6) Research Fields	(Major Category)	Energy_Engineering	(Subcategory)	Nuclear engineering
	(Major Category)	Manufacturing_Technology	(Subcategory)	Mechanics of materials and materials
	(Major Category)	Manufacturing_Technology	(Subcategory)	Fluid engineering
	(Major Category)	Manufacturing_Technology	(Subcategory)	Control and system engineering
	(Major Category)	Social_Infrastructure	(Subcategory)	Structure engineering and earthquake engineering
	(Major Category)	Social_Infrastructure	(Subcategory)	Safety engineering
	(Major Category)	Social_Infrastructure	(Subcategory)	Disaster prevention engineering
(7) Eligible Degree Level(s)	Master's or Doctoral Program Graduates and Expected Graduates			
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FY 2028 Recruitment Announcement for Research Positions

Theme No.106

(1) Research Topic	**Research on the feature expansion of PHITS for applications in the field of nuclear engineering**			
(2) Job Description	To expand the scope of applications in the field of nuclear engineering, we will enhance PHITS' computational capabilities by refining functions such as the analysis of low-energy neutron behavior and radioactivation calculations. Furthermore, using these enhanced capabilities, we will conduct research to apply PHITS to a variety of fields, including reactor decommissioning and the design of medical radioisotope production facilities.			
(3) Desired Candidate Profile	PHITS is widely used not only in radiation facility design, medical physics, and space-related research, but also in the field of nuclear engineering, including decommissioning. However, the development team lacks personnel with expertise in nuclear engineering, particularly in the energy sector, and is therefore unable to fully meet user needs. Therefore, we would like to welcome students who can help address the demand for PHITS applications in the nuclear field and who can also take the lead in advancing this applied research.			
(4) Position Highlights	The research group for radiation transport analysis comprises researchers with expertise in a wide range of fields, including nuclear reaction models, atomic physics, condensed matter physics, and radiation biology. Young researchers in the field of nuclear engineering can vigorously advance their research through the synergy between their own work and that of other group members.			
(5) Duty Station (Expected)	Ibaraki Prefecture (Tokai Village)			
(6) Research Fields	(Major Category)	Natural_Science	(Subcategory)	Theoretical studies related to particle-, nuclear-, cosmic ray and astro-physics
(7) Eligible Degree Level(s)	Doctoral Program Graduates and Expected Graduates			
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FY 2028 Recruitment Announcement for Research Positions

Theme No.107

(1) Research Topic	**Experimental study on the evaluation of software errors in semiconductors**			
(2) Job Description	Experiments to evaluate soft errors in semiconductors will be conducted on the dedicated beamline for radiation tolerance testing of space electronics, which is part of the space strategy fund project titled “Development of radiation testing facilities at the JAEA Tokai Tandem Accelerator.”			
(3) Desired Candidate Profile	Experience conducting experiments using accelerators during a doctoral course is preferred. We also expect you to actively participate in the development of new beamlines—such as dedicated irradiation systems for semiconductors—and to collaborate with engineers at the tandem accelerator facility on various technical development projects.			
(4) Position Highlights	The research group for radiation transport analysis comprises researchers with expertise in a wide range of fields, including nuclear reaction models, atomic physics, condensed matter physics, and radiation biology. The group also includes a leading expert in the evaluation of soft errors in semiconductors. Researchers can collaborate to advance their work through both experimental and computational approaches, as well as conduct your own simulation calculations. Furthermore, JAEA’s tandem accelerator facility is a unique facility on a global scale, offering a well-equipped experimental environment, so we encourage you to make active use of it.			
(5) Duty Station (Expected)	Ibaraki Prefecture (Tokai Village)			
(6) Research Fields	(Major Category)	Natural_Science	(Subcategory)	Experimental studies related to particle-, nuclear-, cosmic ray and astro-physics
(7) Eligible Degree Level(s)	Doctoral Program Graduates and Expected Graduates			
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	https://ttandem.jaea.go.jp/index-eng.html			

FY 2028 Recruitment Announcement for Research Positions

Theme No.108

(1) Research Topic	**Development of Advanced Radiation Measurement Technologies and Their Applications**			
(2) Job Description	The Nuclear Sensing Research Group conducts research and development of radiation measurement technologies for a wide range of applications, including nondestructive analysis of nuclear and radioactive materials, characterization of radiopharmaceuticals for nuclear medicine, radiation field assessment for Boron Neutron Capture Therapy (BNCT), and investigations of high-energy radiation phenomena associated with thunderstorms and lightning. The successful candidate will engage in one of these research areas, taking into consideration their expertise, interests, and aptitude. Research activities involve the development of novel radiation measurement techniques and radiation detectors through experimental studies using world-class research facilities such as the J-PARC Materials and Life Science Experimental Facility (MLF), tandem accelerator facilities, and other experimental infrastructures. These efforts are complemented by computational approaches, including Monte Carlo simulations, to advance both fundamental and applied research in radiation sensing technologies.			
(3) Desired Candidate Profile	We welcome candidates who are highly motivated to engage in research and development. The research group comprises members with diverse academic backgrounds, and no specific field of study is required. All essential knowledge and technical skills will be provided through structured on-the-job training and instruction following appointment.			
(4) Position Highlights	In addition to developing nondestructive analysis technologies essential to the nuclear field, the appointed researcher will engage in socially and academically significant research across medicine and the natural sciences. The researcher will also conduct cutting-edge studies using advanced facilities and will have opportunities to launch new research themes and collaborate with external institutions, through which they can further advance their own research program.			
(5) Duty Station (Expected)	Ibaraki Prefecture (Tokai Village)			
(6) Research Fields	(Major Category)	Energy_Engineering	(Subcategory)	Quantum beam science
	(Major Category)	Energy_Engineering	(Subcategory)	Nuclear engineering
	(Major Category)	Life_Science	(Subcategory)	Radiological sciences
	(Major Category)	Manufacturing_Technology	(Subcategory)	Measurement engineering
	(Major Category)	Natural_Science	(Subcategory)	Experimental studies related to particle-, nuclear-, cosmic ray and astro-physics
	(Major Category)	Natural_Science	(Subcategory)	Space and planetary sciences
	(Major Category)	Natural_Science	(Subcategory)	Astronomy
(7) Eligible Degree Level(s)	Master's or Doctoral Program Graduates and Expected Graduates			
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FY 2028 Recruitment Announcement for Research Positions

Theme No.109

(1) Research Topic	**Research for Advancing Core Analysis Technologies for LWRs**			
(2) Job Description	The Research Center for LWR Engineering promotes research projects aimed at future practical applications and societal implementation. The Center develops core technologies that support LWR core analysis, including the thermal-hydraulic analysis codes JUPITER and ACE-3D, the neutronics code MVP, the nuclear data processing code FRENDY, and the multi-physics simulation platform JAMPAN. These codes are widely utilized both within and outside JAEA as essential tools for nuclear research and development. This research theme involves the development and enhancement of these analysis codes, as well as the advancement of analytical models and methodologies. In addition, the successful development and acquisition of experimental data.			
(3) Desired Candidate Profile	The advancement of light water reactor technology is a vital area of research and development that supports Japan's stable energy supply. At our research center, we work closely with electric utilities, manufacturers, and other partners, providing researchers with the opportunity to see their work contribute directly to real-world applications and technological innovation. We foster a culture that values the initiative and ideas of every researcher. From early-career scientists to experienced professionals, everyone is encouraged to engage in open discussions, share new perspectives, and take on exciting challenges. We also actively embrace emerging technologies and insights from diverse fields, supporting researchers as they grow professionally and explore new areas of research. For those who are passionate about advancing the energy sector and eager to identify challenges, take initiative, and drive research forward, our center offers a rewarding environment where both professional growth and meaningful societal impact can be achieved.			
(4) Position Highlights	Advancing light water reactor technology is an important mission that supports the energy infrastructure of Japan. By conducting research in close collaboration with electric utilities, reactor vendors, and other industrial partners, researchers can directly experience how their work contributes to practical applications and real-world impact. Our research environment values the ideas and perspectives of every researcher. Regardless of age or career stage, staff members are encouraged to engage in open discussions and propose innovative ideas. We actively promote the adoption of new technologies and knowledge, and support researchers in pursuing challenging topics and exploring emerging research fields. This position offers an excellent opportunity for individuals who are motivated to identify research challenges independently, take initiative in their work, and grow through involvement in diverse scientific and engineering disciplines.			
(5) Duty Station (Expected)	Ibaraki Prefecture (Tokai Village)			
(6) Research Fields	(Major Category)	Energy_Engineering	(Subcategory)	Nuclear engineering
	(Major Category)	Informatics	(Subcategory)	Computational science
(7) Eligible Degree Level(s)	Master's or Doctoral Program Graduates and Expected Graduates			
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FY 2028 Recruitment Announcement for Research Positions

Theme No.110

(1) Research Topic	**Research on the Fabrication, Maintenance, and Upgrading of the Moderator and Reflector and Radiation Safety for the J-PARC Spallation Neutron Source**			
(2) Job Description	The Spallation Neutron Source at the J-PARC Center is a facility that generates world-class pulsed neutron beams using a proton beam accelerated by a high-intensity proton accelerator and supplies them to a suite of neutron experimental instruments, thereby contributing to cutting-edge research in a wide range of fields in materials science and life sciences. In this position, you will engage in research activities related to the fabrication, maintenance, and advancement of moderator and reflector equipment—which are critical components of the spallation neutron source—as well as research activities related to radiation safety arising from radiation such as protons, neutrons, and gamma rays. Specifically, you will perform tasks related to the fabrication and maintenance of moderator and reflector equipment; conduct research on the enhancement of such equipment—including increasing its strength, toughness, and service life; analyze relevant scattering and reaction data; and conduct research on the measurement, reduction, and computational evaluation of radiation—including protons, neutrons, and gamma rays—across a wide energy range, from low to high intensities.			
(3) Desired Candidate Profile	This spallation neutron source requires expertise in radiation-related knowledge and consists of diverse equipment. Beyond specialized knowledge of the target equipment, familiarity with other systems is essential. We seek individuals with a spirit of self-directed inquiry, a proactive desire to incorporate new knowledge, and the ability to approach their duties with seriousness and enthusiasm.			
(4) Position Highlights	Due to its unique nature, this spallation neutron source involves significant international collaboration, offering numerous opportunities for global engagement. Beyond specialized expertise, it provides frequent exposure to knowledge across diverse fields. We actively support the acquisition of necessary qualifications and skills required for the job.			
(5) Duty Station (Expected)	Ibaraki Prefecture (Tokai Village)			
(6) Research Fields	(Major Category)	Natural_Science	(Subcategory)	Theoretical studies related to particle-, nuclear-, cosmic ray and astro-physics
	(Major Category)	Natural_Science	(Subcategory)	Experimental studies related to particle-, nuclear-, cosmic ray and astro-physics
	(Major Category)	Energy_Engineering	(Subcategory)	Quantum beam science
	(Major Category)	Energy_Engineering	(Subcategory)	Nuclear engineering
(7) Eligible Degree Level(s)	Doctoral Program Graduates and Expected Graduates			
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FY 2028 Recruitment Announcement for Research Positions

Theme No.111

(1) Research Topic	**Research and development for the realization on fast reactor cycle systems**			
(2) Job Description	The fast reactor cycle is an advanced energy system expected to contribute to the efficient utilization of uranium resources and to the reduction of radioactive waste volume and radiotoxicity. At the Oarai nuclear engineering institute, research and development efforts are being conducted toward the commercialization of the fast reactor cycle by utilizing facilities such as the experimental fast reactor Joyo, fuel and materials research facilities, and large-scale sodium testing facilities. Upon joining our organization, you will engage in one or more of the following research areas, based on your expertise and research achievements developed through your graduate studies. 〇**Core and Plant Design, and Safety Assessment** Analysis of reactor physics and nuclear characteristics, core design including fuel burnup analysis, decay heat removal, severe accident analysis, source term evaluation, assessment of phenomena such as sodium combustion and sodium-water reactions 〇**Thermal-Hydraulics, Structures, Components, and Materials** Thermal-hydraulics analysis of reactor and plant systems, heat transfer and flow experiment, plant component development, high-temperature structural design, material strength and damage evaluation, development of framework of codes and standards 〇**Fuels, Fuel Cycle Technologies, and Irradiation Applications** Development of advanced fast reactor fuels including minor actinide-bearing fuels, metallic fuels, and oxide dispersion-strengthened (ODS) steels, irradiation behavior studies, post-irradiation examinations (PIE), and development of analytical technologies for Fukushima Daiichi fuel debris, fuel reprocessing technologies, irradiation testing technologies, development of production technologies for medical radioisotopes 〇**Computational Science and Digital Technologies for Advanced R&D** Numerical simulations, AI and data science applications, instrumentation and control technologies, integrated system development In addition to nuclear engineering, you can leverage expertise in other fields such as mechanical engineering, materials science, chemistry, physics, electrical and electronic engineering, control engineering, information science, and mathematics. Even if your academic background is outside nuclear engineering, we expect you to expand your research capability into the fast reactor engineering field, based on your already acquired way of research and specific knowledge.			
(3) Desired Candidate Profile	〇Individuals who can independently define research topics, and conduct logical, evidence-based investigations based on the expertise and research achievements acquired through graduate school. 〇Individuals who can proactively apply research methodologies such as experimentation, analysis, simulation, and investigation, and translate their results or findings into academic publications, conference presentations, and other scholarly outputs. 〇Individuals who can place a high value on safety, research ethics, and scientific integrity, and collaborate effectively with researchers and engineers from diverse disciplines. 〇Individuals who are motivated to contribute to the future industrial implementation and societal deployment of fast reactor cycle technologies through their research outcomes. Note: A degree in nuclear engineering is not required. however, we will give priority to candidates who can apply the specialized knowledge they acquired in graduate school to their research activities.			
(4) Position Highlights	By utilizing research facilities including the experimental fast reactor Joyo, one of the few operational fast neutron irradiation facilities in the world, you can engage in research combining analysis & simulation with experimental activities such as sodium technology testing, in-pile irradiation testing, post-irradiation examination of fuels and materials, and equipment development. While deepening your expertise in your own fields, you will have opportunities to broaden their research horizons through collaborative projects with experts from diverse fields, presentations at conferences, publication of research papers, and cooperation with domestic and international research institutions. You will also have the opportunity to translate the outcomes of fundamental research into future development of demonstration reactor, irradiation applications, and advanced fuel cycle technologies.			
(5) Duty Station (Expected)	Ibaraki Prefecture (Oarai Town)			
(6) Research Fields	(Major Category)	Energy_Engineering	(Subcategory)	Nuclear engineering
	(Major Category)	Manufacturing_Technology	(Subcategory)	Fluid engineering
	(Major Category)	Manufacturing_Technology	(Subcategory)	Control and system engineering
	(Major Category)	Manufacturing_Technology	(Subcategory)	Chemical reaction and process system engineering
	(Major Category)	Natural_Science	(Subcategory)	Mathematical physics and fundamental theory of condensed matter physics
	(Major Category)	Others	(Subcategory)	Reactor Physics, Nuclear Fuel, Irradiation Behavior, Artificial Intelligence (AI)
(7) Eligible Degree Level(s)	Master's or Doctoral Program Graduates and Expected Graduates			
(8) Contact Information	(Name)	Kozo Katsuyama		
	(Affiliation)	Strategy and Management Department		
	(Title)	Director		
	(E-mail)	jaea-jinji2028@jaea.go.jp		
(9) Website	https://www.youtube.com/watch?v=_JKsxmbSDUI			
	https://www.youtube.com/watch?v=t2mW3NdZt0g			
	https://www.jaea.go.jp/04/o-arai/index.html			
	https://www.jaea.go.jp/04/o-arai/research/research.html			
	https://www.jaea.go.jp/04/sefard/randd/development/			

FY 2028 Recruitment Announcement for Research Positions

Theme No.112

(1) Research Topic	**Research and Development of MOX Fuel Fabrication Technology and Backend Technologies for the Realization of the Nuclear Fuel Cycle**			
(2) Job Description	Guided by JAEA's vision, "Exploring the Future through Nuclear and Renewable Synergy," we conduct R&D on the nuclear fuel cycle to make nuclear energy more sustainable. Our work includes recycling spent nuclear fuel and developing technologies for safely treating and managing radioactive waste. Researchers from diverse fields also develop, improve, and maintain research equipment, producing results through hands-on experiments and testing. Our main research areas are as follows: ○ **Fast Reactor Fuel Fabrication** Developing oxide fuel fabrication technologies for the experimental fast reactor "Joyo" and a demonstration fast reactor, including studies of oxide powder properties and new fabrication methods. ○ **Reprocessing Equipment for the Fast Reactor Fuel Cycle** Developing and improving reprocessing equipment for practical use, with a focus on safety and remote operation. ○ **Low-Level Radioactive Waste Treatment** Developing waste stabilization and solidification technologies, evaluating hydrogen gas behavior in transuranic (TRU) waste, and advancing technologies to support decommissioning work in Fukushima.			
(3) Desired Candidate Profile	・Individuals who are passionate about challenging research and can independently identify and solve engineering problems. ・Those who approach challenging experiments and equipment development with a positive attitude and work to achieve results. ・People who communicate effectively with researchers and specialists in Japan and abroad, collaborating across organizational and disciplinary boundaries to solve problems. ・Individuals who demonstrate high ethical standards and integrity and consistently prioritize safety.			
(4) Position Highlights	JAEA plays a leading role in R&D on fast reactor fuels under the national Fast Reactor Cycle Project, based on the Japanese government's "Strategic Roadmap." We also develop equipment for advanced reprocessing technologies and conduct R&D on radioactive waste treatment. These projects address important national challenges, including energy self-sufficiency, radioactive waste reduction, and safe waste management. Our research offers opportunities to work with nuclear fuel materials and radioactive substances rarely handled at universities, using large-scale research facilities and emerging technologies such as generative AI and robotics. Collaboration with research institutions in Japan and abroad also provides opportunities to gain international experience and perspectives. Our workplace is vibrant, with many young researchers and active contributions from women and international staff. Beyond publishing research papers, researchers can engage in hands-on research and collaborate with experts from different fields.			
(5) Duty Station (Expected)	Ibaraki Prefecture (Tokai Village)			
(6) Research Fields	(Major Category)	Manufacturing_Technology	(Subcategory)	Mechanics of materials and materials
	(Major Category)	Manufacturing_Technology	(Subcategory)	Control and system engineering
	(Major Category)	Manufacturing_Technology	(Subcategory)	Design engineering
	(Major Category)	Environmental_science	(Subcategory)	Environmental load reduction and remediation
	(Major Category)	Environmental_science	(Subcategory)	Environmental materials and recycle technology
	(Major Category)	Nanotechnology_Materials	(Subcategory)	Inorganic materials and properties
	(Major Category)	Nanotechnology_Materials	(Subcategory)	Structural materials and functional materials
	(Major Category)	Nanotechnology_Materials	(Subcategory)	Green sustainable chemistry and environmental chemistry
(7) Eligible Degree Level(s)	Master's or Doctoral Program Graduates and Expected Graduates			
(8) Contact Information	(Name)	Labor and Welfare Section, Nuclear Fuel Cycle Engineering Laboratories		
	(Affiliation)			
	(Title)			
	(E-mail)	ncl-saiyo@jaea.go.jp		
(9) Website	https://www.jaea.go.jp/04/ztokai/recruitment/new/index.html			

FY 2028 Recruitment Announcement for Research Positions

Theme No.113

(1) Research Topic	**Fundamental R&D of Geological Disposal Technologies for High-level Radioactie Waste**			
(2) Job Description	Fundamental research to support the geological disposal program of high-level radioactive waste (HLW) in the following areas: 1. Characterization of the geological environment (e.g. groundwater flow, groundwater chemistry, mass transport, groundwater chemistry, behavior of microorganisms, rock mechanics) 2. Studies on long-term stability of the geological environment (including development of dating techniques) 3. Repository engineering technologies 4. Long-term behavior of engineered barriers (metals, clay minerals, cementitious materials etc.) 5. Physicochemical behavior of radioactive nuclides, such as solubility, sorption etc. 6. Safety assessment technologies for geological disposal system. Application of state-of-the-art technologies (e.g., digital twin technologies) to those area is recommended.			
(3) Desired Candidate Profile	Researcher who has strong sense of mission to pursue the research on deep geological disposal of high-level radioactive waste. In order to enhance the reliability of geological disposal technology for high-level radioactive waste, we are looking for people with high motivations to take on the challenge of solving problems in various scientific and technological fields and with high activities toward a single goal in cooperation with others.			
(4) Position Highlights	Although the term "disposal" sometimes imagines negative, geological disposal is one of the important subjects due to the final process in nuclear fuel cycle. Various professional areas, e.g., geoscience, civil engineering, rock engineering, hydrology and solution chemistry, are required in R&D on geological disposal. Everyone who has any professional areas mainly in science and technology can play an active role. We look forward to your application!			
(5) Duty Station (Expected)	Gifu Prefecture (Toki City), Hokkaido (Horonobe Town), Ibaraki Prefecture (Tokai Village)			
(6) Research Fields	(Major Category)	Energy_Engineering	(Subcategory)	Nuclear engineering
	(Major Category)	Energy_Engineering	(Subcategory)	Earth resource engineering, Energy sciences
	(Major Category)	Social_Infrastructure	(Subcategory)	Civil engineering plan and transportation engineering
	(Major Category)	Social_Infrastructure	(Subcategory)	Geotechnical engineering
	(Major Category)	Natural_Science	(Subcategory)	Human geosciences
	(Major Category)	Natural_Science	(Subcategory)	Solid earth sciences
	(Major Category)	Environmental_science	(Subcategory)	Environmental dynamic analysis
	(Major Category)	Environmental_science	(Subcategory)	Radiation influence
(7) Eligible Degree Level(s)	Master's or Doctoral Program Graduates and Expected Graduates			
(8) Contact Information	(Name)	Shin Notoya		
	(Affiliation)	Nuclear Backend Technology Development Department, Nuclear Fuel Cycle Engineering Laboratories		
	(Title)	Deputy Director		
	(E-mail)	jaea-jinji2028@jaea.go.jp		
(9) Website	https://www.jaea.go.jp/04/tisou/english/index/e-index.html			

FY 2028 Recruitment Announcement for Research Positions

Theme No.114

(1) Research Topic	**R&Ds on applied laser technologies for decommissioning**			
(2) Job Description	Our main mission is the research and development of inovative laser processing technologies, such as laser cutting and laser decontamination, that can be applied to the decommissioning of nuclear reactor facilities. In addition to experiments, we are also developing numerical analysis techniques for laser processing. By combining experiments and analysis, we are able to understand various physical phenomena, including the plasma generated on the surface of laser irradiated objects, and we are also conducting research to deside appropriate laser irradiation conditions for various laser processing of various materials. On the other hand, laser processing is a widely used technology in industrial fields, and in order to enable our developed technologies to be used in various fields, we are conducting research into its application not only to the cutting and decontamination, but also to heat treatment, rust removal and rust prevention treatment, welding and joining technology, etc.			
(3) Desired Candidate Profile	The ideal candidate is expected to have the following qualifications:- * Regardless of the major studied at universities or other research institutes, applicants must have the motivation and enthusiasm to work on new research and development and the application of technologies as a pioneer. * Willingness to actively acquire knowledge and skills. * Excellent communication skills to work cooperatively with colleagues.			
(4) Position Highlights	* Lasers have a high energy density and enable high-precision non-contact processing. In addition, depending on the wavelength, they can be transmitted through optical fiber, making them suitable for remote processing technology, and they are expected to be used in various industrial fields. For the time being, we aim to continue contributing to the achievement of the SDGs through our research to laser cutting and laser decontamination for the decommissioning of nuclear facilities, as well as encouraging young researchers to take on new challenges with their own free ideas. * It is important that the results of our research and development be widely utilized in industry and be useful to society. We actively make our research results public through presentations at academic societies both in Japan and overseas and through the submission of papers. We also actively pursue joint research with companies, research institutes, universities, and other organizations.			
(5) Duty Station (Expected)	Fukui Prefecture (Tsuruga City)			
(6) Research Fields	(Major Category)	Manufacturing_Technology	(Subcategory)	Mechanics of materials and materials
	(Major Category)	Manufacturing_Technology	(Subcategory)	Manufacturing and production engineering
	(Major Category)	Manufacturing_Technology	(Subcategory)	Thermal engineering
	(Major Category)	Nanotechnology_Materials	(Subcategory)	Material processing and microstructure control
	(Major Category)	Nanotechnology_Materials	(Subcategory)	Applied physical properties
	(Major Category)	Nanotechnology_Materials	(Subcategory)	Optical engineering and photon science
(7) Eligible Degree Level(s)	Master's or Doctoral Program Graduates and Expected Graduates			
(8) Contact Information	(Name)	MORI Hiroaki		
	(Affiliation)	Tsuruga Comprehensive Research and Development Center, Tsuruga Head Office		
	(Title)	Senior Principal Researcher		
	(E-mail)	tsuruga-hq-recruit@jaea.go.jp		
(9) Website	https://www.jaea.go.jp/04/tsk/english/kenkyu/kenkyu-1.html			