

Recruitment Field for Researcher

101 (1) Theme and Contents	Development on radioactive waste management technologies for decommissioning of Fukushima Daiichi Nuclear Power Station
(2) the ideal type of human resources being sought	Along with decommissioning of Fukushima Daiichi Nuclear Power Station owned by Tokyo Electric Power Company Holdings, Inc., radioactive waste is generated. Waste management technologies including characterization, store, process and disposal should be developed based on chemical behavior of radioactive nuclides. In particular, estimating/determining method of radioactivity contained in waste, processing method and specification of waste package, which are consistent with waste disposal, engineering concept for safe disposal, rational waste management system are important, and development target should be chosen from them with consideration on technical priority and so on.
(3) Qualification Requirements	Based on knowledge and experience of chemistry of radioactive nuclide or chemical engineering, the applicant will work on resolving the technological issues with consideration on the aspect of system engineering of the waste management technologies.
(3) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2024
«Branches of knowledge related to this theme»	Chemistry, Materials, Environmental Engineering, Nuclear Power Engineering
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(5) Related HP	https://clads.jaea.go.jp/ip/rd/

102 (1) Theme and Contents	Development of analytical technique and evaluation method for characterization of fuel debris
(2) the ideal type of human resources being sought	Toward the decommissioning of the Fukushima Daiichi Nuclear Power Station (1F) of Tokyo Electric Power Company Holdings, Inc., development of analytical technique and evaluation method should be required for contribution to fuel debris retrieval starting from small to large scale. Specifically, we develop the analytical evaluation methods including non-destructive examination technique through basic research using simulated fuel debris sample and practical analysis of 1F fuel debris and related samples such as sediment in PCV.
(2) the ideal type of human resources being sought	<ul style="list-style-type: none"> • Consideration and acquisition of appropriate data by performing on-site practical work. • Handling of radioactive materials at controlled areas in hot laboratory.
(3) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2024
«Branches of knowledge related to this theme»	Physics, Chemistry, Biology/Agricultural Science, Mechanical/System engineering, Materials, Nuclear Power Engineering
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103 (1) Theme and Contents Research and development on nuclear disaster prevention

Based on the new concept of nuclear disaster countermeasures based on the lessons learned from the Fukushima Daiichi Nuclear Power Station accident, the Japan Atomic Energy Agency provides various technical supports to the national and local governments in response to disasters. This theme will cover a wide range of tasks aimed at upgrading nuclear disaster countermeasures, including the development of radiation monitoring technology in nuclear emergencies, the development of radiation dose assessment technology in nuclear emergencies, and research on the effectiveness of radiation protection measures.

(2) the ideal type of human resources being sought We are looking for researchers who are willing to work on nuclear disaster prevention and disaster countermeasures, and researchers who want to contribute to residents and society.

(3) Qualification Requirements Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2024

«Branches of knowledge related to this theme»

Mathematics/Information, Physics, Chemistry, Earth Science/Geoscience, Quantum Science, Biology/Agricultural Science, Mechanical/System engineering, Electricity/Electronics, Materials, Civil engineering and Construction, Environmental Engineering, Nuclear Power Engineering

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(5) Related HP <https://www.jaea.go.jp/04/shien/>

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 A person who is motivated by scientific interests on nuclear safety research field.

(3) Qualification Requirements Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2024

«Branches of knowledge related to this theme»

Mathematics/Information, Physics, Chemistry, Earth Science/Geoscience, Quantum Science, Biology/Agricultural Science, Mechanical/System engineering, Materials, Civil engineering and Construction, Environmental Engineering, Nuclear Power Engineering

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(5) Related HP <https://www.jaea.go.jp/04/anzen/>

105 (1) Theme and Contents	Research and development of basic nuclear technologies for nuclear innovation
	Research and development of fundamental technologies that lead to the creation of innovative nuclear technologies for innovation will be conducted. Innovative nuclear technologies here include not only innovative light water reactors, nuclear systems for radioactive waste recycle and reuse and back-end related fields, but also all industries, environmental, medical, space utilization, and synthetic materials fields involving nucleus, radiation, and radioactive materials.
(2) the ideal type of human resources being sought	Highly motivated in research and development regardless of the major field of study.
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«Branches of knowledge related to this theme»	Mathematics/Information, Physics, Chemistry, Earth Science/Geoscience, Quantum Science, Biology/Agricultural Science, Mechanical/System engineering, Electricity/Electronics, Materials, Environmental Engineering, Nuclear Power Engineering
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(5) Related HP	https://nsec.jaea.go.jp/index.html

106 (1) Theme and Contents	Research and development on heat application systems using High Temperature Gas-cooled Reactor (HTGR)
	Research and development on connection technologies between HTGR and heat application systems as well as basic technologies on heat application systems aiming at practical realization of HTGR heat application systems. ① Development of connection technologies between HTGR and heat application systems such as hydrogen production system ② Development of basic technologies on hydrogen production system by thermochemical IS process
(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 technology acquisition such as nuclear engineering and mechanical engineering is necessary, but we do not ask the major in the school days.
(3) Qualification Requirements	Having a master or a doctor degree / To be expected to complete a master's or a doctor's course in March 2024
«Branches of knowledge related to this theme»	Chemistry, Mechanical/System engineering, Electricity/Electronics, Materials, Environmental Engineering, Nuclear Power Engineering
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Small Modular Reactors (SMRs) including fast reactor concept are being actively researched and developed in the United States and other countries. The greatest advantage of fast neutrons is that effective utilization of uranium resources, reduction of environmental burden by transmuting minor actinides (MAs). With a view to future fast reactor design, JAEA is currently energetically promoting the development of "AI-aided design integration approach through the whole plant life cycle" development. We are looking for researchers who will be in charge of design methods development and related international collaboration as a member of this project.

(2) the ideal type of human resources being sought

In the reactor technology field, JAEA offers cutting-edge technology development and applied research will be conducted in the reactor field: numerical analysis, experiment and research, knowledge base of developed results, or utilization of AI. In the fuel cycle technology field, JAEA offer research and development to effectively utilize and reduce plutonium and to reduce high-level radioactive waste that emits radiation for a long period will be conducted in the fuel cycle field. We JAEA will recruit researchers who would like to try to contribute your own power for these technology innovations.

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«Branches of knowledge related to this theme»

Mathematics/Information, Physics, Chemistry, Quantum Science
Mechanical/System engineering, Electricity/Electronics, Materials, Environmental Engineering, Nuclear Power Engineering

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https://www.jaea.go.jp/04/o-arai/research/research_04.html

Fundamental research to support the geological disposal program of high-level radioactive waste (HLW) in the following areas. Application of digital twin technology to those areas is recommended.

- ① Characterizing the geological environment (e.g. groundwater flow, mass transport, groundwater chemistry, rock mechanics)
- ② 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 elements, such as solubility, adsorption etc.
- ⑥ Safety assessment technology for geological disposal system
- ⑦ Digital visualization technology for ① to ⑥

(2) the ideal type of human resources being sought

Researcher who has strong sense of mission to pursue the research on geological disposal. In order to improve the reliability of geological disposal technology for high-level radioactive waste, we are looking for people from various scientific fields who are highly motivated to take on the challenge of solving problems and who can actively work toward a single goal in cooperation with others.

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Mechanical/System engineering, Electricity/Electronics, Materials, Civil engineering and Construction, Environmental Engineering, Nuclear Power Engineering

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