Applendix 1

Recruitment Field for Resercher

No.	Theme	Number of Hires
101	Development of non-destructive measurement techniques for the quantitative determination of nuclear fuels contained in materials retrieved from the Fukushima Daiichi Nuclear Power Plants	1
102	Accident progression analysis and 3D reactor status assessment based on simulation tests of the Fukushima Daiichi Nuclear Power Plants	1
103	Development of technology for the safety assessment of the disposal of radioactive waste generated by the decommissioning of the Fukushima Daiichi Nuclear Power Plant	1
104	Safety Research on Risk Assessment for Nuclear Installations	2
105	R&Ds on applied laser technologies for decommissioning	1
106	Research and development for the realization on fast reactor cycle systems	5
107	Research and development on heat application systems using High Temperature Gas-cooled (HTGR)	1
108	Research and development of HTGR and H2 production/heat application technologies towrads demonstration in domestic and foreign projects	2
109	Fundamental R&D of Geological Disposal Technologies for High-level Radioactie Waste	6
110	Research and development of high performance computing technology	1
111	Development of new technology to achieve Nuclear x Renewable	3
112	Research on Deuterium Enrichment Technology	1
113	Research and development of novel materials aimed at the recovery and recycling of sea uranium, rare metals, and other resources	1
114	Research on reactor core design of innovative nuclear energy systems	1
115	Development and application of functional materials based on clay minerals for sustainable resource utilization	3

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

Applendix 1

Recruitment Field for Resercher

101	(1) Theme and Contents	**Development of non-destructive measurement techniques for the quantitative determination of nuclear fuels contained in materials retrieved from the Fukushima Daiichi Nuclear Power Plants** Development of non-destructive inspection equipment for sorting the debris and in-core structures removed from the reactor core at CLADS according to the intensity and characteristics of their radioactivity. This includes analytical simulations for equipment design, experiments and analysis using radiation sources, etc. As the research and development is carried out as part of the government's development program and commissioned projects, it includes a wide range of work such as formulating research contracts and research management.
	(2) The ideal type of human resources being sought	People who can work with high motivation on research and development that contributes to the decommissioning of the Fukushima Daiichi Nuclear Power Plant. People who can become researchers who are trusted by companies and government officials involved in decommissioning in the future.
	(3) The attraction of our department	CLADS is comprehensively engaged in research and development related to the decommissioning of the Fukushima Daiichi Nuclear Power Plant and environmental restoration. We can provide a research environment that enables not only basic research but also applied research, including field applications.
	(4) Branches of knowledge related to this theme	(Major Category) Manufacturing Technology (Subcategory) Measurement engineering
	(5) Place of employment (tentative)	Fukushima (Tomioka town), Ibaraki (Tokai village)
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026
	(7) Contact person about the theme	(Name) Yukihisa SANADA (Department) Collaborative Laboratories for Advanced Decommissioning Science (Position) Deputy Director (E-mail) jaea-jinji2026@jaea.go.jp
	(8) Related HP	https://clads.jaea.go.jp/jp/

102	(1) Theme and Contents	**Accident progression analysis and 3D reactor status assessment based on simulation tests of the Fukushima Daiichi Nuclear Power Plants** Research and development related to the physical experiments using the mock-up facilities to reproduce the progression of the Fukushima Daiichi Nuclear Power Plant accident, the analysis of test specimens, and the 3D visualization analysis of the results, which are being carried out at CLADS. As the research and development is being carried out as part of the development program and commissioned projects being implemented by the government, it includes a wide range of work such as the formulation of research contracts and research management.
	(2) The ideal type of human resources being sought	People who can work with high motivation on research and development that contributes to the decommissioning of the Fukushima Daiichi Nuclear Power Plant. People who can become researchers who are trusted by companies and government officials involved in decommissioning in the future.
	(3) The attraction of our department	CLADS is comprehensively engaged in research and development related to the decommissioning of the Fukushima Daiichi Nuclear Power Plant and environmental restoration. We can provide a research environment that enables not only basic research but also applied research, including field applications.
	(4) Branches of knowledge related to this theme	(Major Category) Energy Engineering (Subcategory) Nuclear engineering
	(5) Place of employment (tentative)	Fukushima (Tomioka town), Ibaraki (Tokai village)
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026
	(7) Contact person about the theme	(Name) Yukihisa SANADA (Department) Collaborative Laboratories for Advanced Decommissioning Science (Position) Deputy Director (E-mail) jaea-jinji2026@jaea.go.jp
	(8) Related HP	https://clads.jaea.go.jp/jp/

Recruitment Field for Researcher

103	(1) Theme and Contents	**Development of technology for the safety assessment of the disposal of radioactive waste generated by the decommissioning of the Fukushima Daiichi Nuclear Power Plant** Experimental and analytical research and development related to models and parameters necessary for safety assessments of disposal of various radioactive waste generated by the decommissioning of the Fukushima Daiichi Nuclear Power Station, and safety assessments using these, which are being carried out at CLADS. As the research and development is being carried out as part of the development program and commissioned projects being implemented by the government, it includes a wide range of work such as the formulation of research contracts and research management.
	(2) The ideal type of human resources being sought	People who can work with high motivation on research and development that contributes to the decommissioning of the Fukushima Daiichi Nuclear Power Plant. People with the broad perspective and knowledge to oversee not only the decommissioning of Fukushima Daiichi but also the overall issues surrounding the treatment and disposal of radioactive waste in Japan. People who can become researchers who are trusted by companies and government officials involved in decommissioning in the future.
	(3) The attraction of our department	CLADS is comprehensively engaged in research and development related to the decommissioning of the Fukushima Daiichi Nuclear Power Plant and environmental restoration. We can provide a research environment that enables not only basic research but also applied research, including field applications.
	(4) Branches of knowledge related to this theme	(Major Category) Energy Engineering (Subcategory) Nuclear engineering
	(5) Place of employment (tentative)	Fukushima (Tomioka town)
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026
	(7) Contact person about the theme	(Name) Yukihisa SANADA (Department) Collaborative Laboratories for Advanced Decommissioning Science (Position) Deputy Director (E-mail) jaea-jinji2026@jaea.go.jp
	(8) Related HP	https://clads.jaea.go.jp/jp/

Recruitment Field for Resercher

104	(1) Theme and Contents	**Safety Research on Risk Assessment for Nuclear Installations** Nuclear Safety Research Center conducts multifaceted and comprehensive research on nuclear facilities such as light water reactors and nuclear fuel reprocessing plants. Following the experience of the Fukushima Daiichi Nuclear Power Station accident, we place additional emphasis on prevention and mitigation in the progression of severe accidents, preparation for and response to emergency situations, and external phenomena subject to the new regulation.			
	(2) The ideal type of human resources being sought	Persons who are motivated by scientific interests on nuclear safety research field.			
	(3) The attraction of our department	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.			
	(4) Branches of knowledge related to this theme	(Major Category)	Energy Engineering	(Subcategory)	Nuclear engineering
		(Major Category)	Manufacturing Technology	(Subcategory)	Mechanics of materials and materials, Fluid engineering, Control and system engineering
		(Major Category)	Social Infrastructure	(Subcategory)	Structure engineering and earthquake engineering, Safety engineering
	(5) Place of employment (tentative)	Ibaraki (Tokai village)			
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026			
	(7) Contact person about the theme	(Name)	Kotaro TONOIKE		
		(Department)	Research Planning and Co-ordination Office, Nuclear Safety Research Center		
		(Position)	Director		
		(E-mail)	jaea-jinji2026@jaea.go.jp		
	(8) Related HP	https://www.jaea.go.jp/04/anzen/			

Recruitment Field for Resercher

105	(1) Theme and Contents	**R&Ds on applied laser technologies for decommissioning** Applied laser technologies such as laser cutting and laser decontamination have been researched and developed for nuclear power plant decommissioning. A computer analysis code have been also developed, and the combination of experimental and analytical methods reveals the physical phenomena under these laser thermal processing. This methodology contibutes to efficent detemination of the most appropriate laser conditions, including laser power, sweeping speed and power density. As spin-off effects, JAEA has deployed our laser technologies for industries, for example, laser quenching, laser rust removing/resistance processing and laser penetration plastic resin joining.
	(2) The ideal type of human resources being sought	The ideal candidate is expected to have the following qualifications:- * Motivated and eager to work on new research and development as well as application of the technology regardless of the majors what the candidate has studied in at universities or other institutions. *Ambition, such as being proactive in acquiring knowledge and skills *Willingness to take on difficult challenges. *Good communication skills to work cooperatively with colleagues in the workplace.
	(3) The attraction of our department	The laser technology is a prospective field for various kinds of purposes, because it has high-power density and provides remote, high-speed and precise processing. Young researchers can tackle new challenges with their own creative ideas and contribute to achieving the SDGs, not only applied to the laser cutting or decontamination. What is important is to develop available technologies to be actually used in decommissioning work or industires. For this purpose, our lab. works with JAEA's other sections using laser equipment and carries out cooperative researches with companies, R&D institutes and universities.
	(4) Branches of knowledge related to this theme	(Major Category) Manufacturing Technology (Subcategory) Manufacturing and production engineering, Thermal engineering (Major Category) Nanotechnology/Materials (Subcategory) Applied condensed matter physics, Material processing and microstructure control, Optical engineering and photon science
	(5) Place of employment (tentative)	Fukui (Tsuruga city)
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026
	(7) Contact person about the theme	(Name) Naoyuki KISOHARA (Department) Tsuruga Comprehensive Research and Development Center, Tsuruga Head Office (Position) Deputy Director (E-mail) jaea-jinji2026@jaea.go.jp
	(8) Related HP	https://www.jaea.go.jp/04/tsk/kenkyu/kenkyu-1.html

Recruitment Field for Resercher

106	(1) Theme and Contents	**Research and development for the realization on fast reactor cycle systems** Our institute is engaged in research and development of fast reactor cycle systems for social implementation with the aim of realizing sustainable carbon neutrality. In the R&D of fast reactor cycle, JAEA utilizes its fast reactor cycle-related development infrastructure (reactor facilities, post-irradiation examination facilities, fuel fabrication facilities, reprocessing facilities, thermal-hydraulics test facilities, structure and material test facilities, etc.) to conduct: 1) experimental research on fast reactor safety measures, core, fuel and materials, equipment and systems, instrumentation, fuel fabrication and reprocessing, etc., and (2) development of fast reactor cycle analysis methods. (Research fields: physics, reactor physics, math, chemistry, thermal-hydraulics, plant engineering, structure, material, fuel, elemental separation, irradiation behavior, computer science, artificial intelligence technology such as machine learning, etc.)			
	(2) The ideal type of human resources being sought	We are looking for persons who are aspiring and motivated to actively participate in our research activities for the sustainable energy system. Under this theme, knowledge and skills in nuclear engineering, mechanical engineering, etc. will be the base, but any major from your student days is acceptable.			
	(3) The attraction of our department	The fast reactor cycle is an innovative system that makes the most efficient use of uranium and supplies energy for us for thousands of years as a domestic technology. It also significantly reduces the toxicity of radioactive waste so that it can solve the spent fuel issue from nuclear power plants in operation today. Our experimental fast reactor Joyo is planned to resume soon, and the Japanese government's Strategic Roadmap clarifies a wide range of research activities to come for the start of a demonstration reactor around 2050. We, therefore, need passionate and creative youths to work with as a team.			
	(4) Branches of knowledge related to this theme	(Major Category)	Energy Engineering	(Subcategory)	Nuclear engineering, Energy science
		(Major Category)	Manufacturing Technology	(Subcategory)	Mechanics of materials and materials, Design engineering, Fluid engineering, Masurement engineering, Electric and electronic materials, Chemical reaction
		(Major Category)	Natural Science	(Subcategory)	Mathematical analysis, Applied mathematics and statistics, Mathematical physics and fundamental theory of condensed matter physics, Atomic physics, Chemical physics
		(Major Category)	Nanotechnology/ Materials	(Subcategory)	Metallic material properties, Inorganic materials and properties, Structual materials and functional materials, Applied physical properties, Applied condensed physics, Functional solid state chemistry, Energy chemistry
	(5) Place of employment (tentative)	Ibaraki (Oarai town)			
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026			
	(7) Contact person about the theme	(Name)	Kozo KATSUYAMA		
		(Department)	Strategy and Management Department, Oarai Nuclear Engineering Institute		
		(Position)	Director		
		(E-mail)	jaea-jinji2026@jaea.go.jp		
	(8) Related HP	https://www.jaea.go.jp/04/sefard/			

Recruitment Field for Resercher

107	(1) Theme and Contents	**Research and development on heat application systems using High Temperature Gas-cooled (HTGR)** Research and development on the technology required to connect a heat application system (hydrogen production facility) to the HTTR, a high-temperature gas-cooled reactor, to realise massive and low-cost hydrogen production, aiming at practical use of HTGR hydrogen production. In order to achieve this practical application, we are looking for personnel who can contribute and play an active role in dynamic analysis, development of control technology, evaluation of hydrogen production performance of systems connecting HTGRs and hydrogen production facilities.
	(2) The ideal type of human resources being sought	We recruit persons who willingly engage in research or technology development in the field of heat application technologies of High Temperature Gas-cooled Reactor. Under this theme, knowledge and skills in nuclear engineering, mechanical engineering, etc. will be the base, but any major from your student days is acceptable.
	(3) The attraction of our department	To achieve carbon neutrality until 2050 in Japan, the hydrogen production project by using the High Temperature engineering Test Reactor (HTTR) in the Oarai Nuclear Engineeeign Institute is ongoing. This project is aimed the hydrogen production by connecting a hydrogen production facility to the HTTR by 2030. The technologies necessary to produce hydrogen using heat of high-temperature helium gas are in progress. The system design and safety analysis to obtain the permission from the Nuclear Regulation Authority are currently conducting, and an equipment fabrication and installation for the hydrogen production test operations will proceed. This project is a world-first attempt to develop a new form of nuclear power utilization, and is attracting a great deal of attention from overseas.
	(4) Branches of knowledge related to this theme	(Major Category) Energy Engineering (Subcategory) Nuclear engineering (Major Category) Manufacturing Technology (Subcategory) Mechanics of material and materials, Fluid engineering, Thermal engineering, Measurement engineering, Control and system engineering
	(5) Place of employment (tentative)	Ibaraki (Oarai town)
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026
	(7) Contact person about the theme	(Name) Kozo KATSUYAMA (Department) Strategy and Management Department, Oarai Nuclear Engineering Institute (Position) Director (E-mail) jaea-jinji2026@jaea.go.jp
	(8) Related HP	https://www.jaea.go.jp/04/o-arai/nhc/jp/

Applendix 1

Recruitment Field for Resercher

108	(1) Theme and Contents	**Research and development of HTGR and H2 production/heat application technologies towrads demonstration in domestic and foreign projects** Research and development on the following HTGR technologies aimimng early commercialization of large-scale, stable H2 production by HTGR. (1) H2 production demonstration using the HTTR, a HTGR test reactor in JAEA Oarai Research Institute (2) Improvement of a core design method towards the scale-up of HTGR reactor core (3) Development of HTGR high burnup fuel technology (4) Development of reporcessing technologies for HTGR spent fuel (5) Development of a concept of carbon-free H2 production system using high teperature heat from HTGR			
	(2) The ideal type of human resources being sought	We would like to recruit persons who willingly engage in research and technology development in the field of HTGR. Knowledge and technology acquisitions such as nuclear engineering and mechanical engineering wil be necessary to perform the research and technology developments, however, we do not request these majors in the school days.			
	(3) The attraction of our department	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.			
	(4) Branches of knowledge related to this theme	(Major Category)	Energy Engineering	(Subcategory)	Nuclear engineering, Earth resource engineering, Energy science
		(Major Category)	Manufacturing Technology	(Subcategory)	Mechanics of material and materials, Fluid engineering, Thermal engineering, Control and system engineering, Chemical reaction and process system engineering, Power engineering
	(5) Place of employment (tentative)	Ibaraki (Oarai town)			
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026			
	(7) Contact person about the theme	(Name)	Hiroyuki SATO		
		(Department)	HTGR Project Management Office, Nuclear Energy Research and Development Domain		
		(Position)	Deputy Director		
		(E-mail)	jaea-jinji2026@jaea.go.jp		
	(8) Related HP				

Recruitment Field for Resercher

109	(1) Theme and Contents	**Fundamental R&D of Geological Disposal Technologies for High-level Radioactie Waste** 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 (metal, clay, 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.
	(2) The ideal type of human resources being sought	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.
	(3) The attraction of our department	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!
	(4) Branches of knowledge related to this theme	(Major Category) Energy Engineering (Subcategory) Nuclear engineering, Earth resource engineering, Energy science (Major Category) Social Infrastructure (Subcategory) Environmental systems for civil engineering, Geotechnical engineering, civil engineering material, execution and construction management (Major Category) Natural Science (Subcategory) Humannnn geosciences, Solid earth sciences (Major Category) Nanotechnology/Materials (Subcategory) Analystical chemistry (Major Category) Environmental science (Subcategory) Environmental dynamic analysis (Major Category) Others (Subcategory) Radiochemistry, Computational Science
	(5) Place of employment (tentative)	Hokkaido (Horonobe town), Ibaraki (Tokai village), Gifu (Toki city, Mizunami city)
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026
	(7) Contact person about the theme	(Name) Akira KITAMURA (Department) Nuclear Backend Technology Development Department, Nuclear Fuel Cycle Engineering Laboratories (Position) Deputy Director (E-mail) jaea-jinji2026@jaea.go.jp
	(8) Related HP	https://www.jaea.go.jp/04/tisou/english/index/e-index.html

Recruitment Field for Resercher

110	(1) Theme and Contents	**Research and development of high performance computing technology** The Center for Computational Science & e-Systems (CCSE) promotes research and development (R&D) of high performance computing (HPC) technology to promote digital transformation in nuclear R&D using supercomputers. In this theme, the applicant is expected to address one of the following topics using supercomputers. a) Development of numerical libraries for state-of-the-art GPUs to accelerate nuclear codes. b) Development of computational fluid dynamics (CFD) codes and their application to nuclear CFD analysis for safety evaluation, new reactor design, and environmental dynamics analysis, etc. c) Development of xR visualization technology to fuse analysis and observation including various data such as volume data, point cloud data, and CAD data.
	(2) The ideal type of human resources being sought	a) Those who have experience in R&D in the fields of HPC and applied mathematics and are interested in applying their knowledge to real problems. b) Those who have experience in R&D in the field of CFD and are interested in supercomputers. c) Those who have experience in the development of visualization software and are interested in state-of-the-art computer graphics and xR visualization.
	(3) The attraction of our department	CCSE offers the opportunity to engage in fundamental research in the field of HPC. In addition, there are opportunities for demonstration of developed technologies in a wide application fields through collaboration with experts in nuclear science and engineering within JAEA. The Kashiwa office is a diverse workplace, with more than half of the staff being younger than 40 years old and including female and non-Japanese employees.
	(4) Branches of knowledge related to this theme	(Major Category) Energy Engineering (Subcategory) Nuclear engineering (Major Category) Informatics (Subcategory) High performance computing, Computational science, Software (Major Category) Manufacturing Technology (Subcategory) Fluid engineering (Major Category) Natural Science (Subcategory) Applied mathematics and statistics
	(5) Place of employment (tentative)	Chiba (Kashiwa city)
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026
	(7) Contact person about the theme	(Name) Yasuhiro IDOMURA (Department) HPC/DX Research and Development Office (Position) General Manager (E-mail) jaea-jinji2026@jaea.go.jp
	(8) Related HP	https://ccse2.jaea.go.jp/Koudo_e/index.html

Recruitment Field for Resercher

111

(1) Theme and Contents	**Development of new technology to achieve Nuclear x Renewable** In order to realize JAEA's vision “New Future through Nuclear x Renewable”, the NXR Development Center is conducting research and development aiming at synergy effects with renewable energy and effective utilization of radioactive waste. Specifically, we are conducting research and development with the three pillars of developing RI heat sources for semi-permanent batteries, developing a large-capacity energy storage system using uranium, and recycling radioactive waste with the aim of implementing them in society. We are looking for a person who will conduct research and development and provide research support related to these three contents.			
(2) The ideal type of human resources being sought	The candidate must be willing and able to work on research and technological development regardless of his/her field of study. Also, the candidate must be able to actively work on the management of nuclear facilities in the course of technological development.			
(3) The attraction of our department	In order to realize our vision of “Nuclear x Renewable”, we will develop cutting-edge technologies that represent our organization to open the way to the future of nuclear energy.			
(4) Branches of knowledge related to this theme	(Major Category)	Energy Engineering	(Subcategory)	Nuclear engineering
	(Major Category)	Nanotechnology/Materials	(Subcategory)	Green sustainable chemistry and environmental hemistry, Inorganic/ coordination chemistry, Applied condensed matter physics, Analytical chemistry
	(Major Category)	Environmental science	(Subcategory)	Sound material-cycle social systems
	(Major Category)	Manufacturing Technology	(Subcategory)	Catalyst and resource chemical process
(5) Place of employment (tentative)	Ibaraki (Tokai village)			
(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026			
(7) Contact person about the theme	(Name)	Takanori SUGAWARA		
	(Department)	NXR Development Center		
	(Position)	Deputy Director		
	(E-mail)	jaea-jinji2026@jaea.go.jp		
(8) Related HP				

Recruitment Field for Resercher

112	(1) Theme and Contents	**Research on Deuterium Enrichment Technology** Deuterium, a form of hydrogen, is used to extend the lifespan of semiconductors and organic LEDs, improve the transmission capabilities of optical fibers, and is essential for digital technologies (DX) such as AI, IoT, and cloud computing. It is also used in the determination and development of pharmaceutical and chemical structures, and is gaining attention as a potential future energy source for nuclear fusion. Additionally, it is expected to play a key role as a future energy source for nuclear fusion. However, since all deuterium is currently imported, there is a high risk associated with its supply, and domestic production is strongly needed. Our group aims to develop low-cost and scalable technology to produce deuterium using polymer electrolyte membrane (PEM)-based electrochemical devices. The main areas of work include: ・Innovative developing methods for the simultaneous production of hydrogen, critical for carbon neutrality, and deuterium. ・Development oftechnologies for efficient enriching deuterium through water electrolysis. ・Desig and development of electrode catalysts to enhance deuterium enrichment. ・Elcidation of the enrichment mechanism of the newly developed catalysts.
	(2) The ideal type of human resources being sought	We do not require any specific level of expertise or knowledge at this stage. We are looking for individuals who are interested in applied or fundamental research and development, not only in this theme but also in research in general. We welcome those who are eager to take on unique projects and make their own contributions. If you are passionate about challenging yourself with new things, interested in carbon neutrality, SDGs, or energy issues, or wish to contribute to Japan's industries, we look forward to your participation. Feel free to reach out for any questions or to schedule a laboratory tour—your curiosity is always welcome!
	(3) The attraction of our department	The distinctive feature of our lab is the integration of knowledge and technologies from various fields, such as chemistry, physics, and engineering, allowing you to learn a wide range of skills from the fundamentals to applications in areas like material separation and energy conversion. For example, you can gain expertise in carbon-neutral technologies such as water electrolysis and fuel cells, the design and mechanism analysis of catalyst materials (catalyst chemistry) that support these technologies, and surface analysis techniques essential for understanding reaction mechanisms, all of which are part of the latest scientific knowledge and technology. Furthermore, we focus on career development through the above-mentioned tasks. You don’t need to worry if you don’t have specialized knowledge when you join. The lab leader has teaching experience at the university and has guided master's and doctoral students, providing careful guidance and support tailored to each individual’s pace. We offer practical support, from developing basic skills such as document writing and presentation techniques to mentoring for academic conference presentations and paper writing, depending on your needs. If you are interested in research, we would love to have you join us in shaping the future together.
	(4) Branches of knowledge related to this theme	(Major Category) Nanotechnology/Materials (Subcategory) Composite materials and interfaces, Green sustainnable chemistry and environmental chemistry, Energy chemistry
	(5) Place of employment (tentative)	Ibaraki (Tokai village)
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026
	(7) Contact person about the theme	(Name) Satoshi YASUDA (Department) Advanced Science Research Center (Position) Principal Researcher, Pioneer Lab. Lab leader (E-mail) jaea-jinji2026@jaea.go.jp
	(8) Related HP	https://asrc.jaea.go.jp/soshiki/gr/Nanoscale-gr/Nanomaterial-team/ ※Released from 1/23 (Thurs.)

Applendix 1

Recruitment Field for Resercher

113	(1) Theme and Contents	**Research and development of novel materials aimed at the recovery and recycling of sea uranium, rare metals, and other resources** We are looking for a researcher who will conduct research aimed at realizing materials and systems that enable resource recycling by recovering radioactive elements, sea uranium, rare metals, etc. Researchers will either synthesize novel porous nano-materials, perform elemental analysis, or develop adsorption systems using electrochemistry. In order to realize resource circulation technologies that will create a sustainable future society, researchers will carry out research activities in a broad sense, including not only conducting research but also promoting research results across fields.
	(2) The ideal type of human resources being sought	We are looking for people who are motivated to take on new research fields. We are looking for people who will join us in pioneering new fields to realize technologies that will be useful in the future. Candidates with experience in chemistry or materials synthesis research are preferred, but we also welcome anyone who is motivated to take on new research fields.
	(3) The attraction of our department	By working together on new research themes, you can acquire a wide range of research knowledge and skills. Because we collaborate with many research institutes, universities, and companies, you can expect to gain a wide range of research knowledge and experience.
	(4) Branches of knowledge related to this theme	(Major Category) Nanotechnology/Materials (Subcategory) Composite materials and interfaces
	(5) Place of employment (tentative)	Ibaraki (Tokai village)
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026
	(7) Contact person about the theme	(Name) Yurina SEKINE (Department) Sekine’s Lab for Development of Bioresource Technology (Position) Lab Leader (E-mail) jaea-jinji2026@jaea.go.jp
	(8) Related HP	

114	(1) Theme and Contents	**Research on reactor core design of innovative nuclear energy systems** The Nuclear Science and Engineering Center conducts research and development of innovative nuclear energy systems for building a decarbonized society. Innovative nuclear energy systems include new types of nuclear reactors that can coexist with renewable energy and space reactors that are an example of diversification of nuclear energy use. This work includes development of nuclear design methodologies for these new nuclear systems, development of evaluation methods for nuclear design prediction accuracy, and development of multi-physics simulation techniques including coupling of nuclear and thermal-hydraulic calculations.
	(2) The ideal type of human resources being sought	We are looking for a candidate who can work independently on nuclear reactor design and core analysis methodology research. Specialized knowledge of reactor physics is essential for this theme.
	(3) The attraction of our department	The nuclear reactor design and core analysis methodology research are essential in the development of innovative nuclear energy systems. Through this theme, we will contribute to the realization of carbon neutrality by 2050. Young researchers are encouraged to be proactive and have the freedom to utilize their own individuality and strengths in research and development. They can also participate in joint research with universities and research institutions. Global research activities are also possible through study abroad at foreign institutions and participation in international conferences and meetings at international organizations. We encourage the external presentation of research results and actively make research results available to the public.
	(4) Branches of knowledge related to this theme	(Major Category) Energy Engineering (Subcategory) Nuclear engineering (Major Category) Informatics (Subcategory) Computational science
	(5) Place of employment (tentative)	Ibaraki (Tokai village)
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026
	(7) Contact person about the theme	(Name) Yasunobu NAGAYA (Department) Research Group for Reactor Physics and Thermal-Hydraulics Technology, Nuclear Science and Engineering Center (Position) Group Leader (E-mail) jaea-jinji2026@jaea.go.jp
	(8) Related HP	https://rpg.jaea.go.jp/entrance/en/

Recruitment Field for Resercher

115	(1) Theme and Contents	**Development and application of functional materials based on clay minerals for sustainable resource utilization** We are exploring the potential of environmentally friendly clay minerals to achieve the energy self-sufficiency and carbon neutrality that modern society faces. In this research theme, we are developing new functional materials using clay minerals, making full use of our proprietary molten salt process. Specifically, we will research and develop thermoelectric conversion materials and humidity sensor materials using soil clay minerals as raw materials. In this process, various crystal syntheses will be carried out using the molten salt method, and detailed analysis of the obtained crystals will be carried out using the following methods: X-ray fluorescence analysis, X-ray diffraction analysis, synchrotron X-ray analysis, infrared absorption spectrum analysis and Density analysis and other techniques.In addition, the resulting materials will be characterised and the following research and development activities will be supported Thermoelectric property evaluation, thermoelectric module fabrication and evaluation, and structure-property correlation analysis through specific surface area and pore distribution evaluation.Through these studies, we aim to establish fundamental technologies to reduce environmental impact and contribute to building a sustainable society.
	(2) The ideal type of human resources being sought	Whatever your background, we welcome people who are enthusiastic and ready to take on the challenges of research and development. We are also looking for people who are interested in the development of clay minerals and functional materials, who value collaboration, proactively propose new ideas and actively contribute to achieving the team's goals.
	(3) The attraction of our department	Our research involves the creation of a wide range of functional materials using our proprietary molten salt process. Based on the abundant natural resource of soil clay minerals, this method is a technology that opens up new possibilities in materials science for a sustainable society. The use of advanced analytical techniques enables consistent research from material design to characterisation.
	(4) Branches of knowledge related to this theme	(Major Category) Nanotechnology/Materials (Subcategory) Composite material and interfaces, Applied physical properties (Major Category) Energy Engineering (Subcategory) Earth resource engineering, Energy sciences, Quantum beam science
	(5) Place of employment (tentative)	Ibaraki (Tokai village)
	(6) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2026
	(7) Contact person about the theme	(Name) Mitsunori HONDA (Department) Actinide Sciences Research Group, Materials Sciences Research Center (Position) Manager (E-mail) jaea-jinji2026@jaea.go.jp
	(8) Related HP	https://msrc.jaea.go.jp/en/research/actinoid/ https://tenkai.jaea.go.jp/innovationplus/innovator/innovator-9/