



ไม่คอมเม้นท์

กองบริหารงานวิจัย  
เลขรับ 1769  
วันที่ 12 ก.พ. 2567  
เวลา 15:25น.



สถาบันเทคโนโลยีนิวเคลียร์แห่งชาติ  
(องค์การมหาชน)

มหาวิทยาลัยมหิดล  
เลขรับ 4919  
วันที่ 12 ก.พ. 2567  
เวลา 16.16

กองบริหารงานวิจัย

## ด่วน

ที่ อว๕๔๒๓.๒/๒๘

๘ กุมภาพันธ์ ๒๕๖๗

เรื่อง ขอเชิญเสนอชื่อผู้สมัครเข้าร่วมโครงการ MEXT Nuclear Researchers Exchange Program FY๒๐๒๔

เรียน หัวหน้าหน่วยงานในเครือข่ายศูนย์วิจัยและพัฒนาพลาสมาและเทคโนโลยีนิวเคลียร์ฟิวชัน (Center for Plasma and Nuclear Fusion Technology: CPaF)

ด้วย สถาบันเทคโนโลยีนิวเคลียร์แห่งชาติ (องค์การมหาชน) ได้รับการประสานจากหน่วยงาน Nuclear Safety Research Association (NSRA) ญี่ปุ่น แจ้งประชาสัมพันธ์เชิญเสนอชื่อผู้สมัครเข้าร่วมโครงการ แลกเปลี่ยนนักวิจัย MEXT Nuclear Researchers Exchange Program FY๒๐๒๔ รายละเอียดดังเอกสารแนบ

โครงการ MEXT Nuclear Researchers Exchange Program มีวัตถุประสงค์เพื่อสนับสนุนให้นักวิจัยจากภูมิภาคเอเชียตะวันออกเฉียงใต้ ซึ่งอยู่ระหว่างการศึกษาระดับปริญญาโทหรือปริญญาเอกในสาขาการใช้พลังงานนิวเคลียร์ เพื่อสันติ ได้เพิ่มพูนความรู้ทางด้านเทคนิคเฉพาะทางและปฏิบัติงานวิจัย ณ ญี่ปุ่น อันจะนำไปสู่การมีส่วนร่วมในการยกระดับความปลอดภัยทางนิวเคลียร์ของประเทศในภูมิภาคเอเชียตะวันออกเฉียงใต้ในอนาคต

โครงการ MEXT Nuclear Researchers Exchange Program ประจำปีงบประมาณ ๒๕๖๗ เปิดรับสมัครนักวิจัยเข้าร่วมหลักสูตร จำนวน ๓ หลักสูตร ดังนี้ ๑. หลักสูตร Forum for Nuclear Cooperation in Asia (FNCA) Research Course มีวัตถุประสงค์เพื่อให้ให้นักวิจัยที่อยู่ระหว่างดำเนินโครงการวิจัยหรือกิจกรรมภายใต้โครงการ FNCA ได้ต่อยอดการปฏิบัติงานวิจัย/กิจกรรมดังกล่าว ๒. หลักสูตร Individual Research Subject Course มีวัตถุประสงค์เพื่อพัฒนาศักยภาพของนักวิจัย สร้างความเชี่ยวชาญในสาขาที่เกี่ยวข้องกับการใช้รังสี (Radiation utilization) และโครงสร้างพื้นฐานด้านพลังงานนิวเคลียร์ (Nuclear power infrastructure) และ ๓. หลักสูตร Basic Research Field Course มีวัตถุประสงค์เพื่อให้ให้นักวิจัยและเจ้าหน้าที่ทางเทคนิคมีความรู้ความเข้าใจในสาขาต่างๆ ภายใต้โครงการ FNCA

สถาบันฯ พิจารณาแล้ว เห็นว่าโครงการดังกล่าวเกี่ยวข้องและจะเป็นประโยชน์ต่อการดำเนินงานของหน่วยงานท่าน จึงเรียนมาเพื่อโปรดพิจารณาเสนอชื่อผู้สมัครเข้าร่วมโครงการฯ และแจ้งให้สถาบันฯ ทราบภายในวันที่ ๘ มีนาคม ๒๕๖๗ จะขอบคุณยิ่ง

ขอแสดงความนับถือ

(รองศาสตราจารย์รัชชัย อ่อนจันทร์)

ผสทน.

ฝ่ายวิเทศสัมพันธ์และความร่วมมือ (นางสาววรรดา จารุพูนผล)

โทรศัพท์ ๐ ๒๔๐๑ ๔๘๘๘ ต่อ ๑๑๙๖

ไปรษณีย์อิเล็กทรอนิกส์ worada.jaratpattana@tint.or.th

### สำเนาแจ้งท้าย

หน่วยงานในเครือข่ายวิจัยและพัฒนาพลาสมาและเทคโนโลยีนิวเคลียร์ฟิวชัน (Center for Plasma and Nuclear Fusion Technology: CPaF)

๑. การไฟฟ้าฝ่ายผลิตแห่งประเทศไทย
๒. สถาบันวิจัยแสงซินโครตรอน (องค์การมหาชน)
๓. จุฬาลงกรณ์มหาวิทยาลัย
๔. มหาวิทยาลัยเกษตรศาสตร์
๕. มหาวิทยาลัยขอนแก่น
๖. มหาวิทยาลัยเชียงใหม่
๗. มหาวิทยาลัยเทคโนโลยีพระจอมเกล้าธนบุรี
๘. มหาวิทยาลัยเทคโนโลยีพระจอมเกล้าพระนครเหนือ
๙. มหาวิทยาลัยเทคโนโลยีราชมงคลสุวรรณภูมิ
๑๐. มหาวิทยาลัยเทคโนโลยีสุรนารี
๑๑. มหาวิทยาลัยทักษิณ
๑๒. มหาวิทยาลัยธรรมศาสตร์
๑๓. มหาวิทยาลัยนครพนม
๑๔. มหาวิทยาลัยบูรพา
๑๕. มหาวิทยาลัยมหาสารคาม
๑๖. มหาวิทยาลัยมหิดล
๑๗. มหาวิทยาลัยแม่โจ้
๑๘. มหาวิทยาลัยราชภัฏเพชรบูรณ์
๑๙. มหาวิทยาลัยราชภัฏสุราษฎร์ธานี
๒๐. มหาวิทยาลัยวลัยลักษณ์
๒๑. มหาวิทยาลัยสงขลานครินทร์
๒๒. มหาวิทยาลัยศรีนครินทรวิโรฒ
๒๓. สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง

# The Nuclear Researchers Exchange Program FY2024

## - Invitation -

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### Attachment 1 Application Form

- A. Application ----- (a)
  - A1. FNCA Research Course
  - A2. Individual Research Subject Course
  - A3. Basic Research Field Course
- B. Candidate's Statement ----- (b)
- C. Official Statement ----- (c)
- D. Medical Certificate ----- (d)

### Attachment 2 List of Research Subjects

- 2-1 FNCA Research Course
- 2-2 Individual Research Subject Course
- 2-3 Basic Research Field Course

Additional note for researchers who stay for more than three months

# **A. About The Nuclear Researchers Exchange Program**

## **Background**

The Nuclear Researchers Exchange Program welcomes nuclear researchers from neighboring Asian countries to Japan.

This program was established in 1985, in conjunction with the Japanese policy of promoting cooperation with neighboring countries, and was based on the decision of the Atomic Energy Commission in December 1984.

This program enables Asian researchers to obtain the state-of-the-art technical knowledge and to perform high grade research activities in Japan, for contributing to build up and to strengthen nuclear base and nuclear safety in each Asian country.

This Program is linked to the Forum for Nuclear Cooperation in Asia (FNCA) (\*).

(\* FNCA website: <https://www.fnca.mext.go.jp/english/index.html>

## **Basic Concept**

In this program, Japanese research institutes and universities accept Asian researchers studying and working in the field for the peaceful use of nuclear energy.

## **B. Invitation for Asian Researchers**

In FY2024, this program consists of 3 subject courses

- (1) FNCA Research Course
- (2) Individual Research Subject Course
- (3) Basic Research Field Course

## **(1) FNCA Research Course**

This Research course is set up for the researchers who currently engage in joint research and collaborative activities in the FNCA projects to advance their activities.

### **Invited Country** <sup>(\*)</sup>

Australia <sup>(\*)</sup>, Bangladesh, China, Indonesia, Kazakhstan, Republic of Korea <sup>(\*)</sup>, Malaysia, Mongolia, the Philippines, Thailand and Vietnam

(\*) FNCA member countries are invited.

(\*) OECD member countries are required to participate in this course at their own expense.

### **1. Research Category and Subject**

The Research Categories are directly linked to the FNCA 7 projects as follows. Applicants choose one research theme from the research theme list of FNCA Research Course. **(Attachment 2-1).**

1. Mutation Breeding
2. Radiation Processing and Polymer Modification for Agricultural, Environmental and Medical Applications
3. Climate Change (Evaluating the Carbon Emission from Forest Soils)
4. Radiation Oncology
5. Research Reactor Utilization
6. Radiation Safety and Radioactive Waste Management (\*)
7. Nuclear Security and Safeguards

(\*) In FY2024 application, there is no research subject in this category.

### **2. Qualification for Application**

This Research Course is set up for researchers who currently engage in joint research and collaborative activities in the FNCA projects.

### **3. Length of Assignment**

The length of assignment is basically as follows:

3 months to maximum 6 months

MEXT and the accepting organizations will decide the actual term.

The term might be shortened due to the circumstances in Japan during the research period.

The term beyond FY2024 is not accepted.

### **4. Accepting Organization**

In FY2024, the accepting organizations include as follows:

- Japan Atomic Energy Agency (JAEA)
- National Institutes for Quantum Science and Technology (QST)
- Kanagawa University
- Saitama Medical University
- The University of Tokyo

## **(2) Individual Research Subject Course**

This course aims to develop researcher's capacity, providing expertise in the following areas associated with radiation utilization and nuclear power infrastructure. Participants carry out research on a subject which they applied under supervision of an accepting researcher/professor.

### **Invited Country**

Australia <sup>(\*)</sup>, Bangladesh, China, Indonesia, Kazakhstan, Republic of Korea <sup>(\*)</sup>, Malaysia, Mongolia, the Philippines, Sri Lanka, Thailand and Vietnam

(\*) OECD member countries are required to participate in this Course at their own expense.

### **1. Research Fields**

The research fields in this Course are linked to the fields of the FNCA projects as follows:

- A. Radiation Utilization Development
- B. Research Reactor Utilization Development
- C. Nuclear Safety Strengthening
- D. Nuclear Infrastructure Strengthening

### **2. Research Subject**

Applicants choose one research subject from the theme list of **Attachment 2-2**. A participant carries out research under the discussion with an accepting researcher/professor in charge.

### **3. Length of Assignment**

The length of assignment is basically as follows:

3 months to maximum 6 months

MEXT and the accepting organizations will decide the actual term.

The term might be shortened due to the circumstances in Japan during the research period.

The term beyond FY2024 is not accepted.

### **4. Accepting Organization**

In FY2024, the accepting organizations include as follows:

#### **◆ Research Institutes**

- Japan Atomic Energy Agency (JAEA)
- National Institutes for Quantum Science and Technology (QST)
- National Institute of Advanced Industrial Science and Technology (AIST)

#### **◆ Universities**

- Hirosaki University (Institute of Radiation Emergency Medicine)
- Hokkaido University
- Kyoto University (Institute for Integrated Radiation and Nuclear Science)
- Kyushu University
- Nagasaki University
- The University of Tokyo
- Tokyo Institute of Technology



### **(3) Basic Research Field Course**

This Research Course can enable researchers and administrative technical officers to gain a general and systematic understanding in the fields of FNCA projects.

In this course, a participant acquires systematic / broader/ deeper knowledge on each field and carries out research under the guidance and the field of an accepting researcher/professor in charge. Applicants choose one course from the list of **Attachment 2-3**.

#### **Invited Country**

Australia <sup>(\*)</sup>, Bangladesh, China, Indonesia, Kazakhstan, Republic of Korea <sup>(\*)</sup>, Malaysia, Mongolia, the Philippines, Sri Lanka, Thailand and Vietnam

(\*1) OECD member countries are required to participate in this Course at their own expense.

#### **1. Research Field**

The research fields in this Course are linked to the fields of the FNCA projects as follows:

1. Radiation Utilization Development
2. Research Reactor Utilization Development
3. Nuclear Safety Strengthening
4. Nuclear Infrastructure Strengthening

\*Applicants are required basic and general knowledge on the field which they apply.

#### **2. Length of Assignment**

The length of assignment is basically as follows.

3 months to maximum 6 months

MEXT and the accepting organizations will decide the actual term.

The term might be shortened due to the circumstances in Japan during the research period.

The term beyond FY2024 is not accepted.

#### **3. Accepting Organization**

In FY2024, the accepting organizations include as follows.

- Fukushima University (Institute of Environmental Radioactivity)
- Hokkaido University
- Kyoto University (Institute for Integrated Radiation and Nuclear Science)
- The University of Tokyo
- University of Fukui (Research Institute of Nuclear Engineering)

## C. Qualification of Applicant

All applicants are required to:

- (1) Be a researcher of a governmental or public research, educational or medical institute including a university engaged in research and development for the peaceful use of nuclear energy;  
(Neither a student nor a professor is qualified.)
- (2) Be a researcher who has graduated from a university or college and who is involved in research activities at the time of application;
- (3) Be a nuclear researcher who could contribute to building up/strengthening nuclear base/nuclear safety in each country after returning to his/her country;
- (4) Have sufficient skills in English and/or Japanese in both speaking and writing;
- (5) In principle, be less than 50 years of age;
- (6) Be in physically and mentally good health to perform research activities in Japan;
- (7) Be not accompanied by his/her family.
- (8) Allow to be collected personal information for the procedures.

### Number of Acceptance

Approximately 22 (\*) researchers

(\*) Number of acceptance may be subject to change under FY2024 budget by the Government of Japan.

### Approximate numbers of applications in each country

Considering the actual numbers of accepted researchers from each country in recent years, the estimated numbers of applications from each country are as follows. We would appreciate the applicants to apply for each course.

Bangladesh	10	China (*1)	20	Indonesia (*1)	20	Kazakhstan	10
Malaysia	10	Mongolia	10	the Philippines	10	Sri Lanka	10
Thailand	10	Vietnam (*1)	20	Australia and Republic of Korea: No limitation			

(\*1) As for the countries with two designated organizations (**Reference Table 2**), each estimated number of applications from each designated organization are 10.

## **D. Application Procedure, Notification of Results and Allowances**

### **1. Application Procedure**

#### **(1) Completing Application Form**

Applicants must complete the attached “Application Form” and submit it to their home organizations. Each home organization checks the application forms and submits them with **2 pieces of your photos (4cm X 3cm)** to the designated organization in each country (*Reference Table 2*).

We advise each home organization to send the application forms early enough for each designated organization to organize the applications before sending to NSRA, Japan.

#### **Notices of completing “Application Form”**

- 1) **A copy of one recent paper** written by each applicant on the relevant theme should be attached to his/her application.
- 2) **Official Statement of Home Organization** by an applicant's direct supervisor or the equivalent person should be attached.

#### **(2) Sending Application Form to Japan**

Each designated organization in each country are requested to select the nominees by checking all the applications, and the contact person of each designated organization is requested to send the original application forms of selected nominees and “Letter of Recommendation” signed by the FNCA Coordinator of the country (for the designated organizations which FNCA Coordinators belong to) or the Chairman of Nuclear Energy Authority/Commission (for the other designated organizations or non-FNCA member country) to Nuclear Safety Research Association (NSRA) by airmail **no later than March 21, 2024.** (*Punctuality is strongly recommended!*)

<p><b>Addressee: Ms. TAKEMURA Kyoko</b> <b>General Manager</b> <b>International Affairs and Research Department</b> <b>Nuclear Safety Research Association (NSRA)</b> <b>Shimbashi 5-18-7, Minato-ku, Tokyo 105-0004 Japan</b> <b>E-mail: iard@nsra.or.jp</b></p>
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### **2. Notification of the results**

- (1) MEXT/NSRA selection committee consisted of the experts and each accepting organization in Japan will carefully select applicants to be invited to Japan based on the research plan. In the decision of the final selection, other information (balance of numbers of accepted researchers from each country, balance among research category, age, and experiences of participating in this Program and/or the other MEXT programs) will be considered. Preference will be given to younger applicants, applicants who have no experience or only a few experiences in participating in MEXT programs.

- (2) The results of selection will be notified by MEXT to the each designated organization **by around July 2024.**
- (3) Each successful applicant to be invited to Japan will be notified, at the same time as each designated organization will be informed, of the invitation details, including the term and the date of entry to Japan.
- (4) Those who received the notice of acceptance must not cancel the nomination except for by the unavoidable reason.
- (5) The information in the Nuclear Researchers Exchange Program for the FY2024 is subject to change due to the current situation regarding COVID-19, etc.

### **3. Transportation, Allowance and Accommodation, etc**

The following will be borne by MEXT

#### (1) Transportation

- Economy class round-trip air ticket (from the international airport for Japan)
- Round-trip travel expenses between the arrival airport and the host organization in Japan

#### (2) Allowance

- Daily allowances (JPY4,400) from the date of arrival in Japan through the date of departure from Japan.

#### (3) Accommodation

- Furnished single room (The applicant must not be accompanied by his/her family)

### **4. Personal Agreement**

The home organization of each researcher and the researcher himself/herself are to conclude an agreement covering obligations and responsibilities of the researcher with each host organization.

**Reference Table 1**  
**The Accepting Organizations in Japan**

◆ **Research Institutes**

<b>JAEA) Japan Atomic Energy Agency</b>
HQ) 765-1 Funai-shikawa, Tokai-mura, Naka-gun, Ibaraki, 319-1184, Japan Site) Oarai, Tokai, Tsuruga
<b>QST) National Institutes for Quantum Science and Technology</b>
HQ) 4-9-1, Anagawa, Inage-ku, Chiba-shi, Chiba, 263-8555, Japan Site) Inage, Takasaki
<b>AIST) National Institute of Advanced Industrial Science and Technology</b>
HQ) Central 2, 1-1-1 Umezono, Tsukuba, Ibaraki, 305-8568, Japan

◆ **Universities**

<b>Fukushima University</b>
1 Kanayagawa, Fukushima-shi, Fukushima, 960-1296, Japan
<b>Hirosaki University (Institute of Radiation Emergency Medicine)</b>
66-1 Hon-cho, Hirosaki-shi, Aomori, 036-8564, Japan
<b>Hokkaido University</b>
Kita8, Nishi5, Kita-ku, Sapporo-shi, Hokkaido, 060-0808, Japan
<b>Kanagawa University</b>
Rokkakubashi 3-27-1, Kanagawa-ku, Yokohama-shi, Kanagawa, 221-8686, Japan
<b>Kyoto University (Institute for Integrated Radiation and Nuclear Science)</b>
Kumatori-cho, Sennan-gun, Osaka, 590-0494, Japan
<b>Kyushu University</b>
744, Motooka, Nishi-ku, Fukuoka-shi, Fukuoka, 819-0395, Japan
<b>Nagasaki University</b>
Sakamoto 1-12-4, Nagasaki, 852-8523, Japan

<b>Saitama Medical University</b>
38 Morohongo Moroyama-machi, Iruma-gun, Saitama 350-0495, Japan
<b>The University of Tokyo</b>
Graduate School of Engineering, MALT) 7-3-1, Hongo, Bunkyo-ku, Tokyo, 113-0033, Japan Graduate School of Frontier Sciences) 5-1-5 Kashiwanoha, Kashiwa-shi, Chiba, 277-8561, Japan
<b>Tokyo Institute of Technology (Laboratory for Zero-Carbon Energy)</b>
2-12-1, Ookayama, Meguro-ku, Tokyo, 152-8550, Japan
<b>University of Fukui (Research Institute of Nuclear Engineering)</b>
1-2-4, Kanawacho, Tsuruga-shi, Fukui, 914-0055, Japan

For any questions about the application guide, please contact with NSRA by e-mail at [iard@nsra.or.jp](mailto:iard@nsra.or.jp).

**Reference Table 2**  
**The Designated Organizations and Contact Persons**

<p><b>Australia</b></p>	<p><b>Ms. Pippa Ainley</b>  Assistant Advisor  Chief Operating Officer Group  ANSTO  Locked Bag 2001, Kirrawee DC, NSW 2232, AUSTRALIA  tel: +61-2-424 782 144  e-mail: ainleyp@ansto.gov.au</p>
<p><b>Bangladesh</b></p>	<p><b>Dr. Md. Mazibur Rahman</b>  Director  International Affairs Division  Bangladesh Atomic Energy Commission (BAEC) &amp; NLO to the IAEA  E-12/A, Agargaon, Sher-e-Bangla Nagar, Dhaka-1207, BANGLADESH  tel: +880 2 222218419(O), fax: +880 2 22221436  e-mail: shajal66@yahoo.co.uk; nlo.baec@gmail.com</p>
<p><b>China</b></p>	<p><b><u>China Atomic Energy Authority (CAEA)</u></b>  <b>Mr/Ms. BAI Yufei</b>  Project Officer  Department of International Cooperation  A8, Fucheng Road, Haidian District, Beijing, 100048, P.R. CHINA  tel: +86-10-88581067  e-mail: baiyufei_caesa@163.com</p> <hr/> <p><b><u>National Nuclear Safety Administration (NNSA)</u></b>  <b>Mr. BIE Chao</b>  Deputy Director of International Cooperation on Nuclear Safety  Department of International Cooperation  National Nuclear Safety Administration  Ministry of Ecology and Environment of the P.R.C  No.12, East Chang'an Avenue, Dongcheng District, Beijing, 100006, CHINA  tel: +86-10-65645798 fax: +86-10-66645794  e-mail: bie.chao@nro.mee.gov.cn</p>

Indonesia	<p><b><u>National Research and Innovation Agency (BRIN)</u></b>  <b>Mr. Totti Tjiptosumirat</b>  National Liaison Officer of Indonesia  <b>Ms. Ros Intan Purbasari</b>  Senior staff of Bureau for Legal and Cooperation  Jalan Kuningan Barat, Mampang Prapatan, Jakarta Selatan, 12710, INDONESIA  tel:+62-21-5251109 fax:+62-21-5251110  e-mail: tott001@brin.go.id, rosi007@brin.go.id</p> <hr/> <p><b><u>Nuclear Energy Regulatory Agency (BAPETEN)</u></b>  <b>Mr. Deni Rahmat Sanjaya</b>  Head of International Cooperation Section,  Legal Affairs, Cooperation, and Public Communication Bureau  Jl. Gajah Mada No.8, Jakarta10120, INDONESIA  tel.: +62-21 63858269-70 fax: +62-21 63855912  e-mail: d.rahmat@bapeten.go.id</p>
Kazakhstan	<p><b>Ms. Nurgul Kurmangaliyeva</b>  Head of International Project Support Group, Department of Public Relations  National Nuclear Center (NNC) of the Republic of Kazakhstan  2B, Beibyt atom st., Kurchatov, 180010, KAZAKHSTAN  tel:+7-722-51-3-33-33 fax:+7-722-51-3-38-58 mobile:+77051357008  e-mail: nurgulya@nnc.kz</p>
Republic of Korea	<p><b>Mr. LEE Jeong-kong</b>  International Cooperation Team  Korea Atomic Energy Research Institute (KAERI)  105-1 Deokjin-Dong, Yuseong, Daejeon, KOREA  tel: +82-42-868-8248  e-mail: jklee4@kaeri.re.kr</p> <hr/> <p><b>Mr. Park ByungSun</b>  Korea Institute of Radiological &amp; Medical Sciences (KIRAMS)  215-4 Gongneung-Dong, Nowon-Gu, Seoul, KOREA  tel: +82-2-3399-5841  e-mail: bashu21@kirams.re.kr</p>
Malaysia	<p><b><u>Malaysian Nuclear Agency (Nuclear Malaysia)</u></b>  <b>Mr. Raja Jamal bin RAJA HEDAR</b>  Director, Human Resources Development Division  <b>Ms. Azhani binti MOHD RAZALI</b>  Research Officer, Human Resources Development Division  Bangi, 43000 Kajang, Selangor, MALAYSIA  tel: +6019 2054073 fax: +60-3-89253827  e-mail: rjamal@nm.gov.my, azhani@nm.gov.my</p>



Mongolia	<p><b>Ms. Tumenjargal Myagmardorj</b>  Officer  Foreign Affairs Division  Executive Office of Nuclear Energy Commission (NEC)  Khan-Uul District-20, Uildverchdiin street-2, Ulaanbaatar, 17032, MONGOLIA  tel: +976-51263162  e-mail: m.tumenjargal@nea.gov.mn, office@nea.gov.mn</p>
The Philippines	<p><b>Ms. Jennylyn Minglana</b>  International Cooperation Section  DOST-Philippine Nuclear Research Institute (DOST-PNRI)  Commonwealth Ave., Diliman, Quezon City 1101, The PHILIPPINES  tel: +63 2 89208742 fax: +63-2-920-1646  e-mail: jcminglana@pnri.dost.gov.ph, ics@pnri.dost.gov.ph</p>
Sri Lanka	<p><b>Mr. H.M.N.R. Bandara</b>  Director,  International Cooperation Division  Sri Lanka Atomic Energy Board  60/460, Baseline Road, Orugodawatta, Wellampitiya, SRI LANKA  tel. +94-11-253 3427-8, +94-11-207 5230 fax. +94-112533448  e-mail: bandara@aeb.gov.lk, bandaraaea72@gmail.com</p>
Thailand	<p><b><u>Thailand Institute of Nuclear Technology (Public Organization)</u></b>  <b>Ms. Chatchawan Mansaithong</b>  International Cooperation Officer, Professional Level  <b>Ms. Worada Jarupoonphol</b>  International Cooperation Officer  9/9 Moo 7, Saimoon Sub-district, Ongkarak District, Nakhon Nayok 26120, THAILAND  tel. +66 2 401 9889 ext. 1196  e-mail: chatchawan@tint.or.th, worada.jar@tint.or.th</p>
Vietnam	<p><b><u>Vietnam Atomic Energy Institute (VINATOM)</u></b>  <b>Ms. Pham Thanh Huong</b>  International Cooperation Department  59 Ly Thuong Kiet str., Hoan Kiem dis., Ha Noi City, VIETNAM  tel: +84-979-371787  e-mail: phamthanhhuong.139@gmail.com</p> <hr/> <p><b><u>Vietnam Agency for Radiation and Nuclear Safety (VARANS)</u></b>  <b>Ms. Bui Thi Thuy Anh</b>  Director, International Cooperation Division  14th Floor, Headquarter of Ministry of Science and Technology (MOST),  113 Tran Duy Hung Str., Hanoi, VIETNAM  tel: +84-24-39410214 fax: +84-24-38220298  e-mail: btanh@most.gov.vn, thuyanhvov5@gmail.com</p>

( for NSRA use)	Plan	Result	<b>FR-24 -</b>

<b>MEXT</b> <b>Nuclear Researchers Exchange Program FY2024</b> <b>Application for INVITATION to JAPAN</b> (1) FNCA Research Course	Research Code No.

**I. Profile**

**NAME** (as printed in PASSPORT) If you have two last or first names, leave a space between them.

FAMILY (SUR) Name <u>ONLY</u>	First and Middle Name(s)	<i>Chinese characters, if you have.</i>	

<b>Passport No.</b>	<b>Nationality</b>	<b>Gender</b>	<b>Marital Status</b>
	<b>Place of Birth</b>	<i>F: Female</i>	<i>S: Single</i>
<b>expiry date</b> yy/ mm/ dd	<i>(in Chinese character)</i>	<i>M: Male</i>	<i>M: Married</i>
	<b>Date of Birth</b>	yy/ mm/ dd	

<b>Home Address</b> (address where you are living)	<b>Town/City</b>	<b>Province</b>	<b>Post code</b>
	<i>(Chinese characters, if any)</i>		

Tel	Mobile	Fax
E-mail 1 e.g. tom@gmail.com		
E-mail 2 e.g. tom@nsra.or.jp		

**Current Employment**

Organization	
Position / Division	
Office Address	<small>(※)Neither P.O.Box nor G.P.O.Box are available</small>
<b>Town/City</b>	<b>Province</b> <b>Post code</b>
Tel	Fax

**Your Direct Supervisor**

Name	Position
Tel	Fax
E-mail	

**Emergency Contact**

Name	Relationship
Address	
Tel	Fax
E-mail	



**5. The current research related to this FNCA project**

Theme	
Institute	
Period	yy/ mm/ dd - yy/ mm/ dd
(Details)	

**6. The reason why you apply for this program**

--

**7. How is this experience made the best use of?**

**8. Language Ability**

Can you perform the research/training in English and/or Japanese in Japan?

→  1. YES    2. NO

(1) Test Score (English & Japanese)

*TOEIC		<input type="text"/>
*TOEFL		<input type="text"/>
*Others [	]	<input type="text"/>
[	]	<input type="text"/>

(2) Classify your proficiency of language ability from A to C and enter it into the boxes:

- A. Excellent (Fully Comprehension)
- B. Good (Moderate Comprehension)
- C. Poor (Have Difficulty)

	<b>English</b>	<b>Japanese</b>
* <i>Listening</i>	<input type="text"/>	<input type="text"/>
* <i>Speaking</i>	<input type="text"/>	<input type="text"/>
* <i>Writing</i>	<input type="text"/>	<input type="text"/>
* <i>Reading</i>	<input type="text"/>	<input type="text"/>

<b>9. Research Experience( including post graduate studies, studies abroad)</b>		
From	To	Organization/Place/Country
Subject		
From	To	Organization/Place/Country
Subject		

<b>10. Thesis or Paper (List any published materials)</b>		
Date	Title	Bibliographical Data

<b>11. Education</b>			
Name of Institution	Field of Study	Diploma/Degree	Date earned or expected

<b>12. Employment History</b>		
From	To	Organization/Place/Country
Subject		
From	To	Organization/Place/Country
Subject		

( for NSRA use)	Plan	Result	<b>IR-24-</b>

<b>MEXT</b> <b>Nuclear Researchers Exchange Program FY2024</b> <b>Application for INVITATION to JAPAN</b> (2) Individual Research Subject Course	Research Code No.

<b>I. Profile</b>			
<i>NAME</i> (as printed in PASSPORT) If you have two last or first names, leave a space between them.			
FAMILY (SUR) Name <u>ONLY</u>		First and Middle Name(s)	<i>Chinese characters, if you have.</i>
<i>Passport No.</i>	<i>Nationality</i>		<i>Gender</i>
	<i>Place of Birth</i>		<i>F: Female</i>
<i>expiry date</i>	<i>(in Chinese character)</i>		<i>M: Male</i>
yy/ mm/ dd	<i>Date of Birth</i>	yy/ mm/ dd	<i>S: Single</i>
			<i>M: Married</i>
<i>Home Address</i> (address where you are living)		<i>Town/City</i>	<i>Province</i>
		<i>(Chinese characters, if any)</i>	
			<i>Post code</i>
Tel		Mobile	Fax
E-mail 1	e.g. tom@gmail.com		
E-mail 2	e.g. tom@nsra.or.jp		

<b>Current Employment</b>		
Organization		
Position / Division		
Office Address	<small>(※)Neither P.O.Box nor G.P.O.Box are available</small>	
<i>Town/City</i>	<i>Province</i>	<i>Post code</i>
Tel		Fax

<b>Your Direct Supervisor</b>		
Name		Position
Tel		Fax
E-mail		

<b>Emergency Contact</b>		
Name		Relationship
Address		
Tel		Fax
E-mail		

<b>2. Research Theme</b>	
(Research Code No.)	Research Theme

<b>3. Term of stay you desire (for reference)</b>	<b>*The term beyond FY2024 (March 2025) is not accepted</b>		
	FROM: 2024/	<input type="text"/> month/	<input type="text"/> date
	TO: 20_ /	<input type="text"/> month/	<input type="text"/> date

<b>4. Research Plan (Describe detailed research plan)</b>



*5. The reason why you apply for this program*

**6. How is this experience made the best use of?**

**7. Language Ability**

Can you perform the research/training in English and/or Japanese in Japan?

→  1. YES    2. NO

(1) Test Score (English & Japanese)

*TOEIC		<input type="text"/>
*TOEFL		<input type="text"/>
*Others [	]	<input type="text"/>
[	]	<input type="text"/>

(2) Classify your proficiency of language ability from A to C and enter it into the boxes:

- A. Excellent (Fully Comprehension)
- B. Good (Moderate Comprehension)
- C. Poor (Have Difficulty)

	<b>English</b>	<b>Japanese</b>
* <i>Listening</i>	<input type="text"/>	<input type="text"/>
* <i>Speaking</i>	<input type="text"/>	<input type="text"/>
* <i>Writing</i>	<input type="text"/>	<input type="text"/>
* <i>Reading</i>	<input type="text"/>	<input type="text"/>

<b>8. Research Experience( including post graduate studies, studies abroad)</b>		
From	To	Organization/Place/Country
Subject		
From	To	Organization/Place/Country
Subject		

<b>9. Thesis or Paper (List any published materials)</b>		
Date	Title	Bibliographical Data

<b>10. Educational Background (Starting from undergraduate level of university)</b>				
Name of Institution/School	Location	Field	Diploma/Degree	Graduation Year

<b>11. Employment History</b>		
From	To	Organization/Place/Country
Subject		
From	To	Organization/Place/Country
Subject		

( for NSRA use)	Plan	Result	<b>BR-24 -</b>

<b>MEXT</b> <i>Nuclear Researchers Exchange Program FY2024</i> <i>Application for INVITATION to JAPAN</i> (3) Basic Research Field Course	Code No.

<b>I. Profile</b>			
<i>NAME</i> (as printed in PASSPORT) If you have two last or first names, leave a space between them.			
FAMILY (SUR) Name ONLY		First and Middle Name(s)	<i>Chinese characters, if you have.</i>
<i>Passport No.</i>	<i>Nationality</i>		<i>Gender</i>
	<i>Place of Birth</i>		<i>F: Female</i>
<i>expiry date</i>	<i>(in Chinese character)</i>		<i>M: Male</i>
yy/ mm/ dd	<i>Date of Birth</i>	yy/ mm/ dd	<i>M: Married</i>
<i>Home Address</i> (address where you are living)		<i>Town/City</i>	<i>Province</i>
		<i>(Chinese characters, if any)</i>	
			<i>Post code</i>
Tel	Mobile	Fax	
E-mail 1 e.g. tom@gmail.com			
E-mail 2 e.g. tom@nsra.or.jp			

<b>Current Employment</b>		
Organization		
Position / Division		
Office Address	<i>(※)Neither P.O.Box nor G.P.O.Box are available</i>	
<i>Town/City</i>	<i>Province</i>	<i>Post code</i>
Tel	Fax	

<b>Your Direct Supervisor</b>		
Name		Position
Tel	Fax	
E-mail		

<b>Emergency Contact</b>		
Name		Relationship
Address		
Tel	Fax	
E-mail		

<b>2. Field you desire</b>	
(Code No.)	Field

<b>3. The reason why you apply for this program AND the background which your country or institute wish to dispatch you to Japan under this program</b>

**4. Your contribution can be made to build up/strengthen nuclear base/nuclear safety of your county**

**5. Language Ability**

Can you perform the research/training in English and/or Japanese in Japan?

→  1. YES    2. NO

(1) Test Score (English & Japanese)

*TOEIC		<input type="text"/>
*TOEFL		<input type="text"/>
*Others [	]	<input type="text"/>
		<input type="text"/>

(2) Classify your proficiency of language ability from A to C and enter it into the boxes:

- A. Excellent (Fully Comprehension)
- B. Good (Moderate Comprehension)
- C. Poor (Have Difficulty)

	<b>English</b>	<b>Japanese</b>
* <i>Listening</i>	<input type="text"/>	<input type="text"/>
* <i>Speaking</i>	<input type="text"/>	<input type="text"/>
* <i>Writing</i>	<input type="text"/>	<input type="text"/>
* <i>Reading</i>	<input type="text"/>	<input type="text"/>

<b>6. Employment History</b>		
From	To	Organization/Place/Country
Subject		
From	To	Organization/Place/Country
Subject		
From	To	Organization/Place/Country
Subject		
From	To	Organization/Place/Country
Subject		

<b>7. Educational Background (Starting from undergraduate level of University)</b>			
Name of Institution/School	Field of Study	Diploma/Degree	Date earned or expected

## Candidate's Statement

I certify that the statements below are true and correct. If selected as a research fellow under the Nuclear Researchers Exchange Program, I undertake to:

1. conduct myself always in a manner compatible with my status:
2. refrain from engaging in political or commercial activities or any other activities not related to the research program:
3. accept no remuneration other than the exchange program stipend nor render any service for pay:
4. return to my country on completion of my research:
5. refrain from declining the nomination, and
6. refrain from using the information obtained in Japan except for the peaceful use of nuclear energy.

Date: \_\_\_\_\_

Name in print (block letter): \_\_\_\_\_

Signature: \_\_\_\_\_





The \_\_\_\_\_  
(Name of the Institute)

nominates \_\_\_\_\_  
(Name of the Candidate)

as a candidate for Nuclear Researchers Exchange Program, notes the above statements, and gives assurance that:

1. all the information given by the candidate is true and correct;
2. The Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the host organization have no financial responsibility for incidental expenses connected with travel incident in the research work, or for death, injury, sickness, or the other disability arising from participating in research;
3. the position of the nominee will be retained during his/her absence and he/she will continue to receive, during the period of the research work in Japan, a salary and related emoluments enabling him/her to commitment to his/her home country.

The Candidate's Direct Supervisor

Date \_\_\_\_\_

Name in print \_\_\_\_\_

Position \_\_\_\_\_

Signature \_\_\_\_\_

**INSTRUCTIONS:** This report shall be completed in duplicate by a registered physician after through clinical and laboratory examination, including a chest X-ray. The Ministry of Education, Culture, Sports, Science and Technology (MEXT) reserves the right to require the candidate to undergo further medical examinations, if necessary.

Record of candidate's occupational radiation exposure shall be attached herewith.

<i>Medical Certificate</i>		<b>2024 MEXT Nuclear Researchers Exchange Program</b>
First Name	Last Name	
Address:		
Age: _____ Gender: ( Female / Male )		
Height: _____ cm                      Weight: _____ kg		

**Medical Report**

**ATTENTION: Please Describe Specifically.**

1	Describe candidate's present health condition.
2	Does the candidate show any PHYSICAL deficiencies that would limit his/her performance? Yes                                      No If yes, please explain.
3	Does the candidate show any MENTAL deficiencies that would limit his/her performance? Yes                                      No If yes, please explain.
4	Does the candidate have a history of illness or disorders that would limit his/her ability to research conduct researches? Yes                                      No If yes, please explain.
5	List any infectious diseases that the candidate might be carrying.
6	Describe any present condition or illness that would require the candidate to seek medical treatment while participation in the research program.

I hereby certify that the above statements are true and correct.

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Physician:

Clinic:

Address:

MEXT Nuclear Research Exchange Program 2024 - FNCA Research Course						
Research Code No.	Research Theme	Summary of Research	Organization	Duration (Months) (*)	Capacity (Persons)	Qualification for Application
<b>1. Mutation Breeding</b>						
FR - 1	Studies on radiation-induced mutations	Phenotype and genome sequences of radiation-induced mutants will be investigated to identify the responsible genes and molecular nature of mutations.	QST Environmental-Stress Tolerance Gene Project, Takasaki Advanced Radiation Research Institute (Takasaki)	5	1	<ul style="list-style-type: none"> <li>• Master's degree in plant science or agricultural science</li> <li>• Basic knowledge and work experience in molecular biology and/or genetics</li> </ul>
<b>2. Radiation Processing and Polymer Modification for Agricultural, Environmental and Medical Applications</b>						
FR - 2	Research and development of materials for medical applications using quantum beam modification techniques	Research on the development of functional materials based on biocompatible polymers using quantum beam crosslinking technology and advanced medical applications.	QST Advanced Biodevice Project, Takasaki Advanced Radiation Research Institute (Takasaki)	5	1	<ul style="list-style-type: none"> <li>• Master's or bachelor's degree in science and technology</li> <li>• Engaged in radiation application</li> </ul>
<b>3. Climate Change (Evaluating the Carbon Emission from Forest Soils)</b>						
FR - 3	Study on soil organic carbon cycle using stable and radioactive isotope analysis	To understand the soil organic carbon cycle is the key to predicting the global warming. In this study, we will conduct field and laboratory experiments to quantify the storage and decomposition processes of soil organic carbon, using stable and radioactive carbon isotopes analysis.	JAEA Research Group for Environmental Science, Chemistry, Environment, and Radiation Division, Nuclear Science and Engineering Center (Tokai)	2	1-3	<ul style="list-style-type: none"> <li>• Master's degree in science and technology, or Bachelor's degree in science and technology</li> </ul>

FR - 4	Radiocarbon dating of soil sediment samples by accelerator mass spectrometry	Under the FCN project, "Evaluating the Carbon Emission from Forest Soils", the radiocarbon (C-14) dating of the soil samples collected from each participating country is conducted by the Accelerator Mass Spectrometry. The concept and technique of the radiocarbon dating will be learned by a training program: 1) Extraction and purification of carbon dioxide from soil, 2) Accelerator Mass Spectrometry, 3) Data analysis.	The University of Tokyo MALT (Micro Analysis Laboratory, Tandem accelerator) (Hongo)	3	2	Basic knowledge of mathematics, physics and chemistry with the level of the 1st grade of the university
<b>4. Radiation Oncology</b>						
FR - 5	High-precision radiotherapy for predominant cancers in Asia	Optimum treatment for predominant cancers in Asia will be established using high-precision radiotherapy including IMRT, SBRT, MRI-guided RT, and 3D-IGBT.	Saitama Medical University Department of Radiation Oncology, International Medical Center (Komagawa)	2.5	1-2	Radiation oncologist and/or medical physicist engaged in radiotherapy
<b>5. Research Reactor Utilization</b>						
FR - 6	Chemical characteristics of geological and cosmochemical samples	Metal elements abundances will be determined in geological and cosmochemical samples by using neutron activation analysis (PGA and INAA), ICP-MS and/or ICP-AES. Based on the obtained analytical results, the behavior of metal elements abundances will be investigated during their formation process.	Kanagawa University Faculty of Science (Yokohama)	5	1	Master's degree in science and technology

6. Nuclear Security and Safeguards					
FR - 7	Enhancing Capacity on Nuclear Security	<p>The research focuses on the implementation and capacity building of the specific topic on nuclear security to enhance human capacity of the nominee's country on nuclear security.</p> <p>Research topics ; Physical protection, Nuclear security culture, Training curriculum development</p>	<p>JAEA            Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (Tokai)</p>	up to 2	<ul style="list-style-type: none"> <li>Working experience in the field of nuclear security</li> </ul>
FR - 8	Enhancing Capacity on Safeguards(SG)	<p>The research focuses on the implementation and capacity building of the specific topic on Safeguards(SG) to enhance human capacity of the nominee's country on SG.</p> <p>Research topics ; State Systems of Accounting for and Control of Nuclear Material(SSAC), Non-Destructive Assay (NDA) of Nuclear Materials, Nuclear Material Accountancy, Additional Protocol</p>			up to 2
					1-2 in total

MEXT Nuclear Research Exchange Program 2024 - Individual Research Subject Course						
Research Code No.	Research Theme	Summary of Research	Organization	Duration (Months) (*)	Capacity (Persons)	Qualification for Application
<b>A: Radiation Utilization Development</b>						
A - 1	Development of high-performance polymer membrane materials using radiation techniques	High-performance polymer membranes, applied for environment and energy devices such as fuel cells, secondary battery, and water electrolyzer, will be developed based on the synthesis by radiation-induced crosslinking and graft polymerization methods and structure analysis by X-ray/neutron scattering techniques.	<u>QST</u> Nanostructured Polymer Materials Project (Takasaki)	5	1	• Bachelor's degree in science and technology
A - 2	Dose evaluation of RI for targeted nuclide therapy	Using the three-dimensional radiation transport calculation code PHITS, we will evaluate the dose of RI suitable for targeted nuclide therapy and clarify the characteristics of radiation emitted from each RI.	<u>QST</u> Medical Radioisotope Applications Project (Takasaki)	5	1	• Bachelor's degree in engineering and pharmacy
A - 3	Research and development of novel type radioprotective agents and mitigators	By using mouse models for radiation-induced bone marrow death and gastro-intestinal death, biochemicals bearing cell death inhibition or modulation function will be verified as candidates for new type of radioprotectors and mitigators, in particular, against high-LET heavy ion irradiations.	<u>QST</u> Department of Radiation Effects Research, Institute for Radiological Science (Inage)	5	2	• Work experience in biology or toxicology • Not being allergic to laboratory animals (mice)

<p>A - 4</p>	<p>Correction coefficients in radiation standard measurements</p>	<p>Experience standard measurements of ionization radiation using ionization chambers and calorimeters, and derive correction coefficients through measurements or simulation calculations.</p>	<p><u>AIST</u>          Ionizing Radiation Standard Group, Research Institute for Measurement and Analytical Instrumentation, National Metrology Institute of Japan (Tsukuba)</p>	<p>3</p>	<p>1</p>	<ul style="list-style-type: none"> <li>• Bachelor's degree in science and technology</li> <li>• Engaged in radiation measurement</li> </ul>
<p>A - 5</p>	<p>Environmental dynamics of anthropogenic iodine-129 by accelerator mass spectrometry</p>	<p>Iodine-129 is a long-lived radioisotope (half-life = <math>1.57E+07</math> yr.) and a typical fission product of Uranium. It is mainly originated from atmospheric nuclear weapon testing, spent nuclear fuel reprocessing, and nuclear power plant accidents. In this program, deposition and dynamics of anthropogenic Iodine-129 in environmental samples (e.g., soil, seawater, corals, etc.) are investigated. Through the exercises: 1) extraction of iodine, 2) fundamental analysis (ICP-MS, etc.), 3) accelerator mass spectrometry, 4) presentation and discussion, experimental techniques required for environmental analysis using accelerator mass spectrometry and interpretation of resulting data will be mastered.</p>	<p><u>The University of Tokyo</u>          MALT (Micro Analysis Laboratory, Tandem accelerator) (Hongo)</p>	<p>4.5</p>	<p>2</p>	<ul style="list-style-type: none"> <li>• Basic knowledge of mathematics, physics and chemistry with the level of the 1st grade of the university</li> </ul>



<p>A - 6</p>	<p>Evaluation of the ground stability and the history of geomorphological variation using Beryllium-10</p>	<p>Cosmogenic radio nuclide Beryllium-10 produced in the quartz in the crust is a good indicator for the evaluation of the denudation rate of the surface and the history of geomorphological variation (buried and exposure). It is used for the evaluation of the ground stability of the location for a nuclear facility. In this training program, the ground stability evaluation method using Beryllium-10 will be learned via 1) Extraction of quartz from rock samples, 2) Beryllium extraction from the quartz, 3) Measurement of Beryllium-10 by Accelerator Mass Spectrometry, 4) Data analysis.</p>	<p>The University of Tokyo        MALT (Micro Analysis Laboratory, Tandem accelerator)        (Hongo)</p>	<p>4.5</p>	<p>1</p>	<p>• Basic knowledge of mathematics, physics and chemistry with the level of the 1st grade of the university</p>
<p>A - 7</p>	<p>Improvement of radiation transmission imaging</p>	<p>Imaging techniques using neutrons and X-rays are important for the nondestructive inspection of structures and industrial products. The experiments to improve the resolution in such imaging are performed.</p>	<p>Kyoto University        Institute for Integrated Radiation and Nuclear Sciences        (Kumatori)</p>	<p>3</p>	<p>1</p>	<p>• Bachelor's or Master's degree in science and technology</p>

**B: Research Reactor Utilization Development**

B - 1	Materials Science in Nuclear Fuel Cladding	This research will focus on materials science in fuel cladding or structural components for light water reactors. It includes mechanical property measurements, microstructure observations, corrosion, hydrogenation, or irradiation experiments. Issues in regulation that relate to materials engineering can be included upon request.	The University of Tokyo Department of Nuclear Engineering and Management, Graduate School of Engineering (Tokai)	6 or less	1-2	A degree or experience in materials science and engineering.
B - 2	Materials Science in Fusion Blanket	This research will focus on materials science in fuel cladding or structural components for fusion reactors. It includes mechanical property measurements, microstructure observations, corrosion, hydrogenation, or irradiation experiments.	The University of Tokyo Department of Nuclear Engineering and Management, Graduate School of Engineering (Tokai)	6 or less	1-2	A degree or experience in materials science and engineering.

<b>C: Nuclear Safety Strengthening</b>			
C - 1	R&D for NPP Decommissioning	<p>Conduct research and technological development to solve various issues related to the promotion of decommissioning of nuclear power plants. In decommissioning, it is necessary to cooperate not only between departments but also with local governments, prefectures and the national government in order to formulate and execute a planned dismantling process schedule.</p> <p>In addition, radiation management / inventory evaluation, maintenance management of existing facilities, work management, selection / verification of dismantling methods, radioactive waste treatment / disposal, clearance / reuse measures for dismantled materials, national legal system and various approvals. Furthermore, there are a wide range of tasks such as increasing employee motivation and introducing advanced technologies (IT, VR, AR, etc.).</p> <p>These are complex problems and system-theoretic problems. Each is closely related and a simple solution is not enough. Approaches from various perspectives for these solutions are necessary as specific and general remarks.</p> <p>An applicant will select these issues who can show their abilities and work on solving various issues through research or training. In this way, an applicant will find out the issues of decommissioning from an international perspective, and clarify the viewpoint and solution method of technological development of decommissioning in the future.</p>	<p style="text-align: center;"><u>JAEA</u>            Fugen Decommissioning Engineering Center (Tsuruga)</p>
	1		<ul style="list-style-type: none"> <li>▪ Logical thinking</li> <li>▪ Critical thinking</li> <li>▪ Attitude to actively and proactively tackle issues</li> <li>▪ Sufficient knowledge of the field</li> </ul>

C - 2	Re-evaluation of cytogenetic biodosimetry in radiation emergency medicine	At present, chromosomal abnormalities, in particular, dicentric, translocations and micronucleus, are used for dose estimation after radiation exposure accidents. A series of processes from blood sampling to chromosome analysis will be re-examined in order to perform more accurate dose estimation. In addition, an inter-laboratory comparison of the updated methodology will be conducted.	<u>Hirosaki University</u> Department of Risk Analysis and Biodosimetry, Institute of Radiation Emergency Medicine (Hirosaki)	5.5	1	<ul style="list-style-type: none"> <li>• Bachelor's or Master degree in biology or life science</li> <li>• Engaged or applicant in biodosimetry</li> </ul>
C - 3	Development of new marker(s) in biological dosimetry in radiation emergency medicine	In radiation exposure accidents, chromosomal aberrations are used for radiation dose assessment in exposed person. Although this technique has been used for more than 60 years, there is an urgent need to develop new markers and dosimeters that correlate to chromosomal abnormalities. In order to more quickly and accurately evaluate radiation dose, it will be necessary to analyze genetic changes and discover new markers and dosimeters in human cells induced by radiation exposure.	<u>Hirosaki University</u> Department of Risk Analysis and Biodosimetry, Institute of Radiation Emergency Medicine (Hirosaki)	5.5	1	<ul style="list-style-type: none"> <li>• Bachelor's or Master degree in biology or life science</li> <li>• Engaged or applicant in biodosimetry</li> </ul>

C - 4	Analysis of radiation sensitivity factors in humans for biological dosimetry	<p>The chromosome analysis used for estimating radiation dose of exposed persons in an exposure accident is performed without considering the individual's radio-sensitivity. However, to date, it has been clearly shown that patients receiving radiation therapy for cancer have different radio-sensitivities. By additionally considering the individual's radiation sensitivity, it will be possible to perform more accurate radiotherapy in the medical field and estimate radiation dose more accurately after actual exposure accidents. In this study, we will analyze radiation sensitivity using human somatic cells.</p>	<p><u>Hirosaki University</u>          Department of Risk Analysis and Biodosimetry, Institute of Radiation Emergency Medicine (Hirosaki)</p>	5.5	1	<ul style="list-style-type: none"> <li>• Bachelor's or Master degree in biology or life science</li> <li>• Engaged or applicant in biodosimetry</li> </ul>
C - 5	Evaluation of activity concentrations for natural nuclides such as radon and uranium and the dose estimation due to their inhalation and ingestion	<p>Activity concentrations of the natural occurring radioactive materials (NORM) such as radon and uranium will be measured to understand their environmental dynamics. The internal and external doses derived from these nuclides will be comprehensively estimated from view point of radiation protection.</p>	<p><u>Hirosaki University</u>          Department of Radiation Measurement and Physical Dosimetry, Institute of Radiation Emergency Medicine (Hirosaki)</p>	5.5	2	<ul style="list-style-type: none"> <li>• Bachelor's degree in science and technology</li> <li>• Engaged in radiation measurement</li> </ul>

<p>C - 6</p>	<p>Method development of man-made radionuclides in environmental and biological samples</p>	<p>Anthropogenic radionuclides, such as Cs-137, Sr-90, and I-129, are existing in the environment as a consequence of the accidents of nuclear related facilities and atomic bomb testing. For the assessment of influence from the nuclear power plant, establishment of environmental monitoring is necessary before and during the operation of power generation. Chemical sample pretreatment and radiometric detection technique will be investigated for rapid and quantitative determination of radioactivity. In addition, ICP-mass spectrometry will be used, which is useful for determination long-lived radionuclides such as uranium isotopes.</p>	<p><u>Hirosaki University</u>                  Department of International Cooperation and Collaborative Research, Institute of Radiation Emergency Medicine (Hirosaki)</p>	<p>5.5</p>	<p>1</p>	<ul style="list-style-type: none"> <li>• Bachelor's degree in science and technology</li> <li>• Engaged in radiation measurement</li> </ul>
<p>C - 7</p>	<p>Environmental assessment of radionuclides from the nuclear related facilities</p>	<p>Energy demand continues to grow in the Asia, where is dotted with numerous nuclear facilities. The risk of radioactive contamination is not only domestic but international issue, especially trans-boundary air pollution. To assess influence from the nuclear related facility, collecting aerosol sample and other environmental samples and analysis for volatile radionuclides such as I-129, H-3 and C-14 are needed. In this study, method for environmental monitoring for radionuclide will be developed.</p>	<p><u>Hirosaki University</u>                  Department of Radiochemistry and Radioecology, Institute of Radiation Emergency Medicine (Hirosaki)</p>	<p>5.5</p>	<p>1</p>	<ul style="list-style-type: none"> <li>• Bachelor's degree in science and technology</li> <li>• Engaged in radiation measurement</li> </ul>

C - 8	Nuclear Waste Managements	<p>Bentonite, of which major mineral is montmorillonite, is well-known clay material suitable for buffer-barrier in a landfill or a nuclear waste repository, due to its low-permeability, high-expandability, and high-sorption ability for heavy metals or radioisotopes. However, sorption and diffusion behaviors of contaminants in the clay have not been fully understood. In this research, mechanism of the behaviors will be studied through the experiments using radio tracers or analytical apparatus such as ICP-AES.</p>	<p><u>Hokkaido University</u>                  Laboratory of Nuclear and Environmental Materials, Graduate School of Engineering (Sapporo)</p>	5	1	<ul style="list-style-type: none"> <li>• Bachelor degree in science and technology</li> <li>• Engaged in radiochemistry and/or radiation measurement</li> </ul>
C - 9	<p>Study on interfacial transport mechanism of gas-liquid two-phase flow in a LWR (Light Water Reactor) fuel assembly</p>	<p>In this study, the flow characteristics of complex gas-liquid two-phase flow in a rod bundle geometry simulating the fuel assembly in a LWR (Light Water Reactor) will be systematically investigated by local measurements using multi-sensor probes. The obtained database of the local flow parameters will be used to elucidate the complex interfacial interaction and interfacial area concentration transport mechanism of gas-liquid two-phase flow and develop models that enable accurate prediction of gas-liquid two-phase flow characteristics in the fuel assembly.</p>	<p><u>Kyoto University</u>                  Institute for Integrated Radiation and Nuclear Sciences (Kumatori)</p>	5	2	<ul style="list-style-type: none"> <li>• Bachelor's degree in science and technology</li> </ul>

C - 10	Study on innovative nuclear reactor concept	Study on burnup performance and safety characteristics of various potential moderator materials for small modular HTGR design.	Kyushu University Department of Applied Quantum Physics and Nuclear Engineering, Graduate School of Engineering (Fukuoka)	5	1	<ul style="list-style-type: none"> <li>▪ Master's degree in nuclear engineering</li> <li>▪ Knowledge in reactor physics</li> </ul>
C - 11	Internal dose assessment using an in-vivo counter and biokinetic models	In order to understand how to evaluate internal exposure dose, measurements of phantoms and computer simulations of measurement efficiency will be conducted. In addition, the influence of biokinetics of radionuclide on the internal exposure dose with in-vivo counter will be investigated by calculating biokinetics of some artificial radionuclides in human body.	Nagasaki University Center for Radiation Research and Education (Nagasaki)	5	1	<ul style="list-style-type: none"> <li>▪ Bachelor's degree in science and technology</li> <li>▪ Engaged in radiation protection, radiation measurement or dose assessment</li> </ul>
C - 12	Development and optimization of biological dosimetry methods	Chromosome analysis is one of the most accurate dosimetry methods for estimating exposure doses, but it has several problems in terms of technique and time. This technique was established more than 50 years ago and does not match modern requirements, this study aims to update existing methods and develop new assessment methods.	Nagasaki University Department of Radiation Biology and Protection, Atomic Bomb Disease Institute (Nagasaki)	5	1	<ul style="list-style-type: none"> <li>▪ Bachelor's or Master degree in biology or life science</li> <li>▪ Engaged or applicant in biodosimetry</li> </ul>



<b>D: Nuclear Infrastructure Strengthening</b>						
D - 1	Extraction and separation studies of diverse elements	Synthesize extractants used in solvent extraction and conduct extraction experiments with various elements. We will discuss the mechanism from the extraction results and aim to improve the extraction separation performance. The elements to be treated will focus on rare earth elements and noble metals.	<u>Tokyo Institute of Technology</u> Laboratory for Zero-Carbon Energy, Institute of Innovative Research (Ookayama)	4	1	<ul style="list-style-type: none"> <li>• Bachelor's degree in science or engineering</li> <li>• Experience in chemistry-related experiments</li> </ul>
D - 2	Nuclear fuel cycle scenario simulation study	A study to quantitatively evaluate its effectiveness in introducing various technologies in the nuclear fuel cycle by NMB and JAEA. The study will be tailored to the situation in each of the participant's countries and their interests. For example, quantitative discussion and consideration of how nuclear fuels are procured and what kind and how much waste is generated when a certain type of reactor is introduced.	<u>Tokyo Institute of Technology</u> Laboratory for Zero-Carbon Energy, Institute of Innovative Research (Ookayama)	4	2	<ul style="list-style-type: none"> <li>• Bachelor's degree in science or engineering</li> </ul>

MEXT Nuclear Research Exchange Program 2024 - Basic Research Field Course

Code	Research Field	Summary of Research	Organization	Duration (Months)	Capacity (Persons)	Qualification for Application
BR-1	Research on education and human resource development contributing to fostering literacy on nuclear science and technology, with focusing on Naturally Occurring Radioactive Materials	Contributing to education and HRD that will lead to the fostering of nuclear science and technology literacy, with focusing on NORM (1) Development of education and HRD methods (2) Development of tools, modules and curricula that can be utilized in education and HRD (3) Practice of education and HRD and analysis of its effectiveness (4) Research on risk management and risk communication, etc.	The University of Tokyo Environmental Safety Management Group, Department of Environment Systems, Graduate School of Frontier Sciences (Hongo)	5	1	<ul style="list-style-type: none"> <li>Graduate or undergraduate degree in science, engineering or education.</li> <li>Experience in practice and planning of education and human resource development related to nuclear science and technology.</li> <li>The applicant should have basic knowledge of risk management, risk communication and radiation protection.</li> </ul>
BR-2	Radiation safety and radiation protection	Participants belong to the supervisors' laboratory to conduct experiments and practices. The research area of each supervisor is as follows. <ul style="list-style-type: none"> <li>Radiation Chemistry, Radiation Biology, Radiation Protection</li> <li>Radiation Physics, Radiation Measurement, Radiation Monitoring</li> <li>Radiation Biology, Radiation Protection</li> <li>Radiation Detector, Radiation Measurement</li> </ul> During this course, lectures are given to acquire overall and basic knowledge related nuclear energy. Also, an opportunity for technical visit to nuclear facilities in Fukui prefecture will be provided, if possible.	University of Fukui Research Institute of Nuclear Engineering (Tsuruga)	3	1-2	<ul style="list-style-type: none"> <li>Bachelor's degree in science and engineering</li> </ul>

<p><b>BR-3</b></p>	<p>Research of the environmental radioactivity and their measurement techniques related to radioactive materials</p>	<p>Measurement of difficult-to-analyze radionuclides that accumulate in the teeth or bones of small animals using high-performance mass spectrometry. Measurement of the transportation and distribution of radioactivity from the environment to small animals will be considered.</p>	<p><u>Fukushima University</u> Institute of Environmental Radioactivity (Fukushima)</p>	<p>3</p>	<p>1</p>	<ul style="list-style-type: none"> <li>Graduate degree in science or technology, or Bachelor's degree with the aim of pursuing Ph.D. in the future.</li> <li>Preferred : Chemistry or Environmental Chemistry</li> </ul>
<p><b>BR-4</b></p>	<p>Radioactive waste management</p>	<p>Participants belong to the supervisors' laboratory to conduct experiments and practices. The research area of each supervisor is as follows:  <ul style="list-style-type: none"> <li>Fuel Cycle, Nuclear Fuel Engineering for Fuel Cycle</li> <li>Decommissioning</li> <li>Waste Proposal, Decommissioning</li> </ul>                     During this course, lectures are given to acquire overall and basic knowledge related nuclear energy. Also, an opportunity for technical visit to nuclear facilities in Fukui prefecture will be provided, if possible.</p>	<p><u>University of Fukui</u> Research Institute of Nuclear Engineering (Tsuruga)</p>	<p>3</p>	<p>1-2</p>	<ul style="list-style-type: none"> <li>Bachelor's degree in science and engineering</li> </ul>
<p><b>BR-5</b></p>	<p>Nuclear Reactor Physics</p>	<p>Nuclear data and numerical methods are verified through nuclear reactor core analyses</p>	<p><u>Hokkaido University</u> Laboratory of Nuclear Reactor Engineering, Graduate School of Engineering (Sapporo)</p>	<p>3</p>	<p>1</p>	<ul style="list-style-type: none"> <li>Bachelor's degree in science and technology</li> </ul>
<p><b>BR-6</b></p>	<p>Nuclear engineering/Nuclear safety engineering ①</p>	<p>Participants belong to the supervisors' laboratory to conduct experiments and practices. The research area of each supervisor is as follows:  <ul style="list-style-type: none"> <li>Reactor Physics</li> <li>Nuclear Safety Engineering, Thermal hydraulics</li> </ul>                     During this course, lectures are given to acquire overall and basic knowledge related nuclear energy. Also, an opportunity for technical visit to nuclear facilities in Fukui prefecture will be provided, if possible.</p>	<p><u>University of Fukui</u> Research Institute of Nuclear Engineering (Tsuruga)</p>	<p>3</p>	<p>1-2</p>	<ul style="list-style-type: none"> <li>Bachelor's degree in science and engineering</li> </ul>

BR-7	Nuclear Engineering/ Nuclear Safety Engineering ②	Scrubbing equipment is used to reduce the release amounts of radioactive substances into the environment during nuclear power plant accidents. It is aim to understand the decontamination mechanism at scrubbing equipment using our laboratory equipment.	Hokkaido University Laboratory of Nuclear System and Safety Engineering, Graduate School of Engineering (Sapporo)	3	1-2	• Minimum requirement: Bachelor's degree in science and technology
BR-8	Nuclear Engineering/ Nuclear Thermal Hydraulics	Measurement experiments using simulated debris to determine the cooling characteristics of molten fuel debris in relation to reactor severe accidents are performed. Thereby, experience in thermal hydraulics experiments and knowledge of severe accident research will be obtained.	Kyoto University Institute for Integrated Radiation and Nuclear Sciences (Kumatori)	3	1-2	• Bachelor's or Master's degree in science and technology
BR-9	Fuels and materials engineering	Participants belong to the supervisors' laboratory to conduct experiments and practices. The research area of each supervisor is as follows. •Nuclear Fuel, Analysis & Property of Nuclear Fuel •Cladding Material, Nuclear Materials, Irradiation Effects of Reactor Materials During this course, lectures are given to acquire overall and basic knowledge related nuclear energy. Also, an opportunity for technical visit to nuclear facilities in Fukui prefecture will be provided, if possible.	University of Fukui Research Institute of Nuclear Engineering (Tsuruga)	3	1-2	• Bachelor's degree in science and engineering
BR-10	Applied seismology & nuclear disaster prevention	Participants belong to the supervisor's laboratory to conduct experiments and practices. The research area of the supervisor is as follows: •Earthquake & Tsunami During this course, lectures are given to acquire overall and basic knowledge related nuclear energy. Also, an opportunity for technical visit to nuclear facilities in Fukui prefecture will be provided, if possible.	University of Fukui Research Institute of Nuclear Engineering (Tsuruga)	3	1-2	• Bachelor's degree in science and engineering

## Additional note for researchers who stay for more than three months

### IF YOUR APPLICATION IS SUCCEEDED,

Japan side applies for a Certificate of Eligibility on your behalf to simplify the issuance of visas for the researchers who stay for more than three months.

The followings are the documents to be submitted with Certificate of Eligibility application.

You may submit the following information and send Z1, Z2 and Z3 by DHL collect air mail (\*) to NSRA as soon as possible.

- Z1) A diploma, a personal history, certificate of employment, and other documents certifying the career of the person concerned.
- Z2) Two photos (bust-up, no hat, no background, size: H40mm W30mm)  
It must be an original photo, digital data is not effective.
- Z3) A photocopy of your passport (a page of your photo and passport number)  
Your passport number and the expiry date are also required to be written clearly on the photocopy paper.
- Z4) Place of Birth (In Chinese characters too, for Chinese applicants)
- Z5) Place to apply for visa (In Chinese characters too, for Chinese applicants)
- Z6) Past entry into/stay in Japan  
Yes \_\_\_ Time(s), (The latest entry \_\_\_ Year \_\_\_ Month \_\_\_ Day to \_\_\_ Year \_\_\_ Month \_\_\_ Day)  
/No
- Z7) Criminal record in Japan or overseas  
Yes (Details: \_\_\_\_\_) / No
- Z8) Family in Japan (Father, Mother, Spouse, Son, Daughter, Brother, Sister or others) or co-residents, if you have  
(Relationship, Name, Date of Birth, Nationality, Place of employment/school, Status of residence)

### The Addressee:

NSRA's DHL account number will be informed to the successful applicants (\*)

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(\*) The account number is required at DHL office for the collect air mail (the fee is paid by MEXT).

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