Recruitment for Postdoctoral Fellow
(Fixed-term researcher)

1. Available positions

Scientist about 30 persons
(The number might be changed without notice.)

2. Recruitment field

-Computational science
-Advanced science research
-Nuclear science and engineering
-Nuclear safety research
-Quantum beam science
-Fusion research and development
-Advanced nuclear system research and development
-Geological isolation research and development
-Other related research fields

For more information, see “Recruitment Field for Postdoctoral Fellow of JAEA [PDF]”.

3. Qualification requirements

(1) Having a PhD degree related to recruitment field (at the time of assignment)
(2) Having a PhD obtained after April 1, 2005

4. Starting date of employment

April 1, 2013 (in principle)

5. Terms of employment

(1) Salary
420,000 yen/month (Result in 2012) including social insurance and tax
(2) Allowance
Commutation allowance, Housing allowance, etc.
(3) Holidays
Weekend (Saturday and Sunday), National holidays, Year-end and new-year holidays, Paid holidays

6. Contract

Period of employment is from April 1 2013 to March 31 2014 (in principle).

Employment contract can be extended up to a total duration of three years, depending upon the annual review of your research progress.

* If you are a fixed-term employee of JAEA at present, the extension of employment contract will be limited to five years in total from the original recruitment.

Should you achieve outstanding results during your fixed-term employment, you could be offered a position as permanent staff.

7. Necessary documents and application procedures

(1) Application form (Form 1-1, Form 1-2, Form2-1, Form2-2, Form3, Form4)
Download from here: [PDF], [WORD]

(2) Certificate of graduation, certificate of completion of courses (for bachelor, master and PhD respectively)

(3) Transcripts (for bachelor, master and PhD respectively)

(4) Certificate of PhD (who has a PhD)
or Certification for expected completion of PhD course (who is in PhD course)

※Copies are not acceptable.

※Incomplete applications may not be accepted.

8. Address for submission of application

Human Resources Strategy Office
Personnel Department
Japan Atomic Energy Agency
4-49, Muramatsu, Tokai-mura Naka-gun, Ibaraki-ken 319-1184 Japan
(Mark in red “Application documents for Postdoctoral Fellow” on the envelope.)

9. Deadline for submission of application

Properly completed forms and all the necessary documents mentioned above must be received no later than September 21, 2012.

10. Document examination

Applicants will be screened by the document examination. The result of the document examination will be notified to the applicants in writing.
Note that application documents will not be returned.

11. Recruitment examination

(1) Examination of research achievements (oral presentation using PowerPoint file or OHP and Q&A)

(2) Oral examination / interview

12. Result of recruitment examination

The result of recruitment examination will be notified to the applicants in writing by the middle of December.

13. Travel expenses

We will refund your travel expenses for the recruitment examination according to the JAEA's administrative rules.

We can only bear the actual travel cost in Japan.

Detailed information will be provided to the candidates.

14. Points to note

(1) Applicants who passed the document examination are supposed to submit medical certificate taken within 6 months (including height, weight, eyesight, urinalysis, chest X-ray).

(2) Candidates without Japanese Nationality are required to obtain a necessary visa status to work in Japan by the date of adoption.

15. Contact person

Mr. Satoru MORITA
Human Resources Strategy Office
Personnel Department
Japan Atomic Energy Agency
4-49, Muramatsu, Tokai-mura Naka-gun, Ibaraki-ken 319-1184 Japan
Tel: +81-29-282-1122
Fax: +81-29-283-4701
E-mail: jinji-saiyo13@jaea.go.jp

16. Dealing with personal information

We will use personal information only for the screening process. It will also be used for employment management for those employed. The information of the rejected applicants will be disposed a year after the submission.

Recruitment Field for Postdoctoral Fellow of JAEA

No.	Depertment	Theme	Location	The person in charge	Section	Tel	E-mail	Summary	Radiation Worker/ Non-Radiation
1	Nuclear Safety Research Center	Study on fuel cladding fracture behavior under multiaxial stress conditions	Nuclear Science Research Institute (Tokai)	Tomoyuki Sugiyama	Fuel Safety Research Group	81-29-282-5955	sugiyama.tomoyuki@jaea.go.jp	At an abnormal power increase in the LWR, the fuel cladding tube receives mechanical loads due to thermal expansion of the pellet and/or rod internal gas, and can result in failure. The loads consist of axial and circumferential components, and the ratio of them, which depends on the pellet bonding state with the cladding inner surface, affects the mode and condition of the cladding failure. This study aims at data extension on the cladding mechanical properties under various loading conditions using the ″biaxial stress testing apparatus″, and at summarizing the technical knowledge.	Non-Radiation Worker
2	Nuclear Safety Research Center	Computer simulations of the microstructure formation of the stainless steels for nuclear power plants based on the phase field modeling.	Tsuruga	Teruyoshi Abe	Aging & Maintenance Technology Research Group	81-770-23-3024	abe.teruyoshi@jaea.go.jp	As for a series of long-term reliability research projects for light water reactor using Fugen served materials, it has been commenced to clarify the low-temperature embrittlement mechanism using computer simulations on the microstructure formation such as solidification and Spinodal decomposition of the casted stainless steels based on the phase field modeling. Phase field modeling, the most widely spreading simulation technologies covering from nano scale to mesoscopic scale at present, will be extended to simulate the microstructure formation of HAZ of the stainless steels and the irradiated structure of the low-alloy steels for the mechanism clarification of IGSCC and irradiation embrittlement of the reactor pressure vessel successively.	Non-Radiation Worker
3	Nuclear Safety Research Center	Assessing the structural integrity of nuclear reactor components	Nuclear Science Research Institute (Tokai)	Yutaka Nishiyama	Reactor Component Reliability Research Group	81-29-282-5044	nishiyama.yutaka93@jaea.go.jp	Around one third of the nuclear power plants (NPPs) have already been operated for 30 years in Japan. When the accident of the Fukushima Daiichi NPP is concerned, assuring the structural integrity for the reactor components is of great importance. In this theme, researches on the fracture toughness decrease in the reactor pressure vessel steels by neutron irradiation, stress corrosion cracking of piping welds concerning seismic loading, and damage behavior of the reactor pressure vessel due to core meltdown are performed by the materials testing and the latest simulation technique.	Non-Radiation Worker
4	Nuclear Safety Research Center	Experimental research of thermal-hydraulic phenomena regarding LWR safety	Nuclear Science Research Institute (Tokai)	Akira Satou	Thermohydraulic Safety Research Group	81-29-282-5273	satou.akira@jaea.go.jp	Thermal-hydraulic experiment for investigating behavior of core cooling and coolant flow under LWR accident, and relevant development of measurement techniques.	Non-Radiation Worker
5	Advanced Science Research Center	Study for nuclear structure and fission process for heavy nuclei	Nuclear Science Research Institute (Tokai)	Katsuhisa Nishio	Research Group for Reactions Involving Heavy Nuclei	81-29-282-5454	nishio.katsuhisa@jaea.go.jp	We promote experimental study of nuclear structure, reaction mechanism and fission process for heavy nuclei. To explore new region, we will produce nuclei far from the stable isotopes and those with exotic states using internal and external facilities.	Radiation Worker
6	Advanced Science Research Center	Spintronics study using spin-polarized positron beam	Takasaki	Atsuo Kawasuso	Research Group for Spon-Polarized Positron Beam	81-27-346-9331	kawasuso.atsuo@jaea.go.jp	Spin-polarized positron beam is a useful probe for studying spin-phenomena associated with surfaces/interfaces, thin-films and atomic vacancies. In this study, using this technique, surface spin accumulations accompanying the spin-Hall effect and the Rashba effect, the polarized band structures of half-metals, the vacancy-induced magnetism and so on are investigated. Other techniques such as magnetization measurement and photo-emission electron spectroscopy may also be emploied depending on the progress of experiment. Applicants need no experiences on the positron experiments. Applicants may propose any research plans based on their own ideas and through discussion with the hosts.	Radiation Worker
7	Advanced Science Research Center	Radiation damage tn biomolecules and radiobiological responses	Nuclear Science Research Institute (Tokai)	Kentaro Fujii	Research Group for Radiation and Biomolecular Science	81-29-284-3516	fujii.kentaro@jaea.go.jp	This project aims to study radiation damage to molecules in a living cell and the process of the biological effect. In order to investigate the molecular effects of site specific energy deposition by irradiation, advanced facilities, such as synchrotron radiation or ion beams will be used, and try to reveal novel phenomena of radiobiological effects based on the cellular responses.	Radiation Worker
8	Advanced Science Research Center	Research of hadron physics	Nuclear Science Research Institute (Tokai)	Kenichi Imai	Research Group for Hadron Physics	81-29-284-3828	imai.kenichi@jaea.go.jp	Experimental studies of hadron physics at the J-PARC facility (physics of hypernuclei, exotic hadrons, etc.), research and development (R&D) of detectors, and the related theoretical studies of hadron physics.	Radiation Worker
9	Nuclear Science and Engineering Directorate	Research for evaluation of long term integrity of reactor structural materials	Nuclear Science Research Institute (Tokai)	Yoshiyuki Kaji	Research Group for Nuclear Materials Modeling	81-29-282-6162	kaji.yoshiyuki@jaea.go.jp	In order to utilize the light water reactor effectively and safely, it is important to evaluate the degradation behavior of reactor structural materials in both in-core and fuel pool under normal operation and accident conditions. Therefore, in order to evaluate the long term sturactural integrity of reactor structural materials under radiation and corrosive environment, we are looking for Post Doctoral researcher, who obtain the materials degradation and damage behavior data and develop the elementary process model by experimental and computational methods using the leading edge equipments and facilities at JAEA.	Radiation Worker
10	Nuclear Science and Engineering Directorate	Fundamental study on neutron visual sensing	Nuclear Science Research Institute (Tokai)	Masatoshi Kureta	Research group for nuclear sensing	81-29-282-6428	kureta.masatoshi@jaea.go.jp	When we conduct a neutron imaging experiment using J-PARC and quantify element information, gamma-ray noise is piled up on the neutron imaging data and reduces the measurement precision. In this study, research and development on gamma-ray noise reduction method from the data recorded by a high-speed camera type neutron detector. The coverage of results of research and the applicable range of the technique are wide.	Radiation Worker
11	Nuclear Science and Engineering Directorate	Research on Development of Thermal-Hydraulic Analytical Techniques for Two-Phase Computational Flud Dynamics Codes	Nuclear Science Research Institute (Tokai)	Hiroyuki Yoshida	Research Group for Thermal and Fluid Engineering	81-29-282-5275	yoshida.hiroyuki@jaea.go.jp	In this research, databases for validating two-phase computational fluid dynamics (CFD) codes developed by JAEA are constructed by boiling and non-boiling two-phase flow experiments. In these experiments, temperature distributions at the inside of a heat transfer surface and velocity distributions at the outside of that are measured. In addition, numerical simulations by two-phase CFD codes and modification of thermal-hydraulic analytical techniques are carried out, and applicability of these codes is validated by comparing numerical results with constructed databases.	Non-Radiation Worker

Recruitment Field for Postdoctoral Fellow of JAEA

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12	Nuclear Science and Engineering Directorate	Modeling study of biological response to low-dose radiation	Nuclear Science Research Institute (Tokai)	Ritsuko Yokoya	Researcn Group for Radiation Effect Analysis	81-29-282-5840	watanabe.ritsuko@jaea.go.jp	To understand and to evaluate the biological effect induced by low-dose radiation, the basic mechanism of biological response to radiation at cellular level is investigated by theoretical approach (e.g. mathematical modeling and simulation). A researcher with knowledge in the field and having capacity for achieving research goal in cooperative environments is expected.	Non-Radiation Worker
13	Nuclear Science and Engineering Directorate	Develompment of an applied nuclear spectroscopic method to supply nuclear data for downstream	Nuclear Science Research Institute (Tokai)	Hideo Harada	Research Group for Applied Nuclear Physics	81-29-282-6789	harada.hideo@jaea.go.jp	In order to supply basic nuclear data for downstream, nuclear data measurement methods of neutron capture cross sections and/or photonuclear cross sections will be developed by utilizing gamma-ray and neutron spectroscopic methods.	Radiation Worker
14	Nuclear Science and Engineering Directorate	Research on neutronic analysis methods in neuclear power plants at severe accidents	Nuclear Science Research Institute (Tokai)	Teruhiko Kugo	Research Group for Reactor Physics	81-29-282-5360	kugo.teruhiko@jaea.go.jp	In order to improve the safety of the nuclear systems such as light-water reactors, analysis codes are developed for neutronic behaviour on heat generation, neutronic behaviour including kinetics, radiation transport and so on under the severe accidents including several transient events such as the loss of coolant and the loss of powers. Moreover the fundamental analsis codes relating to neutron transport which are necessary for the above analysis codes are developed.	Non-Radiation Worker
15	Quantum Beam Science Directorate	Molecular analysis of radiation induced bystander effect using heavy-ion microbeam	Takasaki	Tomoo Funayama	Microbeam Radiation Biology Group	81-27-346-9544	funayama.tomo@jaea.go.jp	Heavy-ion radiation is known to induce higher extent of biological effect on irradiated biological organisms than other lower-LET radiations. However, because of a spatial distribution of ion hit, cell population exposed to a low dose of heavy-ion radiation contains limited number of hit cells, and rest of them remain non-hit. In such situation, contribution of bystander effect become important to assess a total impact on cell population. Therefore, we have developed a system of heavy-ion microbeam, which enables targeting and irradiating individual cells with precise number of heavy-ion particles. The candidate will get involved in the molecular analysis of heavy-ion induced bystander effect using our heavy-ion microbeam system.	Radiation Worker
16	Quantum Beam Science Directorate	Research on quantum beam generation by the interaction between short pulse ultra-high-intensity laser pulses and the matter	Kansai (Kizu)	Mamiko Nishiuchi	Laser-driven Particle Beam Group	81-774-71-3304	nishiuchi.mamiko@jaea.go.jp	Investigate the physics of the generation of the quantum beams from the high energy density plasma produced from by the interaction between ultra-high peak intensity, short pulse laser pulses and the matter. Here the quantum beams mean high energy particle beams such as electron and ion beams and high energy X-ray and gamma ray beams. As the stability of the quantum beam is necessary condition for the application, we conduct the experimental investigation to search the conditions for the beams to be stably generated by measuring the plasma and the quantum beams and optimizing the laser and target parameters. Any young researchers who would like to pursue the developement of the source of the quantum beams are welcome, of course the one who have worked in the field of plasma physics or laser-physics are more welcome.	Radiation Worker
17	Quantum Beam Science Directorate	Nano-structure synthesis with quantum beams	Nuclear Science Research Institute (Tokai)	Kenji Yamaguchi	Nano-Structure Synthesis Research Group	81-29-282-6474	yamaguchi.kenji@jaea.go.jp	Nano-scale structural analysis and synthesis will be performed by utilizing quantum beams, such as neutron beam, synchrotron X-ray, ion beam and electron beam. Novel research and development of nanomaterials will be carried out through characterization of material properites in relation to their structures. New techniques or methods to clarify nano-scale strucutures and properties will also be investigated.	Radiation Worker
18	Quantum Beam Science Directorate	In situ study of semiconductior nanostructures by synchrotron X-ray diffraction	Kansai (Harima)	Masamistu Takahashi	Coherent X-Ray Research Group	81-791-58-2612	mtaka@spring8.or.jp	We are seeking a postdoctral researcher who will be engaged in in situ X-ray diffraction studies on III-V group semiconductor nanostructures, such as quantum dots and quantum wires, using an X-ray diffractomter integrated with a molecular-beam epitaxy chamber at one of the JAEA beamlines of SPring-8. The successful applicant is expected to have a desire to learn and apply new X-ray techniques exploiting spatial coherence and short pulses of advanced X-ray sources. Experiences in X-ray diffraction and/or molecular-beam epitaxy are preferred.	Radiation Worker
19	Quantum Beam Science Directorate	Advanced synchrotron radiation-based research on materials science	Kansai (Harima)	Toshiya Inami (Takaya Mitsui)	Structural Physics Group	81-791-58-2643	inami@spring8.or.jp (taka@spring8.or.jp)	Either of the following two topics should be applied. (1) Development of synchrotron radiation Mossbauer spectroscopy that enables identification of atomic positions in measuring objects using isotope substitution technique, and studies of local electronic and vibrational states in new devices such as nano-structured materials using the developed spectroscopy. (2) Investigation of f-electron ground states of rare-earth compounds, such as a multipole order state, under extreme conditions (low temperature, high magnetic field and high pressure) using resonant x-ray diffraction with full linear polarization analysis.	Radiation Worker
20	Quantum Beam Science Directorate	Development of high selectivity adsorbent by radiation grafting	Takasaki	Noriaki Seko	Environmental Polymer Group	81-27-346-9380	seko.noriaki@jaea.go.jp	The subject of this theme is to research on radiation induced graft polymerization onto various trunk materials and analysis of relationship between grafting conditions and grafted chains de-attached from trunk polymers, and to develop a new highly selective adsorbent for toxic or rare metals by using EB or gamma rays.	Radiation Worker
21	Quantum Beam Science Directorate	Monitoring and control of elecronic dynamics in intense laser fields	Kansai (Kizu)	Ryuji Itakura	Intense Laser Control of Material Group	81-774-71-3489	itakura.ryuji@jaea.go.jp	The purpose of this study is active control of electrons in atoms, molecules and solid using intense laser fields, whoes field strength is comparable to the Coulomb field of valenec electrons. New experimental apparatuses such as (1) light sources in vacuum ultraviolet region, (2) a time-resolved photoelectron spectometer, and (3) a time-resolved reflection and transmission spectrometer will be developed and electronic dynamics induced by intense laser fields will be monitored in real time.	Non-Radiation Worker
22	Quantum Beam Science Directorate	Research and development of the technologies aimed at analysis for structure and function relationship of biological macromolecules using neutron beams	Nuclear Science Research Institute (Tokai)	Taro Tamada	Molecular Structual Biology Group	81-29-282-6736	tamada.taro@jaea.go.jp	The subject of this theme is development of a proposed new diffractometer for biological macromolecules at J-PARC. This theme also aims at elucidation of reaction mechanism and molecular recognition by combination of neutron and X-ray beams. We prefer the candidates who experienced at least one of following techniques; structure analysis by crystallography, programming, and development and experimental equipments.	Radiation Worker

Recruitment Field for Postdoctoral Fellow of JAEA

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23	Quantum Beam Science Directorate	Development of application techniques with synchrotron radiation for analysis of fuel cell catalyst of light-element electrodes.	Nuclear Science Research Institute (Tokai)	Iwao Shimoyama	Surface Reaction Dynamics Research Group	81-29-284-3929	shimoyama.iwao@jaea.go.jp	With regard to development on fuel cells, one of the key issues is development of new electrode catalyst that is lower in cost and higher in performance. Recently, light-element materials which consist of boron, carbon, and nitrogen attract much attention as new electrodes. In order to contribute to the development of novel electrode catalysts, it is important to develop real-time observation methods of the surface reaction of oxygen and hydrogen. In this research, we aim to analyze oxygen reduction and hydrogen oxidation on the surface of the light-element materials and to contribute to the development of novel electrode catalyst using advantages of our synchrotron radiation beamline. Our main experimental techniques are X-ray photoelectron spectroscopy, X-ray absorption spectroscopy, photoelectron emission microscopy. Furthermore, we also use surface analysis methods as low-energy electron diffraction, thermal desorption spectrometry to investigate structures of surfaces and thin films.	Radiation Worker
24	Quantum Beam Science Directorate	Development of RI-DDS for targeted therapy	Nuclear Science Research Institute (Tokai)	Kazuyuki Hashimoto	Medical Radioisotope Application Group	81-29-282-5797	hashimoto.kazuyuki@jaea.go.jp	In order to achieve the accurate cancer diagnosis and treatment with fewer side effects by using Radioisotopes (RI), RI-drug delivery system (RI-DDS) for carrying RI selectively and effectively to the aimed lesions is developed. The research will focus on explorations of targeted molecules from the standpoint of recognition to cancer cells at molecular level, and syntheses of new biologically active substances from the standpoint of the structure active relationship and pharmacokinetics.	Radiation Worker
25	Quantum Beam Science Directorate	Study on the interaction of high-intensity laser and plasma	Kansai (Kizu)	Masaki Kando	Laser-Electron Acceleration Group	81-774-71-3384	kando.masaki@jaea.go.jp	We explore the generation of high-quality electron beams and ultra-short pulse X-ray beams by focusing high-intensity, ultra-short laser pulses onto gaseous targets. In addition, we also study applications using such advanced beams. In particular, the main topics are laser wakefield acceleration of electrons, intense soft X-ray generation by relativistic flying mirrors and the characterization (coherence, pulse duration , etc.) of the soft X-rays. The post doctoral researcher will determine his/her research themes within the scope of the above mentioned topics. An experimentalist is most welcome at this time.	Radiation Worker
26	Quantum Beam Science Directorate	Materials evaluation for energy efficiency by using synchrotron radiation technologies	Kansai (Harima)	Takahisa Shobu	Elasto-plastic Materials Characterization Group	81-791-58-2615	shobu@spring8.or.jp	In order to achieve a high energy efficiency and a low carbon society, material developments have been advanced rapidly in various fields related to fuel cell systems, hydrogen energy, and practical superconductive materials and so on. However, critical issues such as residual stress/strain generated in manufacturing processes, flaking at an interface due to external loading and performance degradations under service environments are remaining. The purpose of this study is to clarify the stress/strain states, micro structures, textures under practical environments, and also develop experiment techniques using synchrotron radiation for the evaluation of these factors.	Radiation Worker
27	Quantum Beam Science Directorate	Generation and application of high-brilliance laser Compton scattered gamma-rays	Nuclear Science Research Institute (Tokai)	Ryoichi Hajima	Gamma-ray Nondestructive Assay Research Group	81-29-282-6701	hajima.ryoichi@jaea.go.jp	We are conducting research on generation of high-brilliance gamma-rays via laser Compton scattering and its application to nuclear industry. The research activity covers a broad range: photo-cathode electron gun, superconducting RF cavity, gamma-ray measurement system, Monte Carlo simulation code for nuclear resonance fluorescence. The candidate will take charge one of the research items.	Radiation Worker
28	Quantum Beam Science Directorate	Research of the fermiology of f electron systems by soft X-ray angle-resolved photoelectron spectroscopy	Kansai (Harima)	Yamagami Hiroshi	Electronic structure research group	81-791-58-2607	yamagami@cc.kyoto-su.ac.jp	Our group is looking for a postdoctoral researcher who will be engaged in the research of electronic structures of f electron systems including uranium compounds from the point of view of band structures and fermiology, in order to clarify the mechanism of heavy fermion nature, quantum criticality and superconductivity in f electron systems. For this purpose, he should work on the upgrading of experimental technology of angle-resolved photoelectron spectroscopy and its research application using JAEA soft X-ray beam line BL23SU at SPring-8. He will be also expected to contribute the development of experimental devices which will be used in the technical support for Fukushima Dai-Ichi Nuclear Power Plant.	Radiation Worker
29	Fusion Research and Development Directorate	Development of Fusion Blanket Technology	Naka	Takanori Hirose	Blanket Technology Group	81-29-270-7516	hirose.takanori@jaea.go.jp	Major duty is development of breeding blankets for ITER-Test Blanket Module (TBM) and ITER-Broader Approach (BA) programs, including but not limited to the following topical areas: *Design verification (thermal, structural and nuclear.) *Assessment on tritium production and recovery (analytical and experimental approach.) *Assessment of chemical compatibility of structural and functional materials in blanket environment.	Radiation Worker
30	Fusion Research and Development Directorate	Research and development on electron cyclotron heating / current drive technology	Naka	Keishi Sakamoto Shinichi Moriyama	Plasma Heating Technology Group JT-60RF Heating Group	81-29-270-7560 81-29-270-7440	sakamoto.keishi@jaea.go.jp moriyama.shinichi@jaea.go.jp	Electron cyclotron range of frequency (ECRF) is expected to play important roles in plasma heating and current driving and is indispensable for plasma breakdown in Tokamak. This theme is on the ECRF technology, in which the high power long pulse gyrotron development, high efficiency mm wave transmission, antenna development with the analysis of current drive in plasma are included.	Radiation Worker
31	Fusion Research and Development Directorate	Development and application of physics models and analysis codes for performance assessment of burning and high pressure plasmas and operation scenario development	Naka	Shunsuke Ide	JT-60 Plasma Design Group	81-29-270-7350	ide.shunsuke@jaea.go.jp	For assessment of plasmas and operation scenario investigation in JT-60SA, ITER and DEMO, it is required to develop analysis codes that integrate energetic particles/various external heating (waves, neutral beam, etc.)/heat and particle transport/MHD stability and so forth consistently. In this theme, development and integration of these physics models and analysis codes will be carried out and the results will serve for experimental data analysis and plasma assessment and operation scenario development in future tokamak devices.	Non-Radiation Worker
32	Fusion Research and Development Directorate	R&D of key technology in engineering validation of Li test loop for IFMIF	O-arai	Eiichi Wakai	IFMIF Irradaition and Test Facility Development Group	81-29-282-5390	wakai.eiichi@jaea.go.jp	The theme is mainly performed under International Fusion Materials Irradiation Facility/Engineering Validation and Engineering Design Activity (IFMIF/EVEDA) project. The main subject is R&D of key technology for IFMIF development from the validation tests and the evaluation in the EVEDA Li test loop and the purification systems.	Non-Radiation Worker
33	Fusion Research and Development Directorate	Development of the superconducting central solenoid for a Tokamak device	Naka	Kiyoshi Yoshida	JT-60 Superconducting System Group	81-29-270-7460	yoshida.kiyoshi56@jaea.go.jp	The central solenoid for JT-60SA is a high performance superconducting magnet with Nb3Sn superconducting conductors and consists of four modules. The first module of the central solenoid is manufactured by end of 2013 and evaluated at 4K charging test. Main duties are to perform following subjects: (1) the preparation of testing, monitor charging test and evaluate the test results, (2) the design and development for the interface components between superconducting coils and other utilities.	Radiation Worker

Recruitment Field for Postdoctoral Fellow of JAEA

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34	J-PARC Center	Research and development for increasing beam power and stability of the J-PARC proton accelerators	J-PARC	Michikazu Kinsho	Accelerator Section II	81-29-284-3172	kinsho.michikazu@jaea.go.jp	Research and development is performing for realizing 1-MW beam power operation in the J-PARC proton accelerators. Beam loss reduction is the main issue for stable operation with such a high power beam in a proton accelerator. A stable and long lifetime operation of each accelerator component is also one more issue. The candidate will research for the treatment of loss beam as well as develop a high performance beam diagnosis system to reduce beam loss in the J-PARC 3GeV rapid cycling synchrotron (RCS). Research will also be conducted for long-lived charge exchange foil to realize further stabable operation of the RCS.	Radiation Worker
35	J-PARC Center	Research and development of the advanced pulsed-neutron imaging instrument at J-PARC	J-PARC	Takenao Shinohara	Neutron Science Section	81-29-284-3753	takenao.shinohara@j-parc.jp	The subject of this theme is to develop the advanced pulsed-neutron imaging instrument of which construction started at J-PARC. In particular, new imaging techniques such as pulsed-neutron tomography and non-destructive analysis of elements and texture of materials will be proceed.	Radiation Worker
36	Applied Laser Technology Institute	Development of Maintenance Technology of Nuclear Power Plant Material by Pulse Laser Processing	Tsuruga	Akihiko Nishimura	Applied Laser Technology Development Office	81-770-21-5050	nishimura.akihiko@jaea.go.jp	Development of a remote probing system by a pulse laser processing is a key issue. Heat and water proof with radiation resistance is required for the remote probing system. Laser processing, endoscope observation, plasma spectroscopy and visual imaging are required to be integrated in the system. The system is used to inspect in the limited tubular space, which is available for aging nuclear power plants.	Non-Radiation Worker
37	Takasaki Advanced Radiation Research Institute	R&D on ion microbeam technology	Takasaki	Tomihiro Kamiya	Beam Engineering Section, Department of Advanced Radiation Technology	81-27-346-9650	kamiya.tomihiro@jaea.go.jp	R&D on ion microbeam technology and its applications using light ions or heavy ions with the energies of MeV per nucleon or more, are conducted at the ion beam irradiation facility, TIARA of Takasaki Advanced Radiation Research Institute. Such high energy ions induce high-density excitation along each ion track of almost straight trajectory with controllable depth by its incident energy, followed by chemical reaction, nuclear reaction or secondary radiation. Advanced technique of ion beam focusing and targeting, or of single ion hitting in micro/nano meter level spatial resolution is developed in order to utilize this unique characteristic to realize three-dimensional processing and analyzing for various materials or biological cells. Applicants from various research fields will be expected to expand the possibility of this peerless technology, or to explore the frontier of its applications.	Radiation Worker
38	Geological Isolation Research and Development Directorate	Research of long-term hydrogeochemical evolution process in and around Underground Research Laboratory (URL) during facility construction and after the closure. Research of long-term solute transport in the crystalline rock.	Tono	Teruki Iwatsuki	Crystalline Environment Research Group	81-572-66-2244	iwatsuki.teruki@jaea.go.jp	The construction of large underground facility changes hydrogeochemical condition of rock and groundwater. Such disturbance process and the recovery mechanism are still unclear. It is required to develop the observation and simulation methods for understanding of the phenomenon. Postdoctoral fellow analyzes the long-term hydrogeochemical evolution (artificial disturbance and the recovery) process in deep underground around Mizunami Underground Research Laboratory (MIU) during facility construction and after the closure by analyzing the rock and groundwater sample, previous data. In addition postdoctoral fellow infers long-term material cycle (solute transport) in deep crystalline rock.	Non-Radiation Worker
39	Geological Isolation Research and Development Directorate	Research on dadiometric dating using high-accuracy mass spectrometery	Tono	Koji Umeda	Neotectonics Research Group	81-572-53-0211	umeda.koji@jaea.go.jp	In order to evaluate geosphere stability for long-term isolation of radioactive waste, we recruit a postdoctoral fellow who can demonstrate his/her ability for radiometric dating using noble gas mass spectrometery and/or accelerator mass spectrometry . Applicants are required to have sufficient background in mass spectrometric analysis.	Non-Radiation Worker
40	Geological Isolation Research and Development Directorate	Research for advanced technology development of performance assessment of geological disposal for TRU-waste	Nuclear Fuel Cycle Engineering (Tokai)	Fumio Hirano	TRU Waste Disposal Research Group	81-29-287-3695	hirano.fumio@jaea.go.jp	Evaluation of the spatial and temporal evolution of engineered and natural barrier system performance affected by cement-based materials and nitrate, and the development of advanced technology to apply the evaluation results to safety assessment of the geological disposal of TRU waste and high-level waste (HLW).	Non-Radiation Worker
41	Geological Isolation Research and Development Directorate	Evaluate biofilm formation abilities on rock surfaces in deep subsurface and evaluate the effect of biofilm existence on radionuclide transport in deep subsurface.	Nuclear Fuel Cycle Engineering (Tokai)	Hideki Yoshikawa	Radionuclide Migration Research Group	81-29-287-0928	yoshikawa.hideki@jaea.go.jp	In the case of saafety accessment in deep subsurface environment, radionuclide retardation effects attributed to rock matrix diffusion are important factor. However, it is thought that most of the rock surfaces which contact with groundwater flows are covered with natual organic compounds such as bacterial biofilm in natural environments. But, there are few available information about how biofilms are formed and what kind of biofilms are formed in the crack of deep subsurface rocks. Therefore, postdoctoral fellow characterize sorption and diffusion behaviors of radionuclide in biofilms and develop evaluation methods of bacterial biofilm formation process in deep subsurface.	Non-Radiation Worker
42	Geological Isolation Research and Development Directorate	Geochemical studies focused on sedimentary rocks and groudnwater at deep underground	Horonobe	Takashi Mizuno	Sedimentary Environment Research Group	81-1632-5-2022	mizuno.takashi@jaea.go.jp	In this theme, geochemical studies will be carried out using rock and groundwater smples taken from the Hronobe URL. These studies are conducted for understanding process related to the evolution of chemical properties and the buffering capacity through the researches focused on elements, organics and microbes and their cycle in deep geological environment.	Non-Radiation Worker
43	Geological Isolation Research and Development Directorate	Mechanical stability assessment of a geological disposal facility for radioactive waste	Nuclear Fuel Cycle Engineering (Tokai)	Yutaka Sugita	Near-Field Research Group	81-29-287-0928	sugita.yutaka@jaea.go.jp	A general-purpose numerical analysis code has been developed to help understand the mechanical stability of a geological disposal facility during each of its phases of construction, operation, closure, and post-closure. Consideration has been given to the simulation of the construction process, rock mass displacement caused by tunnel opening and assessment of the widespread plastic region around the tunnel. The main focus of the this research is the addition of governing equations to the code and using data collected in an Underground Research Laboratory for code validation.	Non-Radiation Worker
44	FBR Plant Engineering Center	Research on innovative maintenance technique for FBRs using laser measurement	Tsuruga	Masashi Ueda	Operation and Maintenance Technology Group	81-770-39-1031	ueda.masashi@jaea.go.jp	Sodium-cooled fast breeder reactors require special maintenance techniques such as under sodium visualization and remote maintenance robots, because sodium is opaque, chemically active, and has to be kept at high temperature (～200ºC) even during maintenance. In this research, innovative maintenance techniques will be developed using laser interferometry to realize non-contact, high precision and simultaneous multi-point measurements of displacements on components and equipments in FBRs.	Non-Radiation Worker

Recruitment Field for Postdoctoral Fellow of JAEA

No.	Depertment	Theme	Location	The person in charge	Section	Tel	E-mail	Summary	Radiation Worker/ Non-Radiation
45	Center for Computational Science and e-systems	Computational Studies for Physicochemical and Dynamical Properties of Radionuclides in the Enviornment	Kashiwa	Masahiko Machida	Simulation Technology Research and Development Office	81-4-7135-2349	machida.masahiko@jaea.go.jp	Radiocaesium and other radionuclides tranforms their chemical forms sensitively responding to their enviornment from soil to living organism. However, details of their chemical forms in atomic and molecular level are not still well-known. Therefore, any insights are highly in great demand. Furthermore, information on their forms may inspire us to develop effective methods for decontamination. In this application, applicants mainly employs computational tecniques like first-principle calculations and Molecular Dynamics and clarifies their physicochemical and dynamical properties in various enviornment .	Non-Radiation Worker
46	Nuclear Safety Research Center	Study on the degradation behavior and physical property changes of fuel under severe accident conditions.	Nuclear Science Research Institute (Tokai)	Tomoyuki Sugiyama	Fuel Safety Research Group	81-29-282-5955	sugiyama.tomoyuki@jaea.go.jp	In the accident occurred at Fukushima dai-ichi NPP, it is considered that the significant oxidation of fuel cladding and the melting of reactor component material occurred due to temperature increase following loss-of-coolant condition. In this study, the process from loss-of-coolant condition to fuel degradation will be clarified by performing oxidation test on cladding, melting and reaction test on fuel and /or the calculation using an analysis code. Effective and useful information about the prediction of accident progression and the fuel handling after accident will be also obtained by investigating the physical and chemical properties of the fuel which experienced severe conditions. Through the estimation of the accident progression at Fukushima dai-ichi NPP, this study contributes to decommission measures such as fuel retrieve from the NPP.	Non-Radiation Worker
47	Nuclear Safety Research Center	Analysis for assessment of core melt progression and source term of Fukushima Dai-ichi NPP accident	Nuclear Science Research Institute (Tokai)	Yu Maruyama	Risk Analysis and Applications Research Group	81-29-282-5486	maruyama.yu@jaea.go.jp	A series of analysis is carried out for the assessment of core melt progression and radionuclide transportation during the Fukushima Dai-ichi NPP accident with severe accident analysis codes, which have capablity of considering various phenomena in severe accidents and accident management measures, in order to gain our knowledge for the core degradation state and source term to the environment. In adition, efforts are made for the identification of dominant influential factors through the analysis and the improvement of associated physical models.	Non-Radiation Worker
48	Nuclear Safety Research Center	Study on the behaviors of oxidation and embrittlement and physical property changes of fuel cladding under severe accident conditions.	Nuclear Science Research Institute (Tokai)	Masaki Amaya	Fuel Safety Research Group	81-29-282-5028	amaya.masaki@jaea.go.jp	Nitrogen gas was injected into reactor and containment vessels in the Fukushima dai-ichi NPP accident, and in such steam-nitrogen mixture gas, it is probable that the reactions different from those in steam environment occur to fuel cladding. In order to understand how phenomena proceed from loss-of-coolant condition to severe accident, it is important to know the effect of atomosphere on the oxidation and embrittlement of cladding. However, the information has not been sufficiently obtained concerning the behaviors of oxidation and embrittlement of cladding in steam containing nitrogen. In this study, the effects of atomosphere on the behaviors of oxidation and embrittlement of cladding will be investigated. By the measurement and evaluation of the physical properties of the claddings oxidized in various atomosphere, the information which is needed for the	Non-Radiation Worker
49	Nuclear Safety Research Center	Modeling for radionuclide migration in soil and assessment of public radiation exposure after Fukushima Dai-ichi NPP accident	Nuclear Science Research Institute (Tokai)	Sakae Kinase	Risk Analysis and Applications Research Group	81-29-282-5208	kinase.sakae@jaea.go.jp	In the present study, migration models for radioactive materials in soil, in particular for caesium are developed to assist protective measures such as resident returns and decontamination selections after the Fukushima Daiichi Nuclear Power Plant Accident. Some parameters for the migration models are also reviewed. Furthermore, public exposure to radioactive materials in the environment is evaluated.	Non-Radiation Worker
50	Nuclear Safety Research Center	Experimental study on fuel degradation progress under severe accident conditions.	Nuclear Science Research Institute (Tokai)	Tomoyuki SUGIYAMA	Fuel Safety Research Group	81-29-282-5955	sugiyama.tomoyuki@jaea.go.jp	We experienced reactor core melting in the Fukushima dai-ichi NPP accident. The onset condition for the core melting strongly depends on the initial process such as simple melting of UO2, eutectic melting of UO2 with molten cladding, or that with oxidized cladding. Thus, the prediction of degradation progress has a large uncertainty. This study aims at obtaining data on the melting initiation by the fuel melting experiments at the NSRR with systematic parameters including cladding oxidation ratio, etc. and at making contributions to the improvement of prediction accuracy.	Non-Radiation Worker
51	Advanced Science Research Center	Study on environmental behavior of radionuclides in forest litter	Nuclear Science Research Institute (Tokai)	Naofumi Kozai	Research Group for Bioactinide	81-29-284-3518	kozai.naofumi@jaea.go.jp	Most of fallout radioactive Cs in forest are present in litter layer. Dissolution of Cs from the litter layer may provide secondary contamination to the decontaminated area. It is very urgent to understand the environmental behavior of radioactive Cs in forest litter layer to confine in forest. In this study the migration behavior of radionuclides including radioactive Cs is elucidated by the in-situ testing and laboratory experiments. One of the targets in this study is to elucidate direct and indirect microbial effect on the environmental behavior of radionuclides in forest litter. Based on the study a new remediation method would be developed.	Radiation Worker
52	Nuclear Science and Engineering Directorate	Investigation of radionuclides transfer processes related to organic matter dynamics in forest ecosystems	Nuclear Science Research Institute (Tokai)	ATARASHI-ANDOH Mariko	Research Group for Environmental Science	81-29-282-6860	andoh.mariko@jaea.go.jp	Organic matter dynamics is of great interest in predicting the fate of radionuclides deposited in forest ecosystems. In this study, we try to quantitatively understand organic matter dynamics in forest ecosystems using carbon isotopes (14C and 13C), and to investigate the influences of the organic matter dynamics on processes of transfer and retention of radionuclides and their timescales.	Radiation Worker
53	Nuclear Science and Engineering Directorate	Modeling and experimental study on miscibility on various material in degraded nuclear fuels	Nuclear Science Research Institute (Tokai)	Masaki Kurata	Research group for high temperature fuel science	81-29-282-5858	kurata.masaki@jaea.go.jp	For detail understanding of chemical behavior of degraded nuclear fuel, evaluation of miscibility between molten fuel and other materials is one of the most important concerns. In the present theme, we attempt to constract an evaluation model for simulating degradation of nuclear fuels by introducing evaluation models using in various refinement processes, and then evaluate the various behavior of each element, especially for boron.	Radiation Worker
54	Nuclear Science and Engineering Directorate	Research on evaluation of influence of sea water, etc. to melted core cooling	Nuclear Science Research Institute (Tokai)	Kazuyuki Takase	Research Group for Thermal and Fluid Engineering	81-29-282-5351	takase.kazuyuki@jaea.go.jp	In order to clarify cooling capability of the sea water sent into the reactor cores in Fukushima, influence of the sea water to the temperature distribution in the reactor core is evaluated experimentally. Heat transfer experiments using the sea water, etc. are conducted using simply simulated melting debris, and the cooling effect of the sea water, etc. is clarified with the experimental data. Moreover, the influence of the debris cooling on the salt accumulated in the bottom of the reactor vessel is evaluated. The results are used for the assessment of the current situation of 1F1 and so on.	Non-Radiation Worker
55	Nuclear Science and Engineering Directorate	Anarytical study on nuclear material measurement in the molten debris by the active neutron method	Nuclear Science Research Institute (Tokai)	Masatoshi Kureta	Research group for nuclear sensing	81-29-282-6428	kureta.masatoshi@jaea.go.jp	Measurement and international safeguards of molten debris occurring in Fukushima Daiichi Nuclear Power Plant becomes the technical problem. In this study, a design study by using Monte Carlo analysis cord (MVP or PHITS) for active interrogation neutron technique will be carried out. The target is nuclear material enclosed in a molten debris safekeeping container. Systematic error evaluation will be investigated with the shape of the debris, density etc. as a parameter. In addition, parallel to a systematic error evaluation, calibration technique to improve precision will be studied. Finally an experiment using an existing active neutron device will be conducted to confirm the validity of the analytical result.	Radiation Worker

Recruitment Field for Postdoctoral Fellow of JAEA

No.	Depertment	Theme	Location	The person in charge	Section	Tel	E-mail	Summary	Radiation Worker/ Non-Radiation
56	Nuclear Science and Engineering Directorate	Studies on Radiolysis and Radiation Damege for Advanced Safety Control of Hydrogen in Nuclear Engineering	Nuclear Science Research Institute (Tokai)	Ryuji Nagaishi	Research Group for Radiochemistry	81-29-282-5493	nagaishi.ryuji@jaea.go.jp	In order to realize advanced safety control of hydrogen generated in severe accidents in nuclear facilities, subsequent decommissioning and waste management, radiolysis of aqueous solution systems and radiation damage of materials will be studied by using ionizing radiations from accelerators and radioactive nuclides. And then the experimental data will be applied to constructiion of analysis code for the hydrogen behavior, and to development of technologies for the reduction and prevention of accidents originated from the hydrogen generation.	Radiation Worker
57	Nuclear Science and Engineering Directorate	Spectroscopic study and development on laser remote probing for elemental analysis of nuclear reactor structures and fuel materials	Nuclear Science Research Institute (Tokai)	Ikuo Wakaida	Research Group for Laser Probing	81-29-282-5851	wakaida.ikuo@jaea.go.jp	Basic study on Laser Induced Breakdown Spectroscopy (LIBS) for remote diagnostic and quantitative analysis of nuclear fuel materials (U, Pu, and mixed oxide) and structure materials (Fe, Zr, and mixed with nuclear fuel materials) will be carried out in this program. Basic spectroscopy with higher intensity and higher resolution of these materials by LIBS technique, and development of analytical techniques of these complex spectra will be performed in this study. And also, it will be able to join development of remote probe itself based on optical fiber system applying for monitoring inside of accident reactor	Radiation Worker
58	Nuclear Science and Engineering Directorate	Studies of soil decontamination, volume reduction of removed soil, and prevention from re-contamination by using soil treating agents	Nuclear Science Research Institute (Tokai)	Hirochika Naganawa	Research Group for Green Chemistry	81-29-282-6615	naganawa.hirochika@jaea.go.jp	Basic and fundamental studies will be conducted for the purpose of establishing new technologies for efficient and effective decontamination of soil polluted by radioactive cesium and promoting practical application in private companies. Specifically, new decontamination technologies using soil treating agents, such as ionic and molecular polymers and magnesium cement, and minerals having high adsorption ability for cesium, such as clays and zeolites, will be established. At the same time, studies for upgrading classification and cleaning techniques for reducing the amount of removed surface soil and studies for preventing decontaminated soil from re-contamination will be performed.	Radiation Worker
59	Nuclear Science and Engineering Directorate	Modeling studies to elucidate the migration of radioactive materials in the ocean	Nuclear Science Research Institute (Tokai)	Takuya Kobayashi	Research Group for Environmental Science	81-29-282-5524	kobayashi.takuya38@jaea.go.jp	In order to assess the spatial and temporal distribution and understand the migration mechanism of radioactive materials discharged into the oceanic environment from nuclear facilities, researches by coupling computer simulations with field and laboratory experiments are carried out. The new employee engages in studies to elucidate the environmental behavior of radioactive materials in the ocean through the development of numerical models, analysis by using models.	Non-Radiation Worker
60	Nuclear Science and Engineering Directorate	Research and Development on Data for Radiation Dose Evaluation around Fukushima Dai-ich Nuclear Power Station	Nuclear Science Research Institute (Tokai)	Fumiaki Takahashi	Research Group for Radiation Protection	81-29-284-3754	takahashi.fumiaki@jaea.go.jp	Radiation dose evaluations for public on the basis of monitoring data are required for environmental remediation and returns of living people around the Fukushima Dai-ich Nuclear Power Station. Thus, we will utilize and improve radiation transport calculation technique and analyze influential factors on radiation monitoring. After that, dosimetric studies are made to correlate various radiation data, such as amount of radionuclide deposition on the ground, dose rate in air and individual dose by personnel dosimeters and to derive external exposure dose from these radiation data.	Non-Radiation Worker
61	Nuclear Science and Engineering Directorate	Study on mobility of radionuclides in estuarine and coastal systems	Nuclear Science Research Institute (Tokai)	Shigeyoshi Otosaka	Research Group for Environmental Science	81-29-282-5171	otosaka.shigeyoshi@jaea.go.jp	This position will focus on transport and fate of anthropogenic radionuclides in estuarine and coastal systems. Successful candidates will be expected to perform laboratory and field experiments to assess speciation and mobility of the radionuclides.	Radiation Worker
62	Nuclear Science and Engineering Directorate	Research on reactor kinetics analysis methods at re-criticality	Nuclear Science Research Institute (Tokai)	Yasunobu Nagaya	Research Group for Reactor Physics	81-29-282-5337	nagaya.yasunobu@jaea.go.jp	In order to develop reactor kinetics analysis methods, the following studies are carried forward; establishment of feedback models during transients at re-criticality, development of analysis methods for accurate evaluation of inserted reactivity, acquisition of experimental data by critical experiments simulating fuel relocation and validation of analysis codes by means of experimental data.	Non-Radiation Worker
63	Nuclear Science and Engineering Directorate	Evaluation study of activation cross sections	Nuclear Science Research Institute (Tokai)	Nobuyuki Iwamoto	Nuclear Data Center	81-29-282-6825	iwamoto.nobuyuki@jaea.go.jp	An applicant is expected to develop nuclear data library for neutron activation cross sections, which are the basic data to estimate activity of radioactive waste in decommissioning of nuclear power facility. The nuclear reaction model calculation will be performed in order to derive the production cross sections of radionuclides by neutron-induced reactions. This study will contribute to enhancing the completeness of the library since the evaluation will be carried out specifically for the production cross sections of isomer with long half-life, which are not included in a general-purpose file, JENDL-4.0.	Non-Radiation Worker
64	Nuclear Science and Engineering Directorate	Development of nuclear spectroscopic method for quantifying nuclear materials in fuel debris	Nuclear Science Research Institute (Tokai)	Hideo Harada	Research Group for Applied Nuclear Physics	81-29-282-6789	harada.hideo@jaea.go.jp	In order to quantify materials in fuel debris accrately, the analysis method will be developed, in which gamma-ray spectroscopic method and neutron time-of-flight method are applied.	Radiation Worker
65	Quantum Beam Science Directorate	Study of superior radiation resistant electronics for nuclear power plants	Takasaki	Takeshi Ohshima	Semiconductor Analysis and Radiation Effects Group	81-27-346-9320	ohshima.takeshi20@jaea.go.jp	For the abolition of the TEPCO Fukushima Daiichi nuclear reactors, it is very important to develop remote control systems for the investigation of the inside of nuclear reactor pressure vessels and also for the removal of fuel debris from the pressure vessels. In this research, followings will be carried out in order to give knowledge for the development of superior radiation resistant electronics that can be operated under extremely high radiation environments. 1) The development of environment resistance testing techniques for accurately understanding radiation degradation of electronic device characteristics under various conditions such as high temperature and high humidity. 2) The proposal of engineering guidelines for the development of radiation resistant devices based on new semiconductor materials such as silicon carbide (SiC). 3) the evaluation of radiation hardness of components of remote control systems such as electronic circuits and actuators, using the environment resistance testing techniques to be developed.	Radiation Worker
66	Quantum Beam Science Directorate	Development of Reactor Core Inspection Technology by Optical Fiber Devices	Kansai (Kizu)	Akihiko Nishimura	Applied Laser Technology Development Group	81-774-71-3322	nishimura.akihiko@jaea.go.jp	The development of a new probing system is required to inspect a damaged reactor core of BWR. The existing prototype probing system in our lab room is available. Imaging and laser spectroscopy should be upgraded. 3-D imaging under water is important practically. Laser induced breakdown spectroscopy is also useful to analyze the material component. And water level monitoring and radiation dosimetry should be incorporated in the new probing system. All these functions are also useful for the medical inspection of limited tubular space like human digestive organ. The final goal is the contribution for the inspection of Fukushima BWR site.	Non-Radiation Worker

Recruitment Field for Postdoctoral Fellow of JAEA

No.	Depertment	Theme	Location	The person in charge	Section	Tel	E-mail	Summary	Radiation Worker/ Non-Radiation
67	Quantum Beam Science Directorate	Research and development of the technologies for material synthesis and removal process of radioactive materials	Takasaki	Noriaki Seko	Environmental Polymer Group	81-27-346-9380	seko.noriaki@jaea.go.jp	The subject of this theme is to develop the recovery and the decontamination methods of radioactive materials by the fibrous adsorbents/membranes synthesized by radiation induced graft polymerization technique. He/she also will perform the development of technologies for the adsorbent/membrane synthesis and the removal process of radioactive materials.	Radiation Worker
68	Quantum Beam Science Directorate	Research and development on evaluation of environmental resistance of polymeric materials for fuel debris extraction apparatus and equipment	Takasaki	Mitsumasa Taguchi	Environmental Radiation Processing Group	81-27-346-9386	taguchi.mitsumasa@jaea.go.jp	Development of remote-handling apparatus and equipment such as underwater camera, radiation detector and robot arm is a critical issue for internal investigation and retrieve of debris from melted fuel in damaged reactor primary containment and/or reactor pressure vessels on Fukushima nuclear power plant. In this research work, the fellow will develop an evaluation technology for the environmental resistance and investigate degradation mechanisms of polymeric materials used for cables, seal, and so on, in the apparatus/equipments under severe environment of high-dose-rate radiation and polluted water including inorganic substances.	Radiation Worker
69	Quantum Beam Science Directorate	Evaluation study of structural materials using neutron analysis	Nuclear Science Research Institute (Tokai)	Yuichi Hatsukawa	Neutron Imaging and Quantum Beam Analysis Group	81-29-282-6585	hatsukawa.yuichi@jaea.go.jp	In order to contribute to abolition measures of the Fukushima Dai-ichi Nuclear power plant, the soundness of the structural materials of the reactor will be evaluated using neutron activation analysis methods. Using small angle neutron scattering analysis and prompt gamma-ray activation analysis, the weakening of the concrete material by the damage from salt will be examined.	Radiation Worker
70	Quantum Beam Science Directorate	Development of the removal technique of radioactive cesium (Cs) from such Cs-loaded plants	Takasaki	Noriaki Seko	Environmental Polymer Group	81-27-346-9380	seko.noriaki@jaea.go.jp	The subject of this theme is to develop the removal technique of radioactive cesium (Cs) from such Cs-loaded plants etc. and also to contribute the volume reduction of the radioacitive wastes he/she will perform the development of selectively adsorbents/membranes by radiation induced graft polymerization technique.	Radiation Worker
71	Applied Laser Technology Institute	Research and development on non-contact-typed measuring technologies for melting metal surface temperatures in a laser cutting process	Tsuruga	Toshiharu Muramatsu	Applied Laser Technology Development Office	81-770-21-5050	muramatsu.toshiharu@jaea.go.jp	Japan Atomic Energy Agency (JAEA) is performing research and development on cutting technologies for various damaged reactor components in the Fukushima Daiichi's NPSs. The post doctral fellow is expected to work on the development and validation of the non-contact-typed measuring technologies for melting metal surface temperatures, etc. in a laser cutting process against the components. With the measuring technologies, we can make fine tuning of the laser light conditions, etc. to keep the cutting performances. Then he or she should systematically synthesize the developed technologies in a multi-functional laser head system.	Non-Radiation Worker