



Phoenix Leader Education Program[®] (Hiroshima Initiative) for Renaissance from Radiation Disaster

The development of internationally minded personnel capable of managing the recovery of the people, society, and environment of areas affected by radiological disasters

Contact

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HIROSHIMA UNIVERSITY

Ministry of Education, Culture, Sports, Science & Technology (MEXT) "Program for Leading Graduate Schools"

– Cross Sectional Theme –



Establishing a Global Standard at Hiroshima University

Interview with the President

President of Hiroshima University
Dr. Mitsuo Ochi

Department of Orthopaedic Surgery, Integrated Health Sciences
Institute of Biomedical & Health Sciences, Hiroshima University
M.D., Ph.D

Developing world-class diploma programs

Q1: Firstly, please tell us the background behind the establishment of the program and the characteristics of Hiroshima University.

President Ochi: Hiroshima University has achieved significant development as one of the most distinguished research universities in Japan under the founding principle of “a single unified university, free and pursuing peace.” This achievement and success has led the university to be selected as the Chugoku/Shikoku region’s only Type A (Top Type) university in the Japanese government’s fiscal 2014 Super Global Universities program. Hiroshima University aims to become one of the global top 100 universities within the next 10 years by promoting university reforms centering on the twin pillars of educational and research capabilities. Hiroshima University’s Phoenix Leader Education Program (Hiroshima Initiative) for Renaissance from Radiation Disaster and TAOYAKA Program for creating a flexible, enduring, peaceful society have also been selected to be funded under the Ministry of Education, Culture, Sports, Science and Technology (MEXT) Program for Leading Graduate Schools aimed at supporting the fundamental innovation of graduate education and development of the world’s top-class diploma programs. Through the two selected programs, Hiroshima University is currently making an all-out effort to foster global leaders capable of challenging various issues facing modern society amid rapid scientific and technological advances.

Building a better future based on Hiroshima’s experience

Q2: What is the purpose and significance of the Phoenix Leader Education Program?

President Ochi: Hiroshima suffered atomic devastation of an unimaginable scale. Hiroshima University supported the reconstruction of Hiroshima, and this experience has made it possible for the university to provide this kind of leader education program. Hiroshima University has built up a huge volume of knowledge about atomic bombing. Such knowledge includes medical records of treatment of atomic bomb patients, data on “black rain,” radiation levels measured at various locations from near ground zero to the suburbs of the city, research on behavioral and mental health conditions of people affected by the atomic bomb, accounts of survivors such as “Genbaku no Ko” (Children of Hiroshima)—a compilation of such accounts—and many other rare materials that can be found only in Hiroshima. By fully utilizing these intellectual heritages, new leaders must understand benefits and risks of radiation correctly and challenge the diverse risks that radiation poses to modern society, such as medical exposure, nuclear power accident, and nuclear terrorism, properly to create a peaceful society. Such leaders are indispensable for our future society.

Pioneering in the establishment of a new academic field called “Radiation Disaster Recovery Studies”

Q3: What kind of leadership are leaders expected to develop through the program? What roles are they expected to play?

President Ochi: Should a disaster occur, we need experts in medicine, physics, environmental studies, psychology, and other academic fields. However, because a radiation disaster is a complex disaster, true recovery cannot be accomplished by a leader specializing in only one field alone. To fill this cross-disciplinary gap, Hiroshima University has established “Radiation Disaster Recovery Studies” for the first time in the world as part of the Phoenix Leader Education Program. With this multidisciplinary approach, the program aims to develop “Phoenix Leaders” who will lead recovery from a radiation disaster anywhere in the world by leveraging their in-depth expertise, a broad range of knowledge covering multiple disciplines, and management skills to build consensus. The program is very expansive and therefore requires hard work, but it is worthwhile. We are waiting for enthusiastic applicants who are willing to explore what they can do to improve the world.

Interview with Program Supervisors



Program Director

Kenji Kamiya

Vice President (Reconstruction Support/Radiation Medicine), Hiroshima University
Professor, Research Institute for Radiation Biology and Medicine
Vice President, Fukushima Medical University
M.D., Ph.D



Program Coordinator

Masao Kobayashi

Professor, Department of Pediatrics, Integrated Health Sciences
Institute of Biomedical & Health Sciences, Hiroshima University
Deputy Director, Hiroshima University Hospital
M.D., Ph.D

Developing Human Resources Who Can Lead the World in Recovery from Radiation Disasters

Radiation Disaster Recovery Studies is a treasury of hope

Q: What are the features and characteristics of the Phoenix Leader Education Program?

Kamiya: The Phoenix Leader Education Program, launched in October 2012, has been praised by members of the external evaluation committee as “a treasury of hope.” What also delights me are eager-to-learn, shining students in the program who are devoted to studying with high aspirations. These students are really encouraging for us.

Kobayashi: The program includes internships, fieldworks, and various inspiring opportunities for doctoral dissertation research such as a visit in the Republic of Belarus where serious damage was caused by the Chernobyl disaster. As you can see from this, we place emphasis on the development of practical skills useful in actual worksites and disaster scenes. For Radiation Disaster Recovery Studies, which all students of all majors are required to take when they almost finish their specialized subjects, students have to write a report on a subject chosen by themselves by

applying their academic insight and all the knowledge and skills they have learnt in the program. The report is the crystallization of their studies in the doctoral course and regarded as one of the unique characteristics of the program. I’m certain that when they have completed the program, they can work as full-fledged specialists with confidence.

Practical and concrete education will give shape to students’ future

Q: Will the program help set students on career path?

Kamiya: Our goal is to realize ideal education that will help students who study proactively achieve their career goals after completion of the program and fully demonstrate their capabilities in their respective career paths.

Kobayashi: The program is practical and closely connected with actual work needs, providing, among others, career path seminars in collaboration with industry and international organizations; fieldworks that support research of each student; training at the Oak Ridge Institute for Science and Education in the

United States to gain knowledge and techniques concerning radiation disaster medicine, decontamination, and environmental radiation measurement; and internship at the International Atomic Energy Agency (IAEA). We have an environment that helps students to become ready to work on site, develop international-mindedness, and gain skills to view the situation from a broader perspective through abundant practical education in and outside Japan.

Kamiya: We’d like students to enhance their value by leveraging their strengths acquired through this program. It is time for them to fully demonstrate their challenging spirit—a spirit long embraced by Hiroshima University—and bring it to fruition in concrete form. We hope that the program will produce many talents who will play the pivotal role in recovery from radiation disasters and work effectively for people in affected areas not only in Japan but anywhere in the world.




Phoenix Leader Education Program® (Hiroshima Initiative) for Renaissance from Radiation Disaster

Purpose

Building on our accomplishments and experience in the field of radiation disaster recovery at Hiroshima University, the “Phoenix Leader Education Program for Renaissance from Radiation Disaster” aims to develop global leaders who have the cross disciplinary knowledge, judgment, and behavioral abilities necessary to take effective action in a radiological disaster and then lead the recovery with a clear philosophy and innovative knowledge drawn from across disciplines.

Courses

Students deepen their specialization by choosing either "Radiation Disaster Medicine Course", "Radioactivity Environment Protection Course", or "Radioactivity Social Recovery Course". Interdisciplinary skills are acquired through cross-discipline, common core subjects.

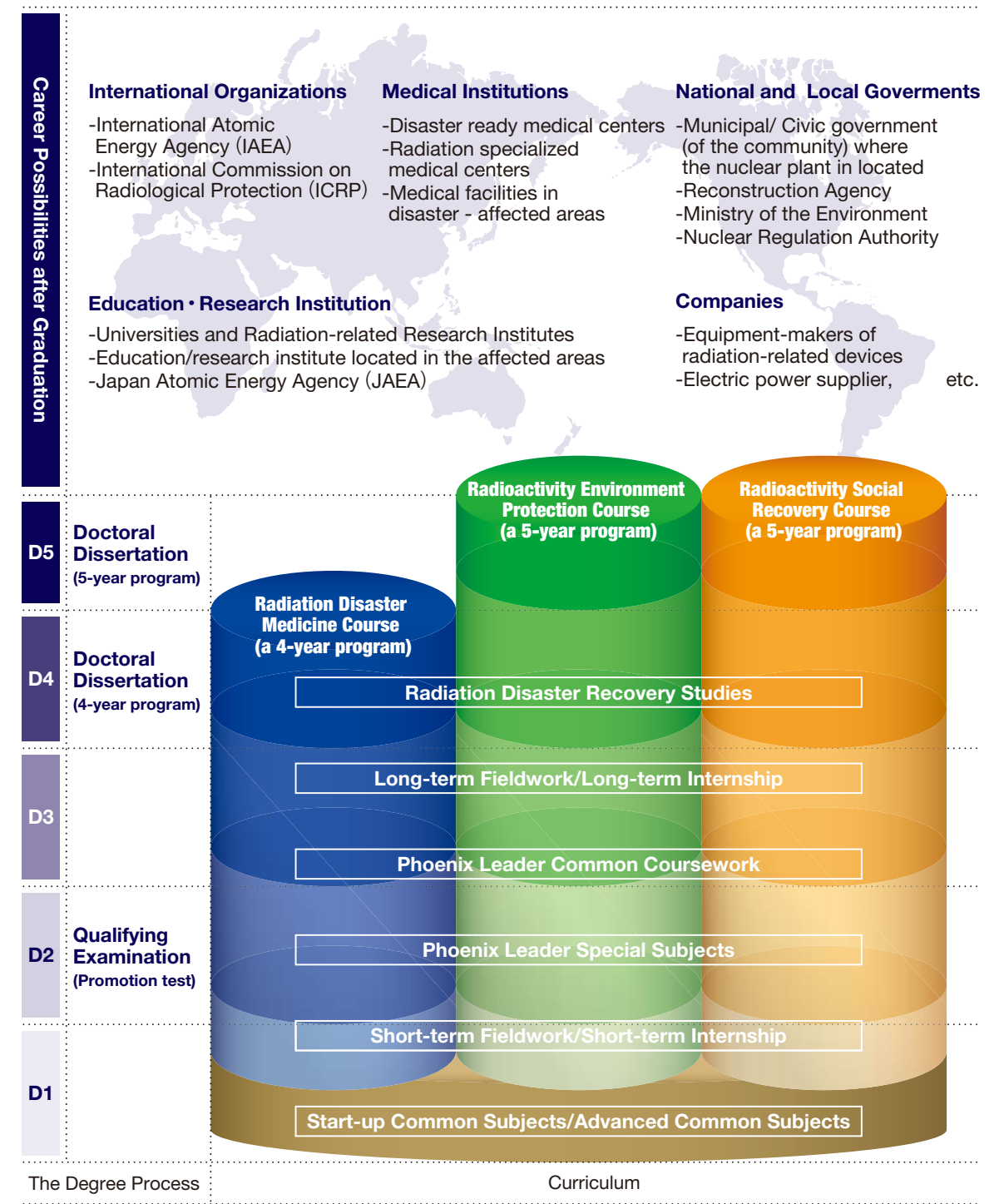
Radiation Disaster Medicine Course (a 4-year program)	Radioactivity Environment Protection Course (a 5-year program)	Radioactivity Social Recovery Course (a 5-year program)
Personnel for protecting lives from radiation disaster	Personnel for protecting the environment from radioactivity	Personnel trained to protect society from radioactivity
Capacity for acquiring skills	Capacity for acquiring skills	Capacity for acquiring skills
<ul style="list-style-type: none"> ■ Skills for the proper diagnosis and treatment of pathological conditions due to radiation ■ Skills to evaluate the mechanisms and risks of carcinogenesis and genetic damage due to radioactivity ■ Ability to assess the psychological effects of stress on the local population due to the contamination from radiation, and the skills to provide proper support for people with mental health issues. 	<ul style="list-style-type: none"> ■ Proper understanding of the analysis of a nuclear fission reaction and the chemical properties of the products of nuclear fission ■ Proper understanding of how to carry out measurements, evaluation, and analysis of both environmental and food contamination ■ Understanding how to properly decontaminate, and either dispose of or preserve radioactive waste 	<ul style="list-style-type: none"> ■ Skills for alleviating social anxiety caused by radiation disasters as well as subsequent harmful rumors and misinformation ■ Skills for supporting the regeneration of affected communities ■ Skills to develop systems for supporting child-rearing under the stress of radiation contamination
		
Training to carry out internal exposure screening	Training to measure levels of radioactivity in the environment	Conducting interviews at the temporary housing in affected areas

Curriculum Outline

In this program, students will develop the following skills

- (1) **“Global Skills”** - capability to tackle recovery with a global perspective
- (2) **“Interdisciplinary Skills”** - comprehensive cross-disciplinary knowledge
- (3) **“Management Skills”** - ability to build consensus by understanding the effects of radiation and clearly convey this information to the public

The program also strives to foster students’ practical abilities via participation in both domestic and overseas internships, domestic fieldwork opportunities, the core common coursework, and practical English training.



Students Enrolled in the Program

Voice

Radiation Disaster Medicine Course



★ **Ho Mihn Van**

Improving One's Skills to Become a Global Citizen

Global education involves mutually beneficial learning that allows people to develop a new and more nuanced understanding of challenging issues facing the world, and the endless opportunities the world offers. Global education also includes recognizing the importance of multiple perspectives and multiple domains of knowledge that lead to a broad understanding of the world around us, as well as a well-informed foundation for making decisions. In our day and age a global life represents the necessary coordination of people all over the world. The Phoenix Leader Education Program fulfills a personal goal of gaining knowledge drawn from across the world. Furthermore, the program's global education develops the skills and personal attitudes that empower graduates to take action in their respective areas of expertise. It motivates graduates to not only take responsibility for their own lives, but more importantly for the world in which they live, and ultimately become inspiring leaders and active global citizens.

Busy yet Worthwhile Life with Research and Cross-disciplinary Study

Before I joined this program, I was researching the impact of deforestation of rainforests in Malaysia on terrestrial carbon cycle. While I was doing so, I became interested in how researchers should work with society. It may appear that deforestation of rainforests which I was studying before is totally different from recovery from nuclear disasters which I'm studying now. But these two themes are common in that they are both social issues that cannot be solved by science alone, and from this viewpoint, I don't think they are so different. The program provides students with many learning opportunities and I'm living a busy yet worthwhile life. I want to continue working hard every day by making the most of those opportunities.

Radioactivity Environmental Protection Course



● **Momo Takada**

Radioactivity Social Recovery Course



🇺🇸 **Kabir Russell Sarwar**

Focusing on Mothers and Children among Evacuees from a Radiation Disaster

Social recovery from a disaster involves passing on the local culture to the next generation, and it is only children that can take this role. For this reason, I have decided to focus on children and mothers evacuating from the Fukushima accident area. I'm working to clarify stress and other conditions of the children and mothers by analyzing their tweets, blog comments, and other sources based on my knowledge and techniques of psychology and linguistics. I'm sure that these accumulated analysis data will be instrumental in developing a policy for the care of radiation disaster victims.

Our target students

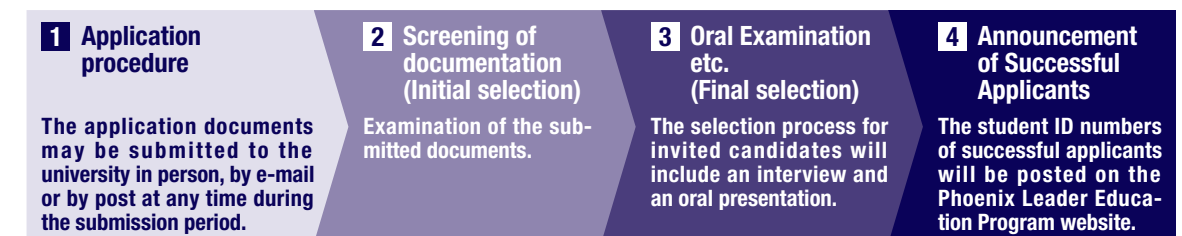
Targeted personality traits

- (1) People who are interested in gaining interdisciplinary knowledge, learning about specialized technology, and contributing to social development
- (2) People who understand the loss of the affected peoples and who hopes to contribute to the disaster reconstruction.
- (3) People who want to be leaders and strive to lead by example as well as play an active role in both the local and international community.
- (4) People with strong character and willpower who is ambitious, has a clear sense of duty, and excels regardless of the level of responsibility given them.

Student Recruitment

Radiation Disaster Medicine Course (a 4-year program)	Limited enrollment for each course
Radioactivity Environment Protection Course (a 5-year program)	
Radioactivity Social Recovery Course (a 5-year program)	

Selection Process



Please see the application guidebook and the website for further details.

URL : <http://www.hiroshima-u.ac.jp/lp/program/ra/admission/>



Student Support

Financial support

The following support will be provided based on university regulations. Please note that the amount of financial support may change.

- Basic Grant (from 180,000 yen to 200,000 yen / month: estimated)
- Research Grant (Maximum 500,000 yen per six months)
- Support for necessary study expenses

Career Path support

As various companies and research institutions are involved in program seminars, internships and fieldwork opportunities, students are able to gain valuable experience interacting with both Japanese and foreign firms as well as a wide range of research institutions. This interaction provides students with insight into many possible career paths and greater job opportunities.