The Dynamics of Charting Unexplored Intellectual Domains

It is becoming increasingly unfeasible to address the problems facing contemporary society through research in any single discipline. Universities are now expected to produce interdisciplinary research that crosses conventional boundaries of academic discipline and college organization. Kyoto University is working to create mechanisms that induce and accelerate these interdisciplinary processes. Promotion of Interdisciplinary Education and Research (C-PIER) plays a key role in those efforts.

Center for the Promotion of Interdisciplinary Education and Research

An innovation engine to accelerate cross-organizational integration.

The decentralized structure of comprehensive universities in Japan limits their capacity to develop projects crossing divisional boundaries and encompassing the entire university organization. In the current social climate, however, there is more demand for cross-sectional initiatives. The Center for the Promotion of Interdisciplinary Education and Research (C-PIER) was established in order to accelerate such initiatives. Rather than waiting for interdisciplinary integration to develop spontaneously, the Center takes a strategic approach to facilitating integration. It is a pioneering presence in Japan's university community.

Specifically, the Center is engaged in the following activities.

1. Creating “encounters” that bring together researchers from a variety of disciplinary fields
   - Hosting cross-disciplinary forums and industry engagement initiatives
   - Researching the current status of interdisciplinary activity on campus (questionnaire surveys and dissemination of results)

2. Generating “flexible connections” among researchers from different fields
   - Proposing research grant applications involving interdisciplinary teams of investigators
   - Planning and supporting the organization of self-directed seminars and research forums
Interdisciplinary Initiatives

- Hosting a research idea contest for interdisciplinary research teams within the university (see the next section)
- Operating a bulletin board-style website to connect researchers within the university

3. Forming interdisciplinary organizations known as “Units” (see the section after next)

- Units are official organs of the university and can grant course credit to students

Communicating Innovative Ideas in a Single Page

Kyoto University Interdisciplinary Research Idea Contest.

The Kyoto University Interdisciplinary Research Idea Contest brought together researchers working in different disciplines to form teams and present a concept map illustrating their proposal on a single A3 page. A judging panel was organized with members beyond the university including entrepreneurship, government, and creative industries, in addition to the University President and Executive Vice-President. Ten teams which passed the initial documentary screening gave presentations on September 30, and the following prizes were awarded.

**Prize for excellence**
Development of food constituent modification techniques including allergen breakdown using physical stimuli (Dr. Kaori Shiojiri, Assistant Professor of Graduate School of Agriculture)

Development of techniques for transmission of olfactory information: Toward greater sensibility in information transmission (Dr. Katsura Koishi, Assistant Professor of The Hakubi Center for Advanced Research)

**Honorable mention**
African-style jika-tabi developed through community collaboration (Dr. Toshikazu Tanaka, 3rd year doctoral student of The Center for African Area Studies)

*Jika-tabi is a traditional style of Japanese footwear suited to outdoor manual labor.*

In the lead-up to the contest, the Center for the Promotion of Interdisciplinary Education and Research hosted a networking event for researchers of different disciplinary backgrounds.

Dinner Party to Promote Multidisciplinary Research

The Center for the Promotion of Interdisciplinary Education and Research (C-PIER) holds a buffet-style dinner party on the last Tuesday of every month. The event provides an opportunity for Kyoto University’s researchers to gather and get to know each other regardless of their research fields or affiliations. Each dinner party sets a theme for free discussion, with the aim of exploring new research opportunities and promoting personal networking.

Not only researchers, but also administrative staff members, students, as well as persons from outside the university are welcome to the party—please come along!
Formation of Interdisciplinary “Units”

Developing groups to address the social issues and academic challenges of the present day.

The term “Unit” refers to a group of researchers gathered on a limited-term basis to work together on a common issue. There are currently 26 Units operating under C-PIER.

Advanced Biomedical Engineering Research Unit
Unit Head: Dr. Yasuo Mori  Professor, Graduate school of engineering
WEB: www.abe.kyoto-u.ac.jp/en/

Career-Path Promotion Unit for Young Life Scientists
Unit Head: Dr. Shigekazu Nagata  Professor, Graduate school of Medicine
WEB: www.cp.kyoto-u.ac.jp/index_en.html

Educational Unit for Adaptation to Extreme Weather Conditions and a Resilient Society
Unit Head: Dr. Hirohiko Ishikawa  Professor, Disaster Prevention Research Institute
WEB: 133.3.251.107/index.php?id=3

International Research Unit of Integrated Complex System Science
Unit Head: Dr. Kazuo Mino  Professor, Institute of Economic Research
WEB: www.kier.kyoto-u.ac.jp/ICSS/english/eindex.htm

Unit of Computational Science
Unit Head: Dr. Satoru Ushijima  Professor, Academic Center for Computing and Media Studies
WEB: www.cs.kyoto-u.ac.jp/

Green Innovation Management Education Unit
Unit Head: Prof. Hiroyuki Matsui  Professor, Faculty of Economics
WEB: www.cpier.kyoto-u.ac.jp/about/unit06/ (Japanese Only)

Nanotechnology Hub
Unit Head: Dr. Kazuyuki Hirao  Professor, Graduate School of Engineering
WEB: www.mnhub.cpier.kyoto-u.ac.jp (Japanese Only)

Japan-Egypt Cooperative Education and Research Unit
Unit Head: Dr. Osamu Tabata  Professor, Graduate School of Engineering
WEB: www.cpier.kyoto-u.ac.jp/about/unit08/

Unit for Advanced Studies of the Human Mind
Unit Head: Dr. Kazuo Fujita  Professor, Graduate School of Letters
WEB: www.kokoro-kyoto.org/index.html

Education and Research Unit for Regional Alliances
Unit Head: Dr. Shigeru Takami  Professor, Graduate School of Education
WEB: www.cpier.kyoto-u.ac.jp/about/unit10/ (Japanese Only)

Research Unit for Physiological Chemistry
Unit Head: Dr. Kazuhiro Irie  Professor, Graduate School of Agriculture

Pioneering Research Unit for Next Generation
Unit Head: Dr. Masato Shiotani  Professor, Research Institute for Sustainable Humanosphere
WEB: kupru.iae.kyoto-u.ac.jp/en.html

Institute of Sustainability Science
Unit Head: Dr. Hiroshi Watanabe  Professor, Institute for Chemical Research
WEB: iss.iae.kyoto-u.ac.jp/iss/jp/
Resilience Research Unit  
**Unit Head:** Dr. Satoshi Fujii  Professor, Graduate School of Engineering  
**WEB:** trans.kuciv.kyoto-u.ac.jp/resilience/

Science for Public Policy Unit  
**Unit Head:** Dr. Koji Kawakami  Professor, Graduate School of Medicine  
**WEB:** stips.jp/

Inter-Graduate School Unit for Sustainability and Survivable Societies  
**Unit Head:** Dr. Kaoru Takara  Professor, Disaster Prevention Research Institute  
**WEB:** gss-sv01.gss.sals.kyoto-u.ac.jp/ja.html

Education Unit for Studies on the Connectivity of Hills, Humans and Oceans  
**Unit Head:** Dr. Yoh Yamashita  Professor, Field Science Education and Research Center  
**WEB:** fserec.kyoto-u.ac.jp/cohho/en/index.html

Elements Strategy Initiative for Catalysts and Batteries  
**Unit Head:** Dr. Tsunehiro Tanaka  Professor, Graduate School of Engineering  
**WEB:** www.esich.kyoto-u.ac.jp/ (Japanese Only)

Elements Strategy Initiative for Structural Materials  
**Unit Head:** Dr. Isao Tanaka  Professor, Graduate School of Engineering  
**WEB:** esism.kyoto-u.ac.jp/en/index.html

Research and Educational Unit of Leaders for Integrated Medical System (LIMS)  
**Unit Head:** Dr. Hidenao Fukuyama  Professor, Graduate School of Medicine  
**WEB:** www.lims.kyoto-u.ac.jp/?lang=en

Unit of Design  
**Unit Head:** Prof. Toru Ishida  Professor, Graduate School of Informatics  
**WEB:** www.design.kyoto-u.ac.jp

Asian Studies Unit  
**Unit Head:** Prof. Emiko Ochiai  Professor, Graduate School of Letters  
**WEB:** www.kuasu.cpier.kyoto-u.ac.jp/english/

Human Security Development Educational Unit  
**Unit Head:** Dr. Eiji Nawata  Professor, Graduate School of Agriculture  
**WEB:** www.hsd.cpier.kyoto-u.ac.jp/ja/index.html

Advanced Information Education Unit  
**Unit Head:** Dr. Katsumi Tanaka  Professor, Graduate School of Informatics  
**WEB:** www.dl.kuis.kyoto-u.ac.jp/~tanaka/ (about Prof. Tanaka)

Unit of Synergetic Studies for Space  
**Unit Head:** Dr. Tohru Tanimori  Professor, Graduate School of Physics  
**WEB:** www.usss.kyoto-u.ac.jp/e/index-e.html

Integrated Area Studies Unit  
**Unit Head:** Dr. Shigeki Kaji  Professor, Graduate School of Asian and African Area Studies  
**WEB:** kyouindb.iimc.kyoto-u.ac.jp/e/a18by (about Prof. Kaji)