# **Research Institutes** 附置研究所

Kyoto University has a number of research institutes dedicated to specialized academic fields, spanning the full spectrum of research from the social to the natural sciences. The results produced by the institutes are a tangible demonstration of Kyoto University's commitment to fostering an environment conductive to quality research.

It is also our priority to encourage international and domestic industry-government-academia collaborative research activities, along with the strategic exploration of international patents and practical application technologies, with the ultimate aim of contributing to the wellbeing of global society.

#### 化学研究所

#### **INSTITUTE FOR CHEMICAL RESEARCH**

The Institute for Chemical Research was established in 1926 in order to investigate the fundamental principles of chemistry and develop their applications. It was Kyoto University's first research institute, and has maintained its original spirit of "freedom of research" since its launch. The institute currently consists of five research divisions and three centers, comprising 31 laboratories in total. Each laboratory also functions as a cooperative lab with one of the following seven graduate schools: science (14 labs), engineering (9), pharmaceutical science (3), agriculture (2), medicine (1), informatics (1) and human and environmental studies (1). The institute pursues extensive domestic and overseas collaborations (48 international cooperation agreements are currently tied). As of 2010 the institute functions as a ministry of education designated Joint Usage/ Research Center, serving the global community as a center for research in chemistry-oriented fields.

www.kuicr.kyoto-u.ac.jp

#### 人文科学研究所 INSTITUTE FOR RESEARCH IN HUMANITIES

The Institute for Research in Humanities conducts comprehensive studies of diverse cultures and societies around the globe. It was established in 1949 through the amalgamation of the former Institute of Humanistic Studies (est. 1929), the Institute of Oriental Studies (1938) and the Institute of Occidental Studies (1946). The institute currently comprises five research divisions and three research centers: the Center for Informatics in East Asian Studies, the International Center for Humanities Studies, and the Research Center for Modern and Contemporary China. In 2010 the institute was selected as a ministry of education designated Joint Usage/Research Center, an initiative which provides support for collaborative research projects with researchers from other institutions around the world. The institute holds collaborative classes with the four divisions of the Graduate School of Letters.

www.zinbun.kyoto-u.ac.jp/e/

#### 再生医学科学研究所 INSTITUTE FOR FRONTIER MEDICAL SCIENCES

The Institute for Frontier Medical Sciences aims to undertake basic and clinical research in regenerative medicine. The research activities of the institute encompass studies on the basic biology of stem cells (including embryonic stem [ES] and tissue-specific stem cells), the biology of tissue regeneration, transplantation immunology, tissue engineering, and the clinical application of basic findings from those studies. Through its comprehensive academic programs, the institute endeavors to nurture the next generation of regenerative medicine scientists. It also performs the important function of delivering information about regenerative medicine to the general public. In 2008, the institute was designated as a national center for collaborative research in regenerative medicine by the Japanese government.

www.frontier.kyoto-u.ac.jp/eng

#### エネルギー理工学研究所

#### **INSTITUTE OF ADVANCED ENERGY**

The Institute of Advanced Energy conducts research and development in the field of energy science and technology, with a particular focus on zero-emission energies. Its principal aims include the exploration of innovative energy sources and the development of systems for the efficient utilization of energy sources.

The institute consists of three divisions and one research center. The Advanced Energy Generation Division aims to develop fundamental energy systems, and works on the practical implementation of new energy sources; the



Advanced Energy Conversion Division studies efficient energy conversion and energy materials; the Advanced Energy Utilization Division examines chemical processing and the application of nano- and bio-materials; and the Laboratory for Complex Energy Processes promotes cooperative research within the energy science community. The institute's faculty also serve as teaching staff in the Graduate School of Energy Science.

www.iae.kyoto-u.ac.jp/english/e\_index/e\_index.html

#### 生存圈研究所

#### RESEARCH INSTITUTE FOR SUSTAINABLE HUMANOSPHERE (RISH)

The Research Institute for Sustainable Humanosphere (RISH) was established in 2004. Defining the regions vital to human existence as the humanosphere, the institute aims to promote academic study in a new field of science. The institute pursues four missions to solve present and future humanospheric problems: (1) Humanosphere Assessment and Remediation, (2) Refinement of Solar Energy through Bio-mass and Solar Power Satellite Research, (3) Exploration of the Space Environment and its Utilization and (4) Development of Technology and Materials for the Cyclical Utilization of Bio-based Resources.

The RISH also holds cooperative lectures with the graduate schools of engineering, agriculture, informatics, and science with the aim of fostering researchers with a broad insight and a wide range of experiences. Such researchers will be vital for the world in the 21<sup>st</sup> century.

www.rish.kyoto-u.ac.jp/English

#### 防災研究所

#### DISASTER PREVENTION RESEARCH INSTITUTE (DPRI)

In 1951, the Disaster Prevention Research Institute (DPRI) was established to uncover the mechanisms of natural hazards and search for ways to mitigate disasters. Current interests include the containment of natural hazards, the establishment of integrated methodologies for disaster management based on the natural and social sciences, and the education of students in related fields. The DPRI is engaged in basic research on disaster-related themes from the local to global scale. The institute also undertakes research in the fields of natural science, engineering, and

social science, and forms interdisciplinary groups to implement practical projects which respond to the needs of society. With a 6o-year heritage of scientific achievements and accumulated knowledge, the institute is dedicated to its leading role in the ever more important research for natural disaster reduction both in Japan and worldwide.

www.dpri.kyoto-u.ac.jp/web\_e/index\_topics.html

基礎物理学研究所

#### YUKAWA INSTITUTE FOR THEORETICAL PHYSICS (YITP)

Founded in 1953, and named after Hideki Yukawa, recipient of the 1949 Nobel Prize in Physics, the YITP is a national center for pioneering research in the field of theoretical physics. Research interests span a wide range of fields, including particle physics, field theory, nuclear physics, astrophysics, cosmology, statistical physics, condensed matter physics, and biophysics. A strong emphasis is also placed on cutting-edge interdisciplinary research. The institute offers one joint course in the Graduate School of Science. The YITP's standing as a world-class center for theoretical physics was recently reaffirmed when former director Toshihide Maskawa was awarded the 2008 Nobel Prize in Physics.

www.yukawa.kyoto-u.ac.jp/english/index.php

#### ウイルス研究所

#### **INSTITUTE FOR VIRUS RESEARCH**

The Institute for Virus Research was founded to pursue basic and applied virology with both biological and medical interests in mind. Our research efforts aim to achieve a thorough elucidation of viral-host interactions at the molecular, cellular, individual, and ecological levels. To this end, we conduct basic biomedical studies, including studies on human retroviruses and related diseases, molecular and cell biology, immunology, developmental biology, neurobiology and evolution. Each of our laboratories is affiliated with one of the following Kyoto University graduate schools; the Graduate School of Medicine (10 labs), Science (3), Human and Environmental Studies (1), and Biostudies (2).



#### 経済研究所 KYOTO INSTITUTE OF ECONOMIC RESEARCH (KIER)

Since its foundation in 1962, the Institute for Economic Research has established itself as the only Japanese social science research institute focusing on economic theory. The research undertaken at the institute is acclaimed both internationally and domestically, and encompasses the fields of complex economics, economic strategy and systems, game theory, spatial economics, and econometrics.

In 2010 the institute was designated by the Japanese ministry of education as a Joint Usage / Research Center with a special emphasis on complex dynamics and economic strategies. The institute is dedicated to serving the international research community as a leading research hub for theoretical economics, and is also committed to providing high quality education and research opportunities for doctoral students and post-doctoral researchers.

www.kier.kyoto-u.ac.jp/eng

#### 数理解析研究所 RESEARCH INSTITUTE FOR MATHEMATICAL SCIENCES (RIMS)

Research Institute for Mathematical Sciences (RIMS) comprises approximately 40 faculty members and 20 post-doctoral fellows working in various fields, including pure mathematics, applied mathematics, mathematical physics, and computer science. It also functions as a Joint Usage/Research Center, expanding the frontiers of the mathematical sciences by providing facilities to mathematicians around the world and organizing international research projects. The institute hosts approximately 80 conferences and workshops every year, mostly of an international nature. The proceedings of those academic meetings are published in the journals RIMS Kôkyûroku (ISSN 1880-2818) and RIMS Kôkyûroku Bessatsu (ISSN 1881-6193). RIMS also contributes to graduate-level education through four courses offered at the Graduate School of Science. The international acclaim for the achievements of RIMS has been acknowledged through two Fields Medals, a Gauss Medal, and two Wolf Prizes awarded to RIMS faculty members.

www.kurims.kyoto-u.ac.jp

### 原子炉実験所

#### **RESEARCH REACTOR INSTITUTE (KURRI)**

The Research Reactor Institute was established as a nationwide joint research center open to public research institutes. The main installation is a light-water-moderated tank-type nuclear research reactor, and the institute is also equipped with an electron linear accelerator, a 60Co gamma-ray irradiation facility, and a critical assembly reactor.

There are three research departments and two affiliated centers on the premises, which undertake research in the fields of nuclear science and engineering, material science, radiation life science and radiation medical science. Our numerous experimental facilities are utilized by a wide spectrum of academic and public research institutions, with many students and scientists visiting the institute on a daily basis.

The research laboratories offer research courses at the Kyoto University Graduate Schools of Science, Engineering, Energy Science, Medicine, and Agriculture.

> Asashiro-nishi, Kumatori-cho, Sennan-gun, Osaka 590-0494 www.rri.kyoto-u.ac.jp/en

#### 霊長類研究所

#### **PRIMATE RESEARCH INSTITUTE (PRI)**

Japan is an ideal country for primate studies as it is the only industrialized country that is home to an indigenous nonhuman species. The Primate Research Institute (PRI) conducts studies with various species of primate – including humans – with the aim of elucidating the origin and evolution of human nature. We work with living subjects and fossil specimens, and take a multi-disciplinary approach which incorporates fields such as ecology, sociology, behavior, cognition, brain sciences, physiology, genetics, genomics, biomedicine, morphology and paleontology. The institute also provides graduate level classroom instruction in the biological sciences.

Students enrolled at the PRI are encouraged to take advantage of financial assistance from the ITP-HOPE and AS-HOPE projects to gain laboratory and fieldwork training overseas. An all-English diploma course for international students is also offered.

> Kanrin, Inuyama, Aichi 484-8506, JAPAN www.pri.kyoto-u.ac.jp

#### 東南アジア研究所

## **CENTER FOR SOUTHEAST ASIAN STUDIES** (CSEAS)

The strength of the Center for Southeast Asian Studies (CSEAS) lies in its multi-disciplinary orientation, with the inclusion of the natural sciences, humanities and social sciences. Since its establishment in 1963, the center has investigated the contemporary and historical dimensions of problems confronting present-day Southeast Asia.

While Southeast Asia remains at the center of our attention, research activities are extended to adjoining regions, with studies conducted in Bangladesh, India, China and Korea to enrich comparative perspectives.

Designated as a Joint Usage / Research Center by the Japanese government in April 2010, the CSEAS strives to integrate a broad range of disciplines with solid empirical field research to play a central role in the field of Southeast Asian area studies.

www.cseas.kyoto-u.ac.jp/index en.html

#### iPS細胞研究所

### **CENTER FOR iPS CELL RESEARCH AND APPLICATION (CIRA)**

The Center for iPS Cell Research and Application (CiRA) was established to develop iPS cell-based technologies for the benefit of patients afflicted with intractable diseases, and to function as a world-leading iPS cell research institute. Under the direction of Prof. Shinya Yamanaka, a pioneer in the study of iPS cells, approximately 19 research groups work to achieve those goals. Laboratories are organized in four departments focusing on reprogramming, cell growth and differentiation, clinical applications, and regulatory science. Our research building is equipped with core facilities for animal research and cell processing, and enables seamless movement from basic labs to preclinical and clinical teams. Over the next decade, CiRA will work on establishing basic iPS cell technologies, acquiring patents, building an iPS cell bank, conducting preclinical and clinical research, and supporting drug screening and development.

www.cira.kyoto-u.ac.jp/e

