



## PROGRAM OVERVIEW

Kyoto University Collaborative Graduate Program in Design



The Kyoto University Design School—Our goal is to cultivate human resources who combine creativity based on Kyoto University’s long tradition of specialization (the vertical axis) with a holistic view and collaborate with other disciplines (the horizontal axis) to become “+ (plus) shaped people.” Our logo shows the + shaped people joining hands and moving forward together to design the society of the future.

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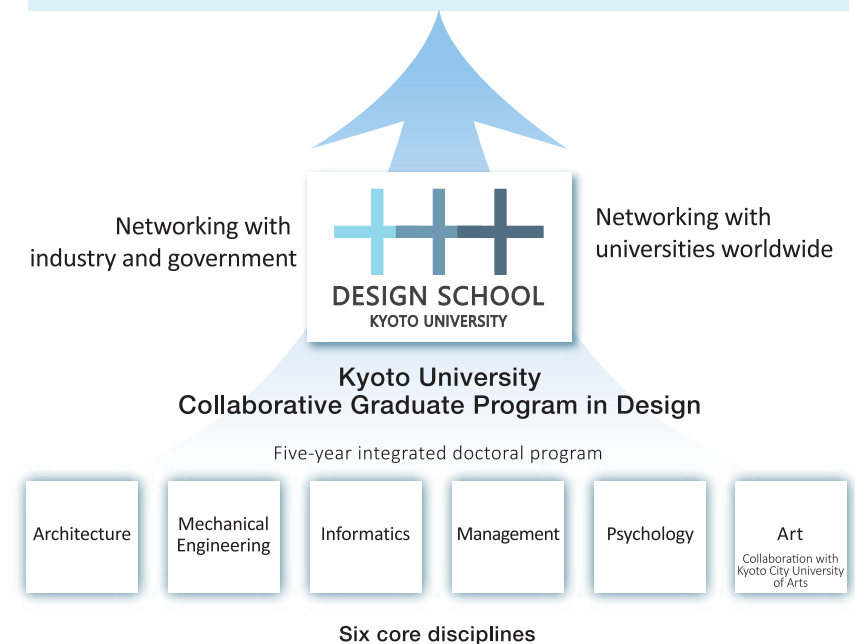
## Integrating wisdom from various disciplines to move forward with society

To respond to the complex needs of our modern society, we need to take the perspective of design, seeking solutions by drawing on knowledge from a variety of academic disciplines. Kyoto University’s Collaborative Graduate Program in Design is Japan’s first five-year integrated doctoral program devoted to design. Students seek to deepen their expertise in their own disciplines while working together with specialists in other disciplines and with members of the community to deal with society’s variegated issues and create a new structure for the society of tomorrow. The Kyoto University Design School encompasses a variety of activities that are open to the community, with this collaborative graduate program playing a central role.

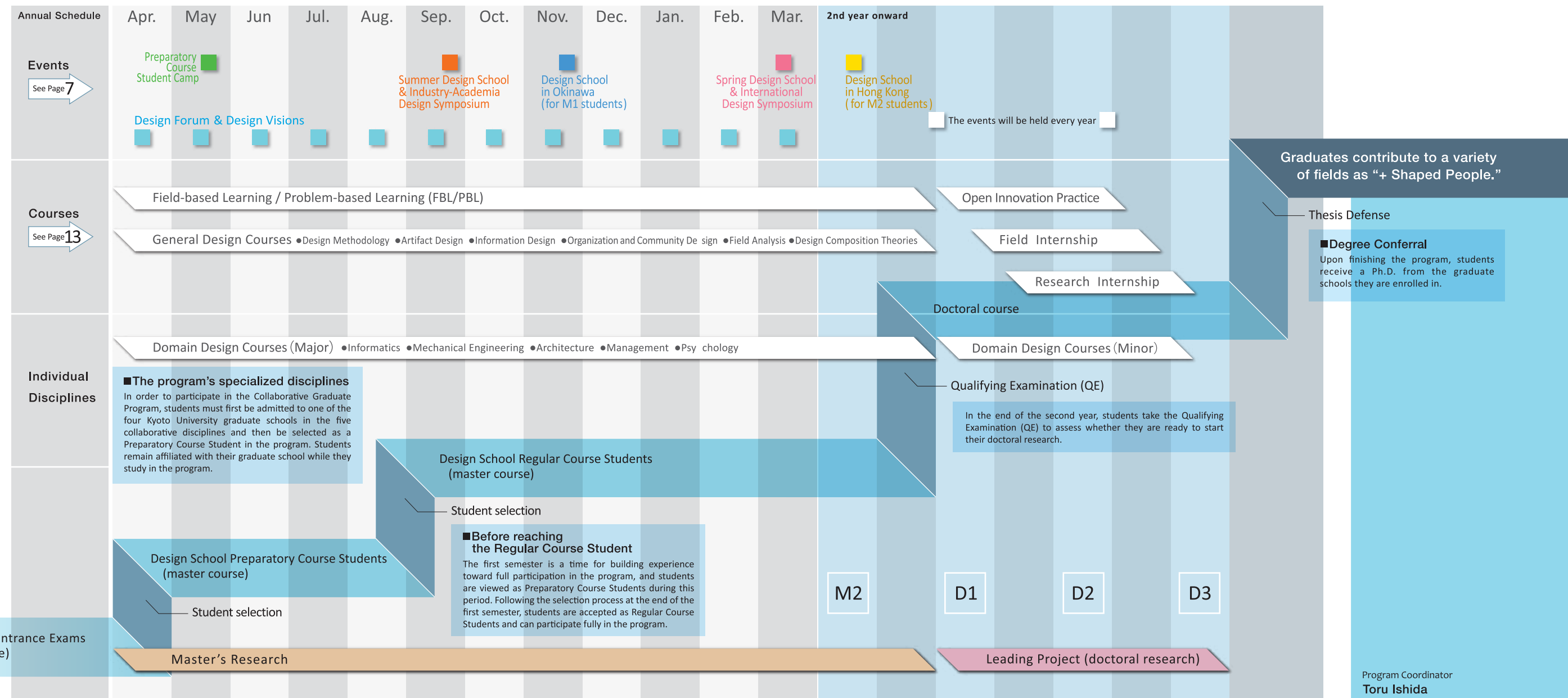
## Deepening expertise and broadening scope

Students enrolled in this program conduct their studies around the six core disciplines of informatics, mechanical engineering, architecture, management, psychology, and the arts (in cooperation with the Kyoto City University of Arts) while also engaging in a variety of practical exercises and fieldwork aimed at acquiring the ability to design society. Themes taken up in the practical courses are real-world problems drawn from Japan’s leading enterprises, the Ministry of Internal Affairs and Communications, Kyoto City and other municipalities, and local communities, as well as joint projects undertaken through a global network of design schools—all covering practical and multifaceted topics.

## Solutions for real-world problems in society



# Learning design in five years, broadly, deeply, and diversely



Before taking the Qualifying Examination (QE), students complete a master course in which they learn the basics of design primarily through the General Design Courses. They then apply the knowledge and methods they have learned in a variety of practical exercises with the cooperation and direction of professors and experienced professionals.

The QE is followed by the doctoral course, in which students build up experience by serving as team managers or specialist researchers in projects that bring together people from industry, government, and academia. This approach fosters insight, flexibility of perspective, and a positive attitude toward accomplishment of socially demanded projects.

## Message to the newcomers to our graduate schools

The goal of the Collaborative Graduate Program in Design is to foster doctorate holders who are well-versed in their specialties and have the competencies for collaborating with other professionals around the world. That is why we instill the basics of design and introduce Field-Based Learning/Problem-Based Learning (FBL/PBL) in the master course. Students are also given opportunities to experience working with people from outside of our university or country through the Summer Design School and the Design Schools in Okinawa and Hong Kong. In the doctoral course, students work on real-world problems both inside and outside of Japan through Open Innovation Practice and Field Internships. Finally our Leading Projects, aimed at finding solutions to a wide range of social issues, serve as the foundation for doctoral candidates to complete their dissertations.

The design program is a place of learning and exploration for students and professors who are eager to add new dimensions to their academic pursuits. It takes determination to dive into an undertaking like this, but once you've taken the plunge, you will meet other people who have that same desire to work and learn. We look forward to your participation.



We asked some of the students from the inaugural class to share with you their thoughts on the Design School. They talk of what they have learned through their studies and their visions for the future.

I hope that meeting and working with specialists from other disciplines will lead to joint research that can change society.



**Ryunosuke Oka**  
Graduate School of Education,  
1st year master's student

The reason I decided to enroll in the program was that it seemed I would be able to have a lot of interesting experiences. I thought that by interacting with a variety of people, I'd learn a lot of things that would be useful in the future. In fact, by taking part in the courses and the events the program offers, I've gained a sense of freedom that has enabled me to build ties beyond my major and my generation.

The program also provides a wonderful environment for research. The Design Innovation Center, which is the hub for our research, has an atmosphere that is different from classrooms or meeting rooms. It's a large, wide-open space surrounded by lots of whiteboards. It's a place where you can learn beyond the research that you are doing, because everyone there can inspire one another in diverse directions.

I am doing research on psychology, and through this program I've gotten to know a professor who is interested in the same field but specializes in informatics. Talking with this professor has made me feel that we might be able to work together in the future. I look forward to doing research together and wonder how that research might change society.

I want to use what I learn in this program to create something that directly impacts people's lives.

I am majoring in architecture, but I want to always have options to also create things outside of architecture. No matter what I create—whether it be a building, some product, or even a connection between people—my goal is to find ways to make people happy. I became interested in this program because I felt that it, as a way to study the concept of design, would allow me to achieve my goal.

One feature of this program is that there are so many chances to work in groups both at the university and outside. For example, at the Summer Design School event, I had the chance to work with students from other majors and class years in a workshop to develop a prototype and proposal in several days. Going through the process from producing ideas to developing them into an outcome in a short time is a hard but enjoyable undertaking. In the practical courses, we get lots of chances to work with people from companies, people who have practical experience that we students don't have and can give us suggestions from that perspective. The courses made me feel much closer to the people working in the real world. I think I am going to be able to put my experience in this program to good use in my future research.



**Aya Suzuki**  
Department of Architecture and  
Architectural Engineering,  
Graduate School of Engineering,  
1st year master's student



**Hiroaki Inoue**  
Department of Communications  
and Computer Engineering,  
Graduate School of Informatics,  
1st year master's student

My experience and knowledge from studying design should give me different approaches and strengths that I can apply in my work.

After studying urban planning in graduate school, I gained experience in jobs in an architect's office and in human resource development. While working in those areas, I started thinking that I wanted to study business from a broader viewpoint, so I entered the Graduate School of Management and began taking this program. I am studying customer-worker interaction in a shop in the service industry, while conducting research on workshops using what I've learned and experienced in this program.

Through this program, I have interchange with students and teachers from other disciplines and people in business, and I've frequently found myself surprised that there can be different approaches to the same problem. At times I myself serve as the facilitator in workshops and get a sense of satisfaction from working with the group members to build a forum for cooperation and co-creation.

In the future, I want to combine what I am learning here with my past experience in business to expand my knowledge to new disciplines so I can develop approaches and strengths in business that other people cannot offer. As a first step, I am already working toward setting up a workshop coordination business.



**Kiyoteru Kitano**  
Graduate School of Management,  
2nd-year master's student



**Tomoya Hori**  
Department of Social Informatics,  
Graduate School of Informatics,  
1st year master's student

I get to feel the real joy of starting from zero and thinking without constraints to pull ideas together.

I'm a member of the Graduate School of Informatics, and I study the ecology of fish species for fishery using IT devices. With the cooperation of the Fukushima Prefecture Fisheries Experimental Station, I am also surveying the situation in the Fukushima fishing industry and the people involved in it for my research on how to support the industry in the area. There are some gaps between national policy on the industry and the actual situation in the field. In order to focus on those gaps and be of assistance to the people there, it's necessary to have specialized knowledge about fisheries as well as the perspective for designing society. I hope to develop such a perspective through my experiences over the next five years, and to acquire the ability not only to provide support to one region but also to apply it to a wide range of regions as well.

One feature of the design program is that it allows modes of study like double majors, which are offered by only a handful of Japanese graduate schools. I think that this program is the right place for students who want to create something by combining their own major with other disciplines. We frequently have workshops out in the field, and we also have opportunities to work freely on our own, without restrictions on the topic and our approach to solving the problem. At first we were kind of confused, but it was really interesting the way we started out with vague ideas and then narrowed the ideas down and sharpened them into a project.





# ACTIVITIES

There are opportunities for interchange with people from various universities, research organizations, businesses, and government bodies. Listen to diverse opinions, think together, and create new products, concepts or frameworks. All these experiences will foster your ability to design the future of society.

The events in this section were held in the 2013–2014 academic year.

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and create new products, concepts or frameworks.  
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April—

**Design Forum & Design Visions:** Learning about the latest trends in design



Design researchers and experienced professionals speak in this forum, allowing you to learn about a variety of approaches in design and have interaction with the speakers. Participants get to learn the international trends in design and share ideas on future-oriented approaches.

■Speakers from the 2013 Forums (partial list)

- Ellen Yi-Luen Do, Professor, National University of Singapore
- Anne Mieke Eggenkamp, Former Chair, Executive Board of Design Academy Eindhoven, Netherlands
- Elisa Giaccardi, Professor, Delft University of Technology, Netherlands
- Yasuaki Kakei, Associate Professor, Keio University
- Kenzo Hayashi, Manager, Merchandise Division, Takara Shuzo Co.,Ltd.



Prof. Elisa Giaccardi



Prof. Ellen Yi-Luen Do

June

### Preparatory Course Student Camp : Discussing the future with new members

Design School's Preparatory Course Students and professors get together at this overnight event. After self-introductions from all, professors and students share their dreams for the future and their current concerns in a relaxed, open atmosphere. The 2013 camp gave participants opportunities to take walks around the vicinity of the venue and get to know the local people.



### ACTIVITIES SCHEDULE (2013–2014 academic year)

Apr.	May	Jun	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
	Preparatory Course Student Camp		Summer Design School & Industry-Academia Design Symposium				Design School in Okinawa	RENKEI School			Spring Design School & International Design Symposium
			1 100nin map in Kyoto			2	Hack U at Kyoto U.				
	Design Forum & Design Visions										

More than 30 events were held in total including Design Seminar Series, international workshops, etc.

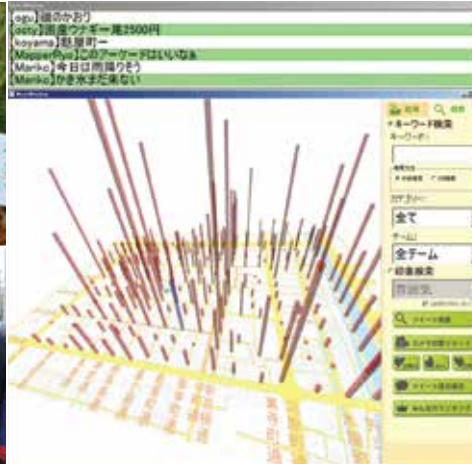
KYOTO UNIVERSITY DESIGN SCHOOL 8



July Oct.

**100nin map in Kyoto**: Creating a new tourist map with tweets from 100 people

By gathering people's various reactions by smartphone as they wander freely throughout Kyoto, this event creates a 3D map for enjoying the city that is unlike the maps in the typical guidebook. Participants immediately tweet their reactions to what they discover, and the information collected is used to create a real-time map of the city. This activity was first held in July 2013 in the downtown districts, followed that October 2013 by another session in the tourist area.



Nov.

**Hack U at Kyoto U.**  
A challenge to  
“digital manufacturing”

This unique project gives participants a week to learn practical skills in software and hardware from Yahoo!Japan engineers and then turn their new ideas into apps and other products. Through this highly stimulating event, participants not only gain know-how in programming, but also experience working with people from the front lines of business.

Sep.

**Kyoto University Summer Design School & Industry-Academia Design Symposium**  
From rough ideas to completion in three days

The huge atrium of the Kyoto Research Park turns into the stage for this annual summer event. Students, instructors, and a variety of specialists are divided into teams that tackle a particular topic using their own approaches. It is also open to undergraduates and members of the local community, and is unique for how it permits free discussion and presentation that transcend differences in age and status. The gatherings have grown livelier with each passing year, and the third Summer Design School in September 2013 drew some 260 participants.

**Themes for Summer Design School 2013**

- 01 Designing teamwork
- 02 Designing and prototyping an inconvenient system
- 03 Designing bicycles theft prevention measures
- 04 Designing a Personalized Learning support environment using Open Education and big data
- 05 Creating a dialogue through expression: Designing a place for open innovation
- 06 An information service for seven years in the future: Looking at new relationships between businesses and customers
- 07 Game design as a communication tool in science
- 08 Designing social systems by “distribution” x “cooperation”
- 09 ICT Service design in urban environments
- 10 Achieving prototype design by “IT” x “manufacturing”



During the Summer Design School event, this symposium allows businesspeople and Kyoto University professors to introduce industry-academia cooperative activities and exchange opinions.



- 11 Designing services for a communication café
- 12 Designing a place for communication using course introductions as a game
- 13 Designing a world where (almost) anyone can make (almost) anything
- 14 Designing algorithmic lighting to brighten up Kyoto's nights
- 15 Designing communications between humans and cars—Seeking a better motorized society
- 16 Designing new participatory news media
- 17 Let's create a card game!
- 18 Generation of Organic Design based on natural phenomena captured by high-speed camera
- 19 Designing a world to be seen from heights under one meter (Best Presentation Award winner)
- 20 Predicting the Kyoto of 2050 by simulations
- 21 Creation of future patient's experience by designing a seamless cycle of “health” x “medical care”
- 22 Designing work and workplaces for the next generation
- 23 Total design of disasters
- 24 Designing a next-generation bread factory
- 25 Designing promotion of earthquake resistance evaluation and earthquake-resistant reconstruction for traditional wooden housing





Nov.



## Design School in Okinawa Exchanges and workshops



A joint workshop is held in Naha, Okinawa, with the University of the Ryukyus. It starts with a "meeting at sea" as participants go by boat from Kagoshima to Okinawa. After arrival, there are opportunities for exchanges with students from the University of the Ryukyus and local senior high students, as well through group work. In Naha, the capital of the old Kingdom of the Ryukyus, the students from Kyoto experience a different culture as they work together with local people to identify and try to solve specific problems faced by Okinawa. In 2013, they worked on the theme of Okinawan tourism.

Dec.

## RENKEI School Collaborating across Cultures Researcher Development School in Kyoto



This joint workshop is conducted by doctoral students and post-doctoral researchers selected from 11 universities that are members of a Japanese-British industrial-academic collaborative scheme called RENKEI. Young researchers in design find a significant opportunity for exchanges. It includes fieldwork and group discussions leading to proposals for projects. Professors from the Kyoto University Design School also take part as facilitators. In 2013, this activity unfolded over two weeks on the Kyoto University campus under the theme of "Urban Sustainability and Resilience."



Mar.

## International Design Symposium during the Kyoto University Spring Design School



## Digital Design Workshop



Participants experience state-of-the-art technologies in digital design at this three-day workshop on digital fabrication and information design.

## Intensive three days of engaging in design research

At one of the Spring Design School sessions, Japanese and foreign researchers, graduate students, as well as people from industry get together to investigate design research issues through a variety of approaches. In March 2014, researchers from a number of countries held an International Symposium on Design Visions, which examined cognitive, organizational, and social visions for the future, as the primary element in design in building a foundation for design research and establishing design curricula.





# COURSES

For gaining insight to seek the core of problems

The program offers General Design Courses that examine the state of design today and a rich variety of other subjects including practical courses to learn how to exercise leadership for moving a project forward.

## MASTER'S PROGRAM COURSES

- Design Methodology
- Artifact Design
- Information Design
- Organization and Community Design
- Field Analysis
- Design Composition Theories
- Field-based Learning/Problem-based Learning (FBL/PBL)

## DOCTORAL PROGRAM COURSES

- Open Innovation Practice
- Field Internships
- Research Internships

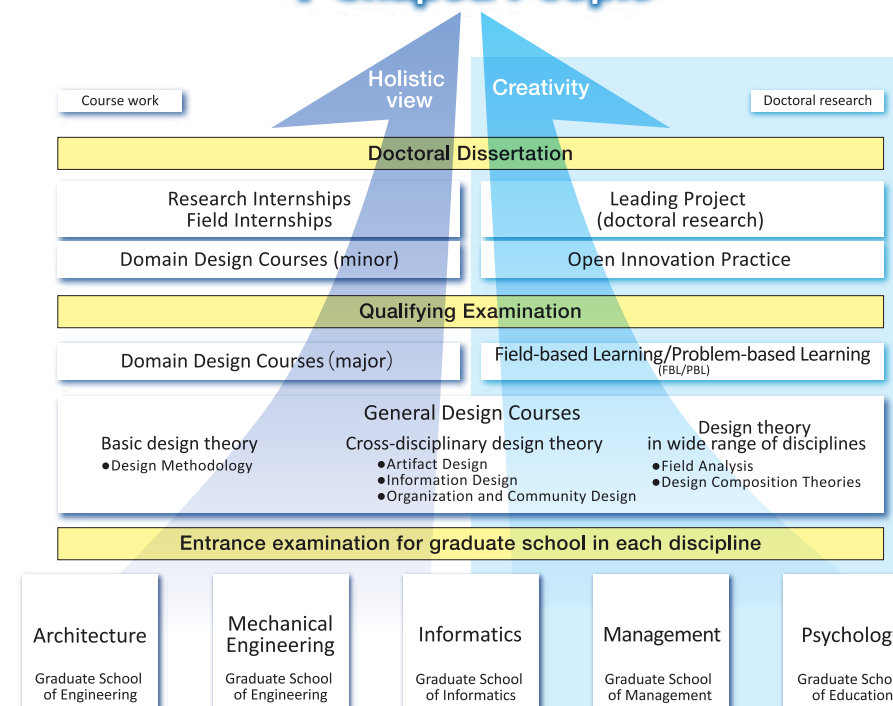
## Lectures and practical exercises to develop basic abilities

The goal of the General Design Courses and Field-based Learning/Problem-based Learning (FBL/PBL) is to develop the fundamental abilities for “designing society.” The General Design Courses use a variety of lecture styles, such as “collaborative lectures” where professors from different disciplines give lectures together and discuss with the students, or “cross-disciplinary lectures” where knowledge and methods from different disciplines are applied flexibly to address a given theme. Such approaches go beyond simple learning of methods and specialized knowledge; they include study of the act of designing itself. FBL/PBL is a practical course for learning how to identify and resolve problems.

## Practical experience to build creativity and a holistic viewpoint

The program provides a range of training opportunities both in Japan and abroad. These include Open Innovation Practice, where the student listens to input from organizations and individuals and coordinates specialists from different disciplines; Field Internship, which allows the student to conduct high-level group work from the perspective of the field; and Research Internship, where the student is responsible for organizing joint research. Through such opportunities, the student can ultimately embark on a Leading Project (doctoral research) that coordinates the efforts of industry, government and academia. In the end, this integrated five-year program produces “+ shaped people” who are specialized in their own disciplines and also are equipped with knowledge and methodology of design.

### + Shaped People



Tetsuo Sawaragi  
Professor

Department of Mechanical Engineering  
and Science,  
Graduate School of Engineering



To be entrusted with the responsibility for designing society, it is essential that you be able to collaborate even with people from different disciplines and cultures. To do this, it is not enough to know how to solve a given problem by applying the methods of any one particular discipline; you must first start

by recognizing what the problem is through a pragmatic interaction with the real-world society, forming a team and combining everyone's expertise to find the solution. And then you must also hone your skills in explaining that problem-solving method to others and getting them to accept that approach. In this program you will learn what you need to know to examine people's and society's values and latent needs and then identify the important issues to be resolved and formulate solutions for them. And by applying the results of your proactive engagement as an individual and the active learning of team efforts, you will become able to reflect on the relationship of your own specialty to society and business as well as on your ability to influence policymaking by others.



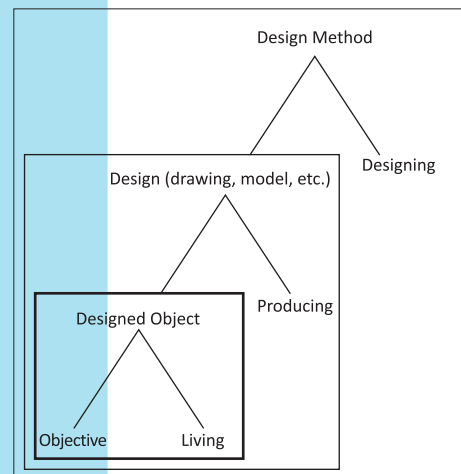
## Design Methodology



Prof. Teruyuki Monnai

### Topics

The concepts, methodology, and science of design  
Design for human-environment systems  
Design through participation and collaboration etc.



### Structure of the Design Process

The Designed Object (architecture, product, etc.) serves as a medium of realizing a living objective in the living world, Design (drawing, model, etc.) serves as a medium to produce designed objects in the field of production, and Design Method serves as a medium to make a design in the field of Designing.

## Dealing with the world as a complex system

Instructors (partial list)

**Teruyuki Monnai** Professor  
Department of Architecture and Architectural Engineering, Graduate School of Engineering

**Kiyoko Kanki** Professor  
Department of Architecture and Architectural Engineering, Graduate School of Engineering

**Kumiyo Nakakoji** Professor  
Unit of Design, Center for the Promotion of Interdisciplinary Education and Research

### ■ Seeking the new science and methodology of design

The concept and methods of design are attracting growing attention here in the twenty-first century. The times when design's job was simple production of artifacts are over, and the focus now is how to relate artifacts with each other, and how to form a variety of relationships between artifacts and people, society, the economy, and the environment. This course first looks at the history of design method research since the 1960s and examines the new science and methodology of design to create complex systems.

### ■ A mind that welcomes wonders and difficulties

Today, the object of design is shifting from individual elements to relationships; the methods and process of design, from producing to nurturing; and the subjects and activities of design, from the acts of an individual to the activities of large groups of people working in collaboration. Now that the world has become a multitude of interconnected complex systems, design problems cannot simply be solved through combination of art and technology. What is being sought today is new design methodology that is capable of integrating a wide range of systems. Precisely because design must deal with the creation of our future, it cannot escape from dealing with uncertainties. In fact, the wonder arising from the uncertainties can offer us hints for creative innovation. When encountering difficult conditions and unexpected events, designers must have the courage to question their own conceptual frameworks—and they are required to have the willingness to enjoy such difficulties and to take up the challenges of designing a new age.

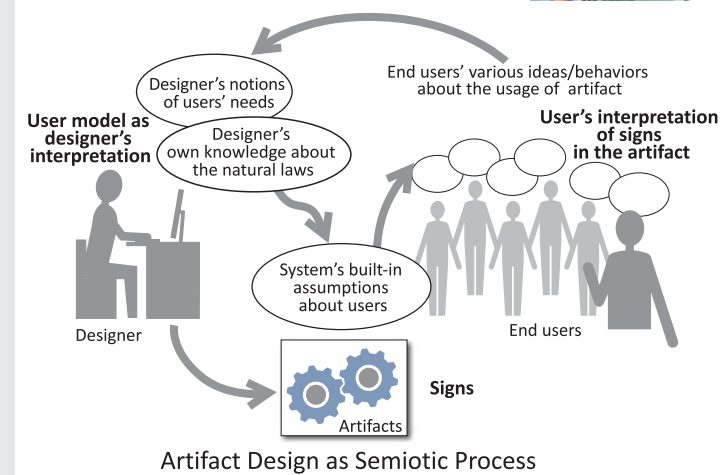
## Artifact Design



Prof. Tetsuo Sawaragi

### Topics

The function of artifacts and principles of design  
User-centered design etc.



### Artifact Design as Semiotic Process

\*Illustration adapted from E. Hollnagel and D.D Woods: Joint Cognitive Systems, CRC Press (2005).

## Thinking about the artifacts of the future

Instructors (partial list)

**Tetsuo Sawaragi** Professor  
Department of Mechanical Engineering and Science, Graduate School of Engineering

**Kumiyo Nakakoji** Professor  
Unit of Design, Center for the Promotion of Interdisciplinary Education and Research

### ■ Learning to design a human-in-the-loop system

The topics of this course include design of machinery, buildings, information and social systems and other artifacts created on the supposition that they will be used by people. Herein, artifacts are defined in a broad and atypical sense to describe any products of intentional creation, including physical things, services, information systems, buildings, landscapes, organizations, and societies. After examining the historical significance of artifacts, this course elaborates on the increase in size and complexity of artifacts in today's world, and then working from the viewpoint of sustainability, addresses the ideal conditions for artifacts in the future. By examining real-life examples of systems of artifacts—consisting of objects and phenomena that must incorporate both the laws of nature and intended human purpose—it delves into the methodology of designing functionality that can achieve an intended purpose, and of designing usability from the user's perspectives. It also discusses problems of the “safety culture” that involves things, people, and organizations.

### ■ Finding order in the undefined

Through this course, students learn what methodologies are available to resolve real-life social problems and how much time and effort are required to reduce problems to the point that they can be subjected to computer analysis. This course aims to bring the student to an understanding that the goal of design is not to make an “object,” but to produce a “mechanism to bring a change in a system.” It also seeks to develop the student's ability to identify the similarities and differences between major problems that can impact society and problems closer to home. By developing such skills, the students will acquire ways of thinking that will enable them to deal with reality in their future jobs.





## Information Design



Prof. Katsumi Tanaka

### Topics

Information design  
Interaction design  
Visible design  
Making information visible etc.



An example of lucid presentation of information (from Wikipedia article on infographics)

## Learning the ability to design information

Instructors (partial list)

**Sadao Kurohashi** Professor  
Department of Intelligence Science and Technology, Graduate School of Informatics

**Katsumi Tanaka** Professor  
Department of Social Informatics, Graduate School of Informatics

### ■ Opportunities to talk with specialists

Information design is a method of providing information accurately to the recipient, a methodology of giving shape to human interconnectivity with things or the environment, and an approach to intelligibly presenting the infinite amount of information in our daily lives. In short, information design is to transmit information effectively by classifying it, structuring it and visualizing it to be comprehensible to the target. This course includes the study of technology and methodology for information design through graphic design and infographics, as well as structuralization and visualization of information, linguistic and visual expression, and interface design. The goal of this course is to help foster people who can “design information” through their knowledge of how to best structure information or give it visual or linguistic expression. To accomplish this goal, diverse experts such as linguists, graphic designers, and IT or isotype specialists are invited to serve as guest lecturers, giving the students the opportunity to interact with them.

### ■ Learning “functionality” and “beauty” for total effect

Computer applications and interfaces made by computer engineers tend to be hard to use, because they do not always consider the process of conveying information holistically. The sixteenth-century tea ceremony master Sen no Rikyu, speaking on the design of the stepping-stone path that leads through a garden to a tea house, once observed that the path should be “six parts functionality and four parts beauty.” Through this course, students who have studied functionality will learn the importance of beauty, and those who have previously focused on beauty will study functionality, in hopes that each side will learn the approaches from both directions.

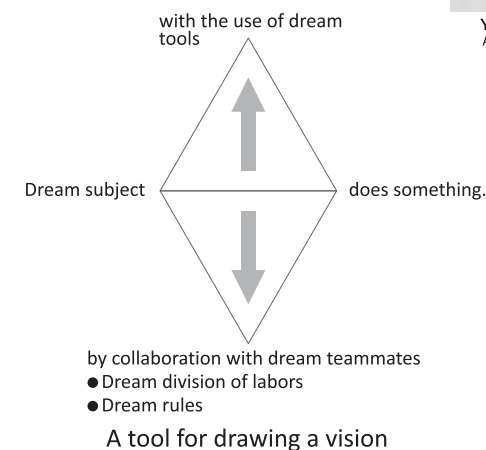
## Organization and Community Design



Prof. Toshio Sugiman

### Topics

Changing society  
Work design  
Design of teams  
Design of communities etc.

Yutaka Yamauchi  
Associate Professor

## Pursuing the challenge of design from social perspectives

Instructors

**Yutaka Yamauchi** Associate Professor  
Graduate School of Management

**Hiroyuki Matsui** Professor  
Graduate School of Management

**Toshio Sugiman** Professor  
Department of Human Coexistence, Graduate School of Human and Environmental Studies

### ■ Aiming for solution of problems of organizations and the community

This course focuses on social aspects that are integral to achieving a goal of the Kyoto University Design School, namely, the design of social systems and architectures. For this purpose, lectures, case studies and fieldwork are combined to study how society can be designed by applying social scientific theories to real problems of organizations and communities while emphasizing the characteristics of social phenomena that are different from the physical world.

### ■ Looking closely at reality to discover guidelines

When creating social designs, it is impossible to keep an objective stance like an outside observer. Instead, you need to try hard to discover a pathway or guideline for design by struggling actively with the real problems that confront you and defy solution through existing methods. For such problems, you have to reconsider thoroughly whether organizations and communities are really needed and, if they are, explore how they can be developed in a way that transcends the established wisdom and deals with the realities that do not always follow textbook theory. The ability to take this approach is cultivated by this course through intensive fieldwork. For example, students participate in community design with residents in a rural depopulated area who are trying to revitalize their community by using a former schoolhouse as their base of activity, as shown in the photo. (Photo: Chizu Town, Tottori Prefecture.)





## Field Analysis



Prof. Kazuyuki Moriya

## Striving toward field analysis based on theory

Instructors

**Kazuyuki Moriya** Professor  
Department of Social Informatics, Graduate School of Informatics

**Hiroyuki Matsui** Professor  
Graduate School of Management

**Yutaka Yamauchi** Associate Professor  
Graduate School of Management

### ■ Design should depend on more than just “sensitivity”

Students in this course learn the methodology of field analysis required for design of products, services, and businesses by studying field research methods such as ethnography and surveying, and then applying them to real-world challenges. They also learn quantitative data analysis based on various methods, including statistical analysis. These studies provide the student with a foundation for design that is based on firm theory rather than sensibility alone.

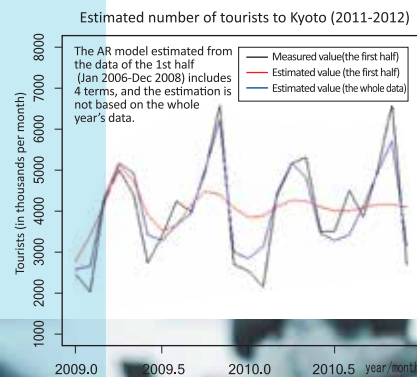
### ■ Three pillars of field analysis—ethnography, surveying, and statistical processing

Ethnography is a form of research requiring meticulous examination and thinking that do away with stereotypes, so this course seeks to equip students with powers of observation founded on an understanding of this requirement. In the study of surveying, students learn it not only as a tool for analysis, but also as a way to approach a society. Statistical processing is an important field as well, since it relates to the “big data,” which has been a focus of attention recently. By studying these methods, students will learn how to apply them in their own research.



### Topics

The process of field research  
quantitative analysis,  
Modeling and simulation etc.



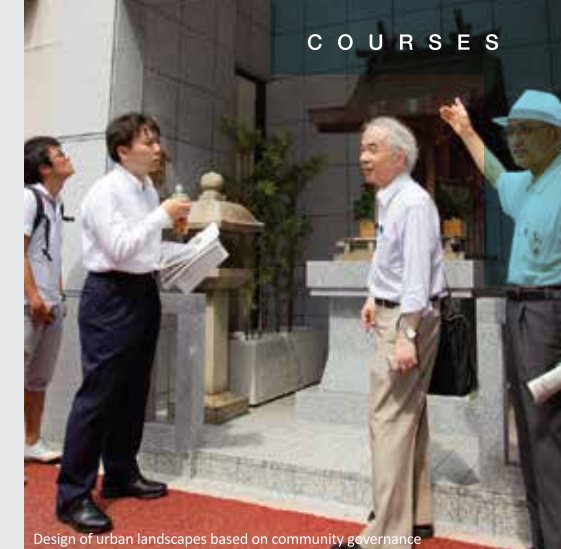
## Field-based Learning / Problem-based Learning (FBL/PBL)

## Developing skills of problem-finding and solving through collaboration

Field-based Learning and Problem-based Learning (FBL/PBL) is a stimulating, collaborative course where students from different disciplines study together by sharing their specialized knowledge and experience. Students address a variety of social issues under the guidance of instructors from a wide range of fields and professionals from industry.

## Themes from the 2013 course

- Organizational design in crowdsourcing
- Design of urban landscapes based on community governance
- Design for hospital practice
- Robots and social design
- Strategic decision-making through a participatory systems approach
- Designing toys that trigger changes in human relationships
- Disaster prevention and social design
- Designing an experience for fast-food restaurant services
- Designing a learning environment
- Design for new residence in a rural community (Keihoku district, Kyoto)



Design of urban landscapes based on community governance



Disaster prevention and social design



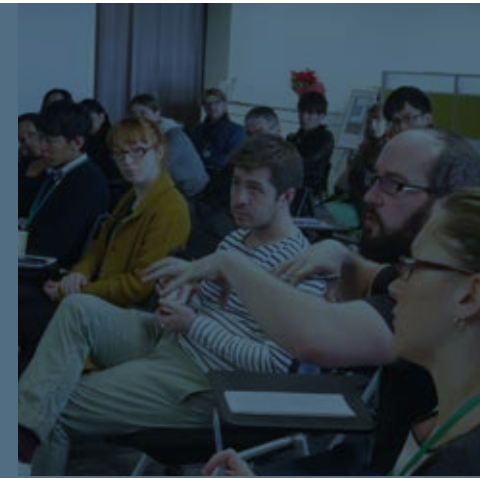
Robots and social design



Design for hospital practice



## Doctoral curriculum



## Working on more advanced problem solution through internships and projects

The doctoral course from the third year of the program encompasses Open Innovation Practice where the student coordinates a team of specialists from various fields in seeking to solve a problem, and two types of internships, Research Internship and Field Internship, which consist of joint research and fieldwork conducted with the cooperation of research institutions both in Japan and abroad. Finally, the student conducts a Leading Project (doctoral research) as the completion of the whole five-year program.

### Open Innovation Practice

#### ■ Acquiring management skills and leadership

This course provides experience beyond working as a specialist in a particular discipline, as students are required to serve as team leaders and promote open innovation for problem solution. Students have opportunities to observe and analyze the real-life situation that has been assigned to them, gain an accurate understanding of the elements forming the situation, and discover the root causes of the problem. The students are also trained to develop the skills to form and manage a team to solve the problem, and skills in conducting smooth and effective communication with all the various stakeholders.

### Field Internships

#### ■ Working on problem solution together in the field

In this course, students go out into the field in Japan or abroad, for several weeks to months, to work on solving international or social problems that are related to multiple specialized disciplines. The activities abroad include in-service training with international organizations or enterprises. Unlike the individual-centered training exercises in the master's course, the Field Internship features group activities; even the search for internship sponsors and making requests for acceptance are all conducted by student groups.

### Research Internships

#### ■ Experiencing joint research at research institutions abroad

Interns spend weeks to months in research institutions overseas to conduct joint research with the local personnel. The internship aims to promote a rethinking of traditional academic fields from the perspective of design, thereby fostering the interns' capacity to serve in the future as leaders in new interdisciplinary research. The students must first propose a joint research project to one of Kyoto University's partner research institutions, with the research drawing on multiple disciplines using a design-oriented approach. The proposals are examined and approved by the relevant professors of the university.

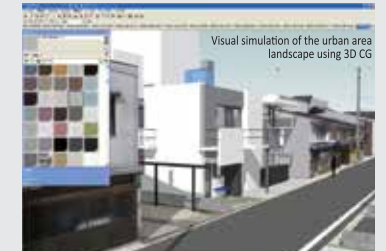
#### ■ Leading Projects (doctoral research)

#### The culmination of five years of effort

Leading projects represent doctoral research that concludes five years of study in this program. While participating as specialists in their own discipline in a complex large-scale project either in Japan or abroad through industry-government-academia collaboration, the students also call on their knowledge of design to comprehensively understand the target issue and then guide the team toward a fundamental solution.

Leading projects (in 2013)

#### Design of Urban Areas for a Sustainable Society



Supervisor: Prof. Teruyuki Monnai  
Dept of Architecture and Architectural Engineering,  
Graduate School of Engineering

#### Affluent Society Supported by Cities and Mobility



Supervisor: Prof. Tetsuo Sawaragi  
Dept of Mechanical Engineering and Science,  
Graduate School of Engineering

#### Development and Diversified Utilization of Medical Information Platform



Supervisor: Prof. Masatoshi Yoshikawa  
Dept of Social Informatics, Graduate School of Informatics

#### Exploration of Designful Services: Learning from the Culinary Field



Supervisor: Associate Professor Yutaka Yamauchi  
Graduate School of Management



### Designing a learning environment

Instructor

**Takashi Kusumi** Professor  
Graduate School of Education

As approaches to learning such as group work and active learning are becoming more widely used, it has become clear that existing learning environments do not always facilitate the use of such approaches. In this course, graduate students of psychology, architecture, and informatics received advice from educational technologists, architectural practitioners, and librarians, and discussed how to design a new learning environment. They also measured lighting levels and CO2 concentrations on the university's Yoshida Campus, carried out a questionnaire survey, and then used the results to formulate suggestions regarding the educational facilities. These suggestions were incorporated into the spatial design of the Learning Commons on the first floor of the campus library.



### Designing an experience for fast-food restaurant services

Instructor

**Yutaka Yamauchi** Associate Professor  
Graduate School of Management

This PBL dealt with service design—a topic drawing increasing attention in recent years—by taking another look at the state of service in the fast-food industry. First, ethnographic analysis was applied to many types of service experiences in not only fast-food restaurants, but also hotels and museums. Next, the students were divided into three teams to construct designs. In the end, each team created a life-sized mock-up and piloted the designed services in the final presentation. Their designs were aimed at real-world deployment and therefore were informed by various business and regulatory constraints, investment policies and procedures, and the actual floor plan of a particular restaurant.



### Design for new residences in a rural community (Keihoku district, Kyoto)

Instructor

**Kiyoko Kanki** Professor  
Department of Architecture and Architectural Engineering,  
Graduate School of Engineering

In this course, students discussed and conducted field research regarding policies for maintaining a community in a rural area, such as a farming village, while protecting its natural and historical environments. The research target was Keihoku district on the northern outskirts of Kyoto City. In addition to engaging in an exchange of opinions with experts in regional revitalization in Europe, the students also talked with the district's residents and made observations to identify attractions of the area. They then formulated suggestions on how to raise the district's public profile and promote growth in its population. The local residents expressed high expectations for the students' efforts, so this course may continue to be offered in the future.



Design  
Innovation  
Center

Design  
Fabrication  
Center

Our activities take place not just on the  
Yoshida and Katsura campuses but also at our industry-academia  
joint collaboration facility in downtown Kyoto.

This center of open research gives birth to  
new ideas and values through the interaction  
of many different people.

# FACILITIES

A view of Kyoto from the site

## Learning on the front lines of society Design Innovation Center

The Design Innovation Center, which serves as the hub of the program's practical exercises and research, is located in Building 9 at Kyoto Research Park (KRP). The fifth floor is designed as a single open space (approx. 815m<sup>2</sup>) that serves as a place where people from different disciplines can interact with each other, a place for new ideas and grand inspirations, and a place to create innovations. The open structure was chosen to give everyone the opportunity to see what others are doing, so as to give rise to a variety of interactions and communications. The fifth floor also offers a beautiful view of the three mountains surrounding Kyoto—by allowing users to gaze off into the distance while sensing Kyoto's long history, the center is a perfect setting for thinking on a grand scale.



Building 9 at Kyoto Research Park (KRP)



Flexible space



Leading project booths

Seminar space

### ■ Flexible space

Tables and chairs in the open space can be freely moved to create different layouts. This is the core feature of the Design Innovation Center, enabling it to serve as an ideal stage for FBL/PBLs and a variety of workshops.

### ■ Leading project booths

Surrounding the flexible space are a number of semi-open booths that are used for the long-term research projects conducted by doctoral course students.

### ■ Seminar space

There is also space for lectures and design forum sessions. Lectures given on the Yoshida and Katsura campuses can be audited here through a remote lecture system.

### Teruyuki Monnai

Professor  
Department of Architecture and  
Architectural Engineering,  
Graduate School of Engineering



To facilitate the Design School program, it is essential to have hubs that compensate for the distance between our separate campuses and provide a place where specialists from different disciplines can work together on design. For this purpose, the Design Innovation Center was established in Kyoto Research Park, located between the Yoshida and Katsura campuses, and the Design Fabrication Center was established at Yoshida.

The Design Innovation Center offers space for FBL/PBLs and leading projects, as well as an area called the Future Center that supports the activities of the Design Innovation Consortium, which was established for collaboration among industry, government, and academia. These facilities form a place where new encounters and ideas can be created. The Design Fabrication Center, too, is a collection of various studios where activities such as digital fabrication, performances, practical exercises, and research are conducted.

The overriding goal of all these centers is to promote innovation through interaction among people, materials, and situations, in hopes of expanding the world of design from individual artifacts to whole social systems.





Imagining and creating the future by interacting  
with physical representations and bodily expressions  
**Design Fabrication Center**

The Design Fabrication Center, built at the site of a former mechanical engineering research factory (approx. 300m<sup>2</sup>), has been refurbished with a wide range of digital fabrication equipment and activity studios, providing a place where students and researchers from different disciplines work together in prototyping, performing, discussing, and presenting their ideas.



A discussion space located on the mezzanine



Laser cutter      Milling 3D printer      Laminating 3D printer      Textile printer, digital embroidery machine, etc.



*fabrication studio*

*sealed studio*

*creation studio*

*deliberation studio*

*presentation studio*

*performing studio*

*testing studio*

*exercise studio*

*chat studio*

*research studio*

*guest studio*

*exhibition studio*

*residential students studio*

*students working studio*

*storage studio*

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