

Spring Semester 2019 Admission

**Special Entrance Examination for
Recommended International Students**

Application Guidelines

**Graduate School of
Science and Engineering**

**Kansai University
Graduate School**

Privacy Policy

With regards to personal information received on application which is liable to specify the individual (hereafter "Personal Information"),

Kansai University Graduate School (hereafter "the Graduate School") will treat the information carefully in accordance with applicable laws and the Kansai University Graduate School Privacy Policy.

The Kansai University Graduate School Privacy Policy can be found on the top page of the Graduate School's website (<http://www.kansai-u.ac.jp>) under "Privacy Policy."

1. Use of Personal Information

Personal Information from applicants is used only for the following purposes:

- (1) To operate entrance examinations (receipt of applications, delivery of admission forms, and holding of entrance examinations)
- (2) To announce examination results
- (3) To complete procedures up to enrollment

2. Management of Personal Information

The Graduate School has assigned a personal information protection administrator to ensure that Personal Information from applicants for the three purposes listed above is managed carefully and deleted appropriately in accordance with applicable laws and rules thereafter.

3. Sharing of Personal Information

The Graduate School will share some Personal Information with Kansai University Kyosaikai (an affiliated organ of Kansai University for mutual-aid program) to enhance life on campus.

The Personal Information to be shared and its purposes;

- * Administrative numbers, names, dates of birth, assigned graduate school, major, and field of specialization for applicants paying enrollment and registration fees for verification of entry.

4. Disclosure of Personal Information to third parties

With the exception of contractors described in 5 below, the Graduate School will not share Personal Information with third parties without the consent of the applicant, except when compelled by law.

5. Sharing of Personal Information with Contractors

The Graduate School may share some Personal Information with contractors in order to carry out the operations described in 1 above. In such cases it shall contract them to handle the Personal Information appropriately based on its Privacy Policy.

6. Statistical data on entrance examinations

The Graduate School compiles statistical data about entrance examinations but does not identify applicants. This data will be used for individuals interested in the Graduate School, and utilized to analyze the Graduate School's future entrance examinations.

7. Disclosure, correction, and deletion of the Personal Information

When requested by an applicant to disclose, correct, or delete his or her Personal Information, the Graduate School will accommodate that request promptly in accordance with applicable laws, rules, and other guidelines after verifying the applicant. Data pertaining to the entrance examination score will not be disclosed.

8. Inquiries

Inquiries concerning applicants' Personal Information, including requests to disclose, correct, or delete it, will be directed to Graduate School Admissions Group of Kansai University Entrance Examination Center.

Graduate School Admissions Group
Kansai University Entrance Examination Center
3-3-35 Yamate-cho, Suita-shi, Osaka Prefecture 564-8680 Phone: 06-6368-1121 (main)

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- Statement of reason for applying

Graduate School of Science and Engineering Special Entrance Examination for Recommended International Students for Spring semester 2019 admission

1. Purpose of the Graduate School of Science and Engineering Special Entrance Examination for Recommended International Students

To open the doors to students from overseas, the Kansai University Graduate School of Science and Engineering offers a special entrance examination for students of its overseas partner universities. Refer to the following overview of the Graduate School when applying for admission.

2. Overview of the Graduate School of Science and Engineering

(1) About Kansai University and the Graduate School of Science and Engineering

Kansai University is more than 130 years old since the Kansai Law School, its predecessor, was founded. Its history as a university began in 1922, and as of 2019, the institution becomes one of the leading universities in the west of Japan with more than 30,000 undergraduate and graduate students studying in 13 faculties, 13 graduate schools, and 3 professional graduate schools.

The Faculty of Engineering was established in 1958, and the Graduate School of Engineering opened four years later. The Graduate School has trained numerous engineers and researchers, and its graduates are active in a broad range of fields in Japan and overseas countries. In 2007, the Faculty of Engineering was reorganized into the Faculty of Engineering Science, the Faculty of Environmental and Urban Engineering, and the Faculty of Chemistry, Materials and Bioengineering. As a result the Graduate School of Engineering became the Graduate School of Science and Engineering in 2009.

The Graduate School of Science and Engineering is dedicated through its educational programs to training researchers and engineers to implement its philosophy of 'Praxis Learning' by way of science and technology. It welcomes applicants who possess not only the necessary level of basic academic skills, but also the wish to master research skills in a field of specialization through serious study and to contribute to society and humankind through the development of natural science and technology.

(2) Organization of the Graduate School of Science and Engineering

The Graduate School of Science and Engineering's Master's Degree Program offers nine disciplines including four under Engineering Science Major (Mathematics, Pure and Applied Physics, Mechanical Engineering, and Electrical and Electronic Engineering), three under Environmental and Urban Engineering Major (Architecture, Civil, Environmental and Applied System Engineering; and Energy and Environmental Engineering), and two under Chemistry, Materials and Bioengineering Major (Chemistry and Materials Engineering, and Life Science and Biotechnology) in order to endow graduates with specialized knowledge and technological skills. In addition, the Graduate School's Ph.D. Degree Program consists of the same nine disciplines under Integrated Science and Engineering Major. The program is designed to endow graduates with exceptional research skills as well as broad knowledge and technological skills that enable them to integrate various research domains.

(3) The Graduate School of Science and Engineering's educational system and requirements for program completion

Students who have been admitted to one of the discipline of Master's Degree Program by the Special Entrance Examination for Recommended International Students from overseas partner universities will take an educational program known as the International Master Course. This program is characterized that lectures are offered in English and students can earn their degree through research guidance in English. In addition to specialized subjects in each field, available lecture subjects include courses to master knowledge about Japanese history and culture. Concerning research, students take required seminar subjects by their advisors and receive research guidance to help them draft their master's thesis.

Students who have been admitted to Ph.D. Degree Program will study only seminar subjects by their advisors, dedicating rest of their time to activities for the drafting of their doctoral thesis.

In the Graduate School of Science and Engineering, each student drafts his or her master's thesis or doctoral thesis under the guidance of one principal advisor and two assistant advisors. While students of Master's Degree Program are required to spend their time for attending, preparing for and reviewing the lectures content, in order to take the program's lecture subjects, they spend the rest for activities necessary for the drafting of their master's thesis, such as personal study, experimentation, and discussion, primarily under the guidance of their principal advisor. Students of Ph.D. Degree Program spend most of their time for research to draft their doctoral thesis under the guidance of their principal advisor. Since education and research guidance offered by the principal advisor comprises an extremely dense experience, applicants to the Graduate School of Science and Engineering need to clarify not only a desired discipline, but also a principal advisor.

To complete Master's Degree Program, students must as a rule be enrolled for two years (four semesters), during which time they must earn at least 30 credits of subjects (including eight credits of seminar subjects) and submit their master's thesis. An additional objective is to increase the quality of research in their master's thesis and present their findings to academic societies or submit them to academic journals during the period of their enrollment.

To earn their degree from Ph.D. Degree Program, students must earn eight credits of seminar subjects and submit their doctoral thesis. In addition, one of the requirements for submitting their doctoral thesis is to publish it on an academic journal. The standard period of enrollment is three years (six semesters), although that period may be shortened.

3. Admissions Policy

The rapid expansion of science and technology demands qualified researchers and engineers who obtain the ability to discover and solve problems along with a broad perspective that encompasses various fields. The Graduate School of Science and Engineering seeks to educate the students for researchers and highly skilled professionals who will utilize their academic experiences to contribute to the improvement of the human welfare in the perspective of science and engineering. Applicants should possess a certain level of scholastic ability as well as intellectual curiosity and mental strength to pursue their studies. In addition to the General Entrance Examination, the Graduate School offers a variety of entrance examinations including an Entrance Examination for International Students and Entrance Examination for Mature Students as part of its commitment to actively accept students from different backgrounds.

4. Admitting Program Majors and Disciplines

Program	Major	Disciplines
Master's Degree	Engineering Science	Mathematics
		Pure and Applied Physics
		Mechanical Engineering
		Electrical, Electronic and Information Engineering
	Environmental and Urban Engineering	Architecture
		Civil, Environmental and Applied System Engineering
		Chemical, Energy and Environmental Engineering
	Chemistry, Materials and Bioengineering	Chemistry and Materials Engineering
		Life Science and Biotechnology
	Ph.D. Degree	Integrated Science and Engineering
Pure and Applied Physics		
Mechanical Engineering		
Electrical, Electronic and Information Engineering		
Architecture		
Civil, Environmental and Applied Systems Engineering		
Chemical, Energy and Environmental Engineering		
Chemistry and Materials Engineering		
Life Science and Biotechnology		

5. Enrollment Capacity

Both Master's Program and Ph.D. Program, recruiting few people at each discipline.

6. Qualifications

Master's Degree Program

Applicants who satisfy one of the following conditions:

- (1) Applicants who satisfy both of the following conditions:
 - a. Applicants who have graduated within one year from or are expected to graduate from a university that has been designated by the Graduate School before enrolling.
 - b. Applicants who receive a recommendation from the president of the university or the dean of the faculty from which they have graduated or are expected to graduate and who have a strong desire to enroll the Graduate School.
- (2) Notwithstanding the requirements outlined in (1) above, applicants who have a strong desire to enroll the Master's Degree Program's International Master Course and who have been authorized to take the Special Entrance Examination for Recommended International Students by Committee of the Graduate School of Science and Engineering.

Ph.D. Degree Program

Applicants who satisfy one of the following conditions:

- (1) Applicants who satisfy both of the following conditions:
 - a. Applicants who have earned or are expected to earn a degree equivalent to a master's degree from a graduate school that has been designated by the Graduate School before enrolling.
 - b. Applicants who can receive a recommendation from the president of the university or the dean of the graduate school from which they have earned or are expected to earn the degree and who have a strong desire to enroll the Graduate School.
- (2) Notwithstanding the requirements outlined in (1) above, applicants who have a strong desire to enroll the Ph.D. Degree Program's International Ph.D. Course and who have been authorized to take the Special Entrance Examination for Recommended International Students by Committee of the Graduate School of Science and Engineering.

7. Application method and schedule

Before application process (Contact the Graduate School Admissions Group.)

Before completing the application process, be sure to E-mail by your university's staff the following information to the Graduate School Admissions Group:

- (1) Your name
- (2) Your interest in taking an admission examination for the university
- (3) The name of the university and faculty (or graduate school) at which you are enrolled (or from which you graduated), your major, etc.
- (4) The date on which you graduated from (completed) the program or expect to do so
- (5) The program and discipline in which you are interested
- (6) Your desired faculty advisor (see "List of Academic Advisor of Graduate School of Science and Engineering for the 2019 academic year" later in this document)
- (7) The discipline in which you wish to conduct research and the specific nature of the research in which you are interested, etc.

Contact Address:

Graduate School Admissions, Entrance Examination Center

E-mail: kugrd-exam@ml.kandai.jp

Application process

You must complete all of the following steps in order to apply.

Only applicants who have received permission from the desired advisor will be allowed to submit their application documents.

[1. Submitting the application documents]

Applicants should submit their application documents to the university from which they have graduated or are expected to graduate by Thursday, November 15, 2018 (All documents must be submitted by the deadline.)

<Request for the university recommending the applicant>

Please attach a recommendation to the application of each of your students and submit all of those applications together to the Graduate School Admissions Group by Thursday, November 22, 2018. (All documents must be received by the deadline.)

Please note that documents submitted individually by the applicant will not be accepted.

[2. Paying the application fee]

- (1) Application fee: ¥35,000

Please note that the application fee is non-refundable.

- (2) Payment period

Friday, December 21, 2018 to Friday, January 11, 2019

- (3) Payment method

Once your application has been approved by the Graduate School of Science and Engineering, you must pay the application fee by the designated deadline using the payment method specified by the University.

You will be notified of the results of the admission screening (indicating whether your application has been accepted) through the university from which you have graduated or are expected to graduate.

Please note that the application process is completed with the payment of the application fee.

8. Application documents

Applicants must submit all of the documents listed below to the university from which they have graduated or are expected to graduate.

Clearly note the document number at the lower right of each application document based on the separate official form entitled “List of application documents (checklist).” Documents will not be returned once they have been accepted by the University.

Document to be submitted (document number)	Remarks
Documents to be submitted by all applicants	
Application form ①	Use the form designated by the University.
Statement of reason for applying in English ②	Use the form designated by the University.
Original transcript from previously attended university (graduate school), or notarized document certifying courses and grades ③	Original document only. Document must be in English. If you transferred from other universities/institutions to the university from which you have graduated or are expected to graduate, submit all the transcripts as well.
Original certificate of (expected) graduation or completion from previously attended university (graduate school) or notarized document certifying (expected) graduation or completion ④	Original document only. Document must be in English. This document does not need to be submitted if your transcript indicates or certifies your (expected) graduation or completion.
Research plan in English ⑤	Applicants to the Master Degree Program. About 1,000 words in length. Applicants to the Ph.D Degree Program. About 2,000 words in length. Submit one original and three copies.
Letter of recommendation in English ⑧	The letter must bear the signature (including the position/ title and name) and seal of the president of the university or the dean of the faculty (graduate school) from which you have graduated or are expected to graduate.
Copy of ID or passport ⑨	For a passport, submit a copy of pages showing your name, date of birth, photograph, expiration date, and history of past entries to and departures from Japan (if you have previously been to Japan).
Two photographs	Affix a photograph taken within the last three months to each of the application form and to the statement of reason for applying in English. (The photograph affixed to your application form will be used on the student ID that is issued after enrollment.)
List of application documents (checklist)	Use the form designated by the University.
Applicants to the Ph.D. Degree Program who have already submitted a master's thesis	
Copy of master's thesis ⑥	4 copies If the master's thesis is written in a language other than English, submit an English version.
Outline of master's thesis in English ⑦	About 2,000 words in length. Submit one original and four copies.
Applicants to the Ph.D. Degree Program who expect to submit a master's thesis	
Copy of the thesis or a draft you plan to submit ⑥	4 copies If the master's thesis is written in a language other than English, submit an English version.
Outline of the thesis or a draft you plan to submit in English ⑦	About 2,000 words in length. Submit one original and four copies.

Submit your certificate of (expected) graduation on which both of the entrance and (expected) graduation dates are listed.

9. Screening method

The Graduate School will make screening based on application documents, considering recommendations from the designated partner universities.

10. Announcement of the screening results

Your results of success or failure will be sent to the applicant by international express mail service (EMS) on the following date:

Friday, March 1, 2019

11. Tuition and other fees

Refer to "Tuition and other fees for the 2019 academic year" (page 8) below.

12. Enrollment steps

Successful applicants must complete the following enrollment process by the designated deadline.

You will not be able to enroll if you fail to complete the process by the deadline.

(1) Enrollment step I-(1) (payment of Admission fee)

Be sure to remit payment no later than the day before the enrollment deadline as described in the information about the payment method that is enclosed with the notification of admission.

Please note that the admission fee is non-refundable.

(2) Enrollment step I-(2) (payment of tuition, and other fees)

Enrollment step II (submission of documents)

Enrollment documents will be sent together with notification of the results. Pay tuition and other fees and submit the required documentation in accordance with the instructions on the Enrollment Process Information (II) that you receive.

You must remit payment of tuition and other fees no later than the day before the enrollment deadline.

Please contact the Graduate School Admissions Group in the following cases:

- If your address changed after you passed the entrance examination

Enrollment step I-(1) (payment of admission fee) Enrollment step I-(2) (payment of tuition and other fees) Enrollment step II (submission of documents)	Friday, March 1, to Friday, March 15, 2019
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*Requests to withdraw

Enrollees who request to withdraw by Saturday, March 31, 2018, for a legitimate reason and who submit a letter of withdrawal from the university from which they have graduated or are expected to graduate (a document bearing the signature [including the position/title and name] and seal of the president of the university or the dean of the faculty [graduate school]), can request to be refunded tuition and other fees.

If you intend to withdraw, inform the university from which you have graduated or are expected to graduate immediately. The Graduate School does not accept requests directly from applicants.

Fees will not be refunded unless the Graduate School receives your request to withdraw from the said university by Saturday, March 30, 2019.

(For specific steps, see the Enrollment Process Information (II).)

13. Others

- (1) The Graduate School does not offer any fee reductions, scholarships, or other preferential programs that apply to admission fee, tuition, and other fees paid by applicants who have been admitted under this program. However, the University does offer tuition reduction programs and a variety of scholarship programs for international students in order to support students' study and research activities. For more information about tuition reduction programs and scholarship programs, contact the Kansai University Division of International Affairs (kokusai@ml.kandai.jp).
- (2) The University can apply for Eligibility Certificate required for a student visa, on behalf of overseas residents planning to enroll in the Graduate School.
More information will be provided after you apply.
Please note that the periods of Enrollment Step I and Step II are different from those of usual for the University to apply on the applicant's behalf.
More information about this process will be provided as part of Application Process 2.

14. Precautions concerning applying

- (1) Once you have applied, you may not change your major, discipline, or research discipline.
- (2) Your desired advisor may be changed. Notification of any such changes will be made beforehand to the university from which you have graduated or are expected to graduate, so be sure to check before you apply.
- (3) Fill your desired major, discipline, and research field in the designated spaces on the application documents.
- (4) Enter your desired major, discipline, and research field in the designated spaces on the application documents after referring to the "List of Academic Advisors of Graduate School of Science and Engineering for the 2018 academic year" (pages 11 to 48).
- (5) The application documents must be completed using either black ink or a ballpoint pen. The University's designated forms must be completed by hand. If using a computer or typewriter, you must print directly on the designated forms.
- (6) If the name on the certificate differs from the name under which you are applying, submit a separate official certificate or other document that establishes your identity.
- (7) Certificates must be in English, Japanese, or Chinese. If you are submitting one or more certificates in another language, you must also submit a English or Japanese translation that has been certified by an embassy or other public institution.
- (8) Once received, documents will not be returned.
- (9) The Graduate School will make special arrangements in the learning environment after enrollment for individuals with special needs such as physical disability, injury, illness, or other circumstances. Please contact the Graduate School Admissions Group before you apply.
- (10) Applicants who have passed this entrance examination may not withdraw from enrollment unless they have any legitimate reasons.

Tuition and other fees for the 2019 academic year

Master's Degree Program

(in Yen)

Category		2019 academic year		2020 after
		Spring Semester	Fall Semester	Annual payment
Educational Expenses	Admission Fee	130,000	—	—
	Tuition	569,500	569,500	1,139,000
Other Fees	Alumni Fee	10,000	—	20,000
Total		709,500	569,500	1,159,000

Ph.D. Degree Program

(in Yen)

Category		2019 academic year		2020 academic year	2021 after
		Spring Semester	Fall Semester	Annual payment	Annual payment
Educational Expenses	Admission Fee	130,000	—	—	—
	Tuition	409,500	409,500	819,000	819,000
Other Fees	Alumni Fee	10,000	—	20,000	—
Total		549,500	409,500	839,000	819,000

Notes

1. Graduates of Kansai University or a Kansai University Graduate School, and undergraduates at the university who satisfy the requirements described by 1-11 of Article 46 Paragraph of the Graduate School Rules are not required to pay the admission fee (enrollment and registration fee) when continuing their studies at one of the university's graduate schools.
2. The University collects ¥10,000 at the time of enrollment and then ¥20,000 the following academic year on behalf of the Alumni Association. Dues are not collected from students who have already paid them as graduates of the university (including any of its graduate schools).

Scholarships Information

Scholarships available for the 2019 academic year:

The scholarships listed on this page are available for students enrolling at the spring semester of the 2019 academic year.

* In all cases, only a small number of recipients are available. For more information such as records about scholarships, contact the staffs put at the bottom of this page.

[1] Kansai University Graduate School Scholarship (awarded for the persons with excellent grades in the Graduate School) (to currently enrolled students)

Award-type * Application-based

Eligibility	Graduate School students with excellent grades who are in difficulty to continue to study for economic reasons.
Awards Amount	See the figure below.
Duration of Award	for one year (You can apply next year again.)

[2] Kansai University Mature Students Scholarship (awarded for excellent working adult graduate students)

Award-type * Application-based

Eligibility	Mature Graduate School students with excellent grades who have gained superior accomplishment in their Graduate School.
Awards Amount	See the figure below.
Duration of Award	for one year (You can apply next year again.)

Awards Amount

Degree Program	Yearly Awards Amount (yen)
Master's Degree Program	375,000
Ph.D. Degree Program	250,000

Inquiries

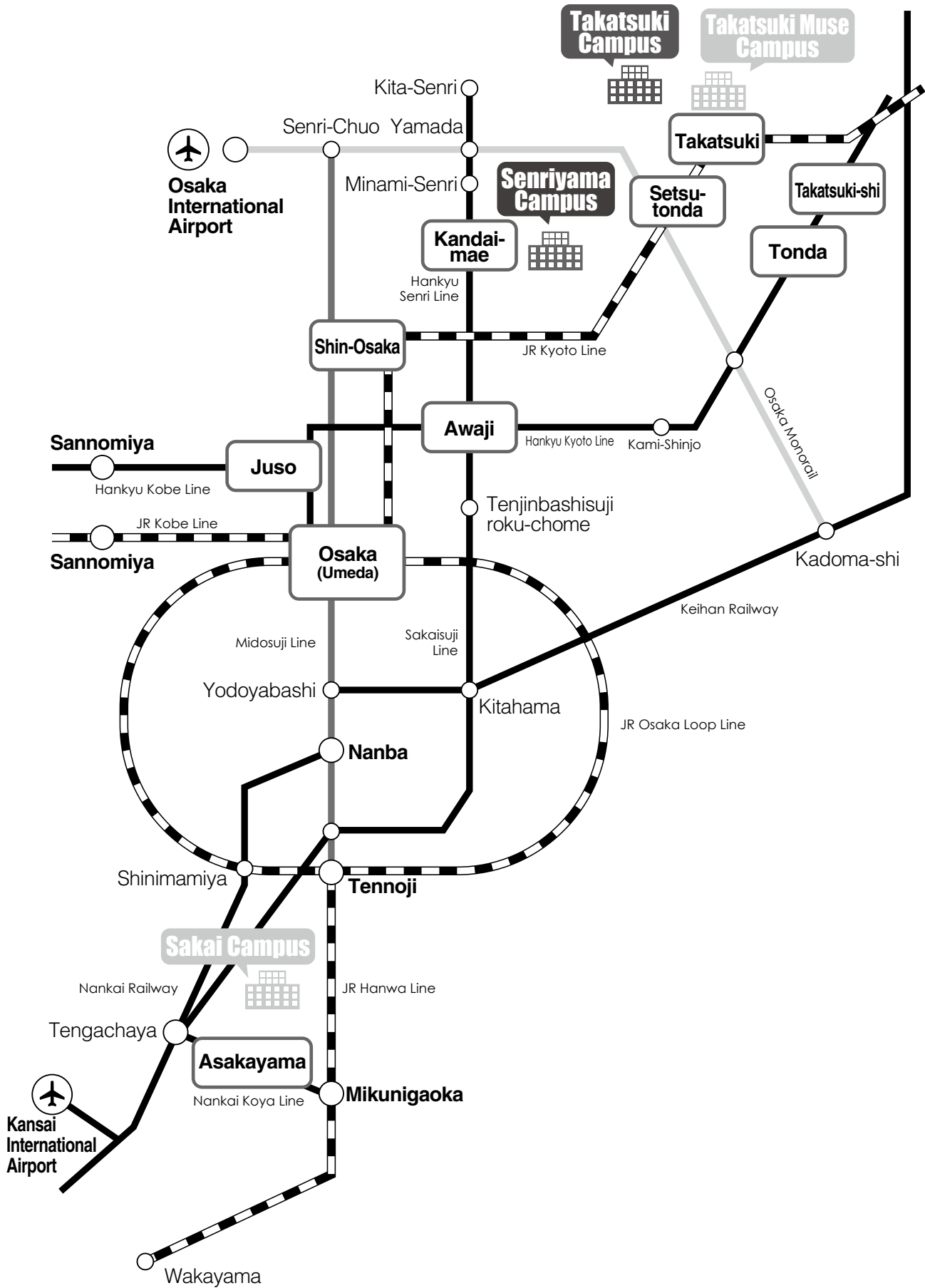
Senriyama Campus (Student Services Bureau, Scholarship and Financial Assistance Group)

3-3-35 Yamate-cho, Suita 564-8680

Phone: 06-6368-1121 (operator)

Hours: 9:00 am to 7:00 pm (except Saturdays, Sundays, public holidays, and university holidays)

Getting to Kansai University



List of Academic Advisors of Graduate School of Science and Engineering
for the 2019 academic year

Mathematics	12~13
Pure and Applied Physics	14~16
Mechanical Engineering	17~22
Electrical, Electronic and Information Engineering	23~27
Architecture	28~30
Civil, Environmental and Applied Systems Engineering	31~35
Chemical, Energy and Environmental Engineering.....	36~38
Chemistry and Materials Engineering	39~46
Life Science and Biotechnology.....	47~50

Mathematics

Research field	Academic Advisors list	
Cohomological Aspects in Mathematics	KUSUDA Masaharu Professor Doctor of Engineering Department of Mathematics Faculty of Engineering Science Master's Program Ph.D.Program	Research Topics ① Crossed product of a Hilbert C^* -module ② Properties of invariant states in a C^* -dynamical system ③ Crossed product of a C^* -algebra ④ Fixed point algebra of a C^* -algebra by compact group actions ⑤ Mathematical physics, quantum statistical Mechanics Key Words Functional Analysis, Operator Algebras, C^* -algebras, C^* -Dynamical System, C^* -Crossed Product, Extension of States, Hereditary C^* -Subalgebra, Hilbert C^* -Module, Morita Equivalence, Scattered C^* -Algebra E-mail: kusuda@kansai-u.ac.jp
	FUJIOKA Atsushi Professor Doctor of Mathematical Sciences Department of Mathematics Faculty of Engineering Science Master's Program Ph.D.Program	Research Topics ① Differential geometry related to integrable systems ② Geometric variational problems ③ Affine differential geometry Key Words Harmonic maps, Minimal surfaces, Surfaces with constant mean curvature, Integrable systems, Variational problems, Affine differential geometry E-mail: afujioka@kansai-u.ac.jp
	MURABAYASHI Naoki Professor Doctor of Science Department of Mathematics Faculty of Engineering Science Master's Program Ph.D.Program	Research Topics ① The arithmetic of abelian varieties with complex or quaternionic multiplication ② The relationship between abelian varieties and automorphic forms Key Words Abelian Variety, Complex Multiplication, Quaternionic Multiplication, Field of Moduli, Field of Definition, Defining Equation, Rational Point Applications Cryptography Theory E-mail: murabaya@kansai-u.ac.jp
	YANAGAWA Kohji Professor Doctor of Science Department of Mathematics Faculty of Engineering Science Master's Program Ph.D.Program	Research Topics ① Combinatorial commutative algebra ② Application of the derived category and sheaf theory to the above area ③ Oriented Matroid Key Words Stanley-Reisner Ring, Derived Category, Constructible Sheaf, Local Duality, Dualizing Complex, Poicare-Verdier Duality, (Affine) Oriented Matroid Applications Computational Algebra E-mail: yanagawa@kansai-u.ac.jp
	WAKUI Michihisa Associate Professor Doctor (Science) Department of Mathematics Faculty of Engineering and Science Master's Program	Research Topics ① Quantum invariants of knots and 3-manifolds ② Representation categories of Hopf algebras Key Words Topology, Tensor Category, Representation, Topological Field Theory, Hopf Algebra, Quantum Group, Knot, 3-Manifold, Subfactor, Triangulation Applications Natural Science E-mail: wakui@kansai-u.ac.jp

Probability and Statistics	<p>UEMURA Toshihiro</p> <p style="text-align: right;">Professor Doctor of Science</p> <p style="text-align: right;">Department of Mathematics Faculty of Engineering Science</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Master's Program</div> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Ph.D.Program</div>	<p>Research Topics</p> <p>① Global path properties for Markov Processes ② Regularity problem for Dirichlet forms ③ Construction of Feller semi-groups in terms of integro-differential operators</p> <p>Key Words</p> <p>Symmetric Stable-like Processes, Jump-diffusion, Dirichlet Forms, Martingale Additive Functional, Recurrence, Transience, Regularities, Ergodicity</p> <p>Applications</p> <p>Estimates for Stationarity of Markov Chains, Determination of Option Prices in the Discrete Model Case, Foundations of Probabilistic Risk Analysis</p> <p>E-mail: t-uemura@kansai-u.ac.jp</p>
	<p>NAGAI Hideo</p> <p style="text-align: right;">Professor Doctor of Science</p> <p style="text-align: right;">Department of Mathematics Faculty of Engineering Science</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Master's Program</div> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Ph.D.Program</div>	<p>Research Topics</p> <p>① Large deviation control problems ② Risk-sensitive control and utility maximization ③ Optimal investment and consumption</p> <p>Key Words</p> <p>Large deviation control, Risk-sensitive control, Utility maximization, Stochastic differential equations, H-J-B equations, Robustness, Uncertainty</p> <p>Applications</p> <p>Financial engineering, Mathematical finance</p> <p>E-mail: nagaih@kansai-u.ac.jp</p>
	<p>YAMAZAKI Kazutoshi</p> <p style="text-align: right;">Associate Professor Doctor of Philosophy</p> <p style="text-align: right;">Department of Mathematics Faculty of Engineering Science</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Master's Program</div>	<p>Research Topics</p> <p>① Levy processes ② Optimal stopping, Optimal control ③ Applications in finance and insurance</p> <p>Key Words</p> <p>Levy processes, reflected Levy processes, optimal stopping, optimal control, impulse control, stochastic differential equations, HJB equations</p> <p>Applications</p> <p>Mathematical finance, credit risk, insurance, queues, inventory management</p> <p>E-mail: kyamazak@kansai-u.ac.jp</p>

Pure and Applied Physics

Research field	Academic Advisors list	
Physics	ITANO Tomoaki Professor Ph. D. Department of Pure and Applied Physics Faculty of Engineering Science Master's Program Ph.D.Program	Research Topics ① Coherent structure and sustenance mechanism in wall-bounded turbulence ② Understanding of Physical mechanisms in a variety of fluid phenomena Key Words Fluid Physics, Coherent Structure, Channel Flow, Numerical Simulation, Turbulence Structure of Wall-Bounded Channel Flow, Osmotic Flow Applications Control of Turbulence for Resistance Reduction, Interdisciplinary and Educational Studies in Fluid Dynamics E-mail: itano@kansai-u.ac.jp
	ITOH Hiroyoshi Professor Doctor of Engineering Department of Pure and Applied Physics Faculty of Engineering Science Master's Program Ph.D.Program	Research Topics ① Magnetic nano-structure (spintronics) ② Mesoscopic system ③ Superconductivity ④ Strongly correlated electronics ⑤ Device design using computational simulation Key Words Spintronics, Magnetism, Superconductivity, Mesoscopic System, Theoretical Solid State Physics, Computational Materials Science, Device Design Applications Magnetic Recording (HDD Head, MRAM, Magnetic Race Track Memory), Spin Circuit (Spin-MOSFET, Quantum Computer), New Functional Device E-mail: hitoh@kansai-u.ac.jp
	ITO Makoto Professor Doctor of Science Department of Pure and Applied Physics Faculty of Engineering Science Master's Program Ph.D.Program	Research Topics ① The chemical bonding structures and reactions of highly-excited neutron-excess systems ② The quantum tunneling phenomena in nuclear reactions Key Words Finite Quantum Many-body Systems, Microscopic Cluster Model, Wave Packet Simulations, Radioactive Isotopes, Breakup Reactions, Nuclear Fusion, Quantum Tunneling, Nucleo-synthesis, Nuclear Reactor Applications Engineering of Nuclear Reactors, Nuclear Energy, Radiation Therapy, Nuclear Data E-mail: itomk@kansai-u.ac.jp
	SUGIMOTO Nobumasa Professor Doctor of Engineering Department of Pure and Applied Physics Faculty of Engineering Science Master's Program Ph.D.Program	Research Topics Thermoacoustics and its application to novel heat engines, Localization of wave motion and oscillation Key Words Thermofluid dynamics, Waves and oscillations, Acoustics, Nonlinear, Shock, Soliton, Chaos, Thermoacoustics, Heat engine, Localization Applications Novel heat engines exploiting thermoacoustic phenomena E-mail: n_sugimo@kansai-u.ac.jp
	SUGIHARA-SEKI Masako Professor Doctor of Science Department of Pure and Applied Physics Faculty of Engineering Science Master's Program Ph.D.Program	Research Topics ① Micro-rheological study on blood flow ② Intertial migration of particles in channel flows ③ Model studies of microvessel permeability ④ Sports fluid mechanics Key Words Blood flow, Blood Cells, Micro-biorheology, Microscale flows, Intertial migration, Turbo-jav Applications Physiological Flow, Microfluidics, Suspension Flow, Cell separation, Microdevices E-mail: sekim@kansai-u.ac.jp

Physics	<p>WADA Takahiro Professor Doctor of Science Department of Pure and Applied Physics Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Synthesis of super-heavy elements, fluctuation- dissipation dynamics of fusion and fission reaction of heavy nuclei ② Mathematical model for biological effects of radiation</p> <p>Key Words Microscopic Theory of Quantum Many-body System, Semi-classical Approach to Quantum Physics, Brownian Motion, Stochastic Differential Equation, Long-Term Exposure to Low Dose Rate Radiation, Transmutation of Nuclear Waste</p> <p>Applications New Type of Nuclear Reactor, Accelerator Driven Nuclear Transmutation, Stochastic Process in Biotic System</p> <p>E-mail: wadataka@kansai-u.ac.jp</p>
	<p>HONDA Syuta Associate Professor Doctor of Engineering Department of Pure and Applied Physics Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics ① Semiconductor Electronics ② Magnetization Dynamics with Spin-polarized Current ③ Semiconductor Spintronics ④ Tunnel FET, Tunnel Diode</p> <p>Key Words Tunnel Junction, First Principle Calculation, Micro-Magnetic Simulation, Pure Spin Current, Graphene, Magnetic Bobble and Skyrmion</p> <p>Applications Semiconductor Electronics Device, Magnetic Recording, Magnetoresistive Random Access Memory</p> <p>E-mail: shonda@kansai-u.ac.jp</p>
Applied Physics	<p>ASAKAWA Makoto Professor Doctor of Engineering Department of Pure and Applied Physics Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① The terahertz radiation sources based on the electron beam ② The radiation process of the ultra-short electron bunch</p> <p>Key Words Photon Radiation, Terahertz Wave, Free-Electron Laser, Electron Accelerator, Photocathode, Femto-second Laser, Plasma Physics</p> <p>Applications Terahertz Time-Domain Spectroscopy, Non Destructive Inspection Using Infrared/ Terahertz/ Microwave Radiation, Bio-sensing With Far-infrared, Molecule Decomposition Using Infrared</p> <p>E-mail: asakawa@kansai-u.ac.jp</p>
	<p>INADA Mitsuru Professor Doctor of Materials Science Department of Pure and Applied Physics Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Optical properties of nanostructure materials ② Electronic transport in quantum dot systems</p> <p>Key Words Nanostructure, Nanotechnology, Nanofabrication, Many-body Effect</p> <p>Applications Quantum Information Devices, Biosensors, Photovoltaic Devices</p> <p>E-mail: inada@kansai-u.ac.jp</p>
	<p>SAITOH Tadashi Professor Doctor of Engineering Department of Pure and Applied Physics Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Optical and electrical properties of oxide semiconductors and their applications for photonic devices or sensors ② Green devices without using poisonous materials or scarce elements</p> <p>Key Words Photonic Devices, Green Devices, Green Semiconductors, Nano-science, Solar Cell, Flame Detector, Flat Panel Display, Transparent Conducting Film</p> <p>Applications Electronics, Environment Preservation</p> <p>E-mail: saitoh@kansai-u.ac.jp</p>

Applied Physics	<p>YAMAMOTO Ken</p> <p style="text-align: center;"> Master's Program Ph.D.Program </p>	<p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Pure and Applied Physics</p> <p>Faculty of Engineering Science</p>	<p>Research Topics</p> <p>① The ultrasonic material science ② The ultrasonic degradation of polymers ③ The generation and the application of the acoustic phase conjugate waves</p> <p>Key Words</p> <p>Physical Acoustics, Soft Matter, Sonochemistry, Sonoluminescence, Ultrasonic Degradation, Phase Conjugation, Visualization of Acoustic Field</p> <p>Applications</p> <p>Nondestructive Test, Medical Instrument, Analytical Instrument, Manufacturing Technology</p> <p>E-mail: ken@kansai-u.ac.jp</p>
	<p>YAMAGUCHI Soichiro</p> <p style="text-align: center;"> Master's Program </p>	<p>Associate Professor</p> <p>Doctor of Physics</p> <p>Department of Pure and Applied Physics</p> <p>Faculty of Engineering Science</p>	<p>Research Topics</p> <p>① Solid rocket propellant ② Microwave tomography for medical applications ③ Terahertz wave technology</p> <p>Key Words</p> <p>Rocket, Booster, Propellant, X-ray CT, Microwave, Millimeter-wave, Terahertz Radiation, Imaging Diagnostics, Computerized Tomography, CT</p> <p>Applications</p> <p>Space Engineering, Radio Engineering, Imaging Diagnostics, Nondestructive Testing, Airplane Rader</p> <p>E-mail: yamso16@kansai-u.ac.jp</p>

Mechanical Engineering

Research field	Academic Advisors list		
Nanophysics and Nanomaterials Engineering	<p>ITO Takeshi</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Applied Physics Laboratory</p> <p>Faculty of Engineering Science</p>	<p>Research Topics</p> <p>① Biosensor based on functional surfaces and nanosize structures</p> <p>② Physical-chemical analysis of nanosize materials and their application for sensors</p> <p>③ Analytical and bioanalytical system using a micro fluidic device</p> <p>④ Biomimetics based on nano and micro structures</p> <p>Key Words</p> <p>Micro fabrication process, self-assembled nanostructure, nanosize materials, thin film, biomaterial, inorganic and organic catalyst</p> <p>Applications</p> <p>Biochemical analysis, Food analysis, environment analysis, micro fluidic device, Bioreactor</p> <p>E-mail: tito@kansai-u.ac.jp</p>
	<p>SHINGUBARA Shoso</p> <p>Professor</p> <p>Doctor of Science</p> <p>Department of Mechanical Engineering</p> <p>Applied Physics Laboratory</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor</p> <p>Doctor of Science</p> <p>Department of Mechanical Engineering</p> <p>Applied Physics Laboratory</p> <p>Faculty of Engineering Science</p>	<p>Research Topics</p> <p>① Fabrication and functionalization of various ferromagnetic and semiconductor nanowires using porous alumina template</p> <p>② Nanospintronics devices and nano memory devices</p> <p>③ Fabrication and reliability study of through-Si Via of 3-dimensional LSIs</p> <p>④ Electroless and Electro-plating of metal interconnections</p> <p>Key Words</p> <p>Nanotechnology, Selforganization, Spitronics, Quantum Size Effect Devices, MEMS, Sensor, Plating, Reliability, Electromigration, Nanowire</p> <p>Applications</p> <p>Magnetic Recording, 3-D LSI, Nano-Bio Sensor, Solar Cell, Energy Conversion Device, Jisso Technology</p> <p>E-mail: shingu@kansai-u.ac.jp</p>
	<p>SHIMIZU Tomohiro</p> <p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p>	<p>Research Topics</p> <p>① Synthesis of semiconductor nanowires and application of the wire to electronics devices</p> <p>② Fabrication of nanostructures using porous alumina template</p> <p>③ Development of mass-synthesis of metal and semiconductor nanowires</p> <p>Key Words</p> <p>Nano-wire, Nano-rod, Nano-particle, Whisker, Anodic Alumina, Porous Alumina, Vapor-Liquid-Solid Growth Chemical Vapor Deposition</p> <p>Applications</p> <p>Wrap-gated Nanowire Transistor, Photovoltaic Cell, Light Emitting Device, Transparent Conductive Film, Gas sensor</p> <p>E-mail: shimi@kansai-u.ac.jp</p>
Fluid Engineering and Biomechanics	<p>BANDO Kiyoshi</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p>	<p>Research Topics</p> <p>① Fluid mechanics and Biomechanics</p> <p>② Coupled problem between flow and deformation of elastic membrane</p> <p>③ Blood flow in blood vessels</p> <p>Key Words</p> <p>Erythrocyte, Blood Flow, Airflow in Lung, Coupled Problem, Computational Biomechanics, Buckling, Elastic Membrane, Microcapsule, Osmotic Pressure, Cell, Polymer Gel</p> <p>Applications</p> <p>Medical Information, Medical Diagnosis, Drug Delivery, Analysis Soft, Optimum Design</p> <p>E-mail: bando@kansai-u.ac.jp</p>
	<p>YAMAMOTO Yasufumi</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p>	<p>Research Topics</p> <p>① Numerical analysis of multiphase flows containing moving and deforming interfaces</p> <p>② Application of wettability and surface tension dominated phenomena</p> <p>Key Words</p> <p>Numerical Simulation, Multiphase Flow, PIV, PTV, Interface, Bubble, Drop, Wettability</p> <p>Applications</p> <p>Ink Jet, Nuclear Power Plant, Boiler, Automobile, Air Conditioner, Environment</p> <p>E-mail: yamayasu@kansai-u.ac.jp</p>

<p>Fluid Engineering and Biomechanics</p>	<p>TAJIKAWA Tsutomu</p> <p>Associate Professor Doctor of Engineering Department of Mechanical Engineering Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Design, development and evaluation of mechanical specifications for artificial/native organs ② Measurement of time constants for relaxation as deformability of human erythrocyte by using microchannel technique ③ Development of fiber-optic sensor for blood flow</p> <p>Key Words Fluid Engineering and Biomechanics, Flow Visualization and Measurements, Engineering-based Medicine, Biomedical and Functional Modeling</p> <p>Applications Mechanical Evaluation for Native/Artificial Organ / Tissue, Design and Development of Artificial Organ and Diagnostic/Therapeutic Devices</p> <p>E-mail: tajikawa@kansai-u.ac.jp</p>
<p>Materials Engineering</p>	<p>SAITOH Ken-ichi</p> <p>Professor Ph. D. in Engineering Department of Mechanical Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p> <p>TAKUMA Masanori</p> <p>Professor Doctor of Engineering Department of Mechanical Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p> <p>SATO Tomohiro</p> <p>Associate Professor Doctor of Engineering Department of Mechanical Engineering Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Microscopic evaluation of strength and function of materials by molecular dynamics ② Numerical simulation and experiment of shape memory effect in nano-sized materials ③ Development of computational mechanics</p> <p>Key Words Computational Mechanics, Molecular Dynamics, NEMS, Particle Methods, Interface, Atomic Cluster, Shape Memory Alloys, Strength and Mechanical Properties</p> <p>Applications Evaluation of Materials, New Materials, Metals, Plastics, Information Technology, Micromechatronics, Biological System, Plastic Working, Stable Structures</p> <p>E-mail: saitou@kansai-u.ac.jp</p> <p>Research Topics</p> <p>① The evaluation of the mechanical properties and the damage of the material with non-destructive inspection method ② The material design which adopted the concepts of the smart material and structure</p> <p>Key Words Fatigue, Wear, Damage, Nondestructive Inspection, Material Evaluation, Life Evaluation, Film, Composite Material, Material Design, Wavelet Transform, Neural Network, Fractal, Chaos</p> <p>Applications Soundness Evaluation of Structural Member Part, Material Design, Smart Materials & Structure</p> <p>E-mail: t940081@kansai-u.ac.jp</p> <p>Research Topics</p> <p>① Development of sintering process for Cu alloy ② Evaluation of mechanical properties on sintering alloy ③ Evaluation of tribological properties on copper alloy ④ Molecular dynamics on sliding system of sulfides ⑤ Molecular dynamics on phase transformation of Ni-Ti alloy</p> <p>Key Words Powder metallurgy, Sintering, Cu alloy, Material strength, tribology, solid lubricant Computational mechanics, Molecular dynamics, shape memory alloy</p> <p>Applications Material design, Sliding members, Evaluation of material function, Development of material manufacturing</p> <p>E-mail: tomo_sato@kansai-u.ac.jp</p>

<p>Materials Engineering</p>	<p>TAKAHASHI Yoshimasa</p> <p>Associate Professor Doctor of Engineering Department of Mechanical Engineering Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Micro-mechanism of fatigue fracture ② Strength properties of micro/nano-scale materials ③ Micro-characterization of structural materials for strength evaluation</p> <p>Key Words</p> <p>Metal Fatigue, Micro-mechanism, Crack-tip, Fracture Mechanics, Micro-characterization of Materials, Electron Microscopy, Thin Film Materials, Interface, Strength Law, Mezo-scale, Micro/nano-structures</p> <p>Applications</p> <p>Design and Evaluation Techniques of Material Strength, Techniques of Material Characterization, MEMS · NEMS Device, LSI Device</p> <p>E-mail: yoshim-t@kansai-u.ac.jp</p>
<p>Tribology and Micromechanics for Information Equipment</p>	<p>KOGANEZAWA Shinji</p> <p>Professor Doctor of Engineering Department of Mechanical Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Mechatronics of Magnetic Storage Systems ② Small-sized flying robot ③ Measurement of viscoelasticity</p> <p>Key Words</p> <p>Hard disk drive, Optical disk drive, Sensors and actuators, Small-sized flying robot, Measurement of viscoelasticity</p> <p>Applications</p> <p>Hard disk drives, Optical disk drives, Mechatronics, Damping and vibration control</p> <p>E-mail: skoga@kansai-u.ac.jp</p>
	<p>TAGAWA Norio</p> <p>Professor Doctor of Engineering Department of Mechanical Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Nano-tribology and Nano-mechanics of information storage devices and systems ② Micro-electro-mechanical systems (MEMS) and Nano-electro-mechanical systems (NEMS) ③ Tribology, design, and dynamics of mechanical systems</p> <p>Key Words</p> <p>Nano-technology in Mechanical Engineering, Tribology, Mechanics, Dynamics, HDD, Head Disk Interface, Lubricant, DLC, Ultra-thin Films</p> <p>Applications</p> <p>Information and Precision Equipments, Hard Disk Drives, Optical Storage, Probe Storage Devices, Printer, High Speed Positioning Systems</p> <p>E-mail: tagawa@kansai-u.ac.jp</p>
	<p>TANI Hiroshi</p> <p>Professor Doctor of Engineering Department of Mechanical Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Tribology of ultra-thin molecular lubricant film ② Tribology of nano carbon layer ③ Tribology of head-disk interface in HDD</p> <p>Key Words</p> <p>Tribology, Perfluoropolyether, PFPE, Carbon Nano-tube, Nano Brush, Head-disk Interface, Magnetic Disk, Magnetic Head Slider</p> <p>Applications</p> <p>MEMS, Hard Disk Drive, Magnetic Disk</p> <p>E-mail: hrstani@kansai-u.ac.jp</p>
	<p>LU Renguo</p> <p>Associate Professor Doctor of Engineering Department of Mechanical Engineering Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Tribology of ultrathin functionalized lubricant films ② Tribochemistry ③ Development of smart tribosystem with ultralow friction</p> <p>Key Words</p> <p>Tribology, Magnetic Disk, Lubrication of Thin Films, Tribochemistry, Boundary Lubrication, Surface and Interface Control</p> <p>Applications</p> <p>Lubricant oil, Bearing, Engine, Automobile, MEMS, Hard Disk Drive</p> <p>E-mail: r_lu@kansai-u.ac.jp</p>

Thermal Engineering	<p>UMEKAWA Hisashi</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Heat transfer and flow characteristics in forced convective boiling</p> <p>② Quantitative measurement of two-phase flow by using NR/ XR radiography</p> <p>Key Words</p> <p>Heat Transfer, Critical Heat Flux, Flow Instability, Forced Convective Boiling, Cryogenic Fluid, Fluidized-bed, Neutron Radiography, X-ray Radiography</p> <p>Applications</p> <p>Boiler, Nuclear Reactor, Distillation Column, Open Rack Vaporizer, Fluidized-bed Heat Exchanger</p> <p>E-mail: umekawa@kansai-u.ac.jp</p>
	<p>MATSUMOTO Ryosuke</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Mixing and reaction in microchannel</p> <p>② Development of heated appliance using tubular flame</p> <p>③ Estimation of forst formation on finned-tube heat exchanger</p> <p>Key Words</p> <p>Tubular Flame, Combustor, Microchannel, Mixing, Chemical Reaction, Frost Formation, Heat Exchanger</p> <p>Applications</p> <p>Cooking Equipment, μ-TAS, Refrigerator, Heat Exchanger</p> <p>E-mail: matumoto@kansai-u.ac.jp</p>
	<p>AMI Takeyuki</p> <p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Multi-phase Flow Dynamics</p> <p>② Critical Heat Flux</p> <p>③ Numerical Investigation of Multi-phase Flow</p> <p>Key Words</p> <p>Thermal Engineering, Multi-phase Flow, Phase Change, Flow Pattern, Heat Transfer, Critical Heat Flux</p> <p>Applications</p> <p>Boiler, Heat Exchanger, Nuclear Reactor, Chemical Engineering</p> <p>E-mail: t_ami@kansai-u.ac.jp</p>
	<p>ODA Yutaka</p> <p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Large eddy simulations of convective heat transfer in gas turbines</p> <p>② Development of numerical model for predicting local entropy generation rate in turbulent flows with heat transfer</p> <p>③ Numerical simulation of conjugate heat transfer based on LES statistics</p> <p>Key Words</p> <p>Turbulent heat transfer, Heat transfer enhancement, CFD, Turbulence model, DNS/LES, Entropy generation, Exergy</p> <p>Applications</p> <p>Gas turbines, Jet engines, Heat exchangers, Air conditioner, Electronics cooling, Thermal systems, Thermoelectric devices</p> <p>E-mail: oda.y@kansai-u.ac.jp</p>
Manufacturing Systems	<p>YAMAGUCHI Tomomi</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Development of silicon micro multi-edged tool using anisotropic etching</p> <p>② Development of active flexible fixture for assembly</p> <p>Key Words</p> <p>Ultra Precision Machining, Micro Machining, Fixture for Assembly, Molecular Dynamics Analysis, Diamond Tool, Tool Wear</p> <p>Applications</p> <p>Ultra Precision Machining, Assembly System, Micro Machining, Machining with Diamond Tool</p> <p>E-mail: tomomiym@kansai-u.ac.jp</p>

<p>Manufacturing Systems</p>	<p>FURUSHIRO Naomichi</p> <p>Master's Program</p>	<p>Associate Professor Ph. D. (Engineering) Department of Mechanical Engineering Faculty of Engineering Science</p>	<p>Research Topics ① Mitigation of Tool Wear in Ultra-precision Diamond Turning ② Mechanochemical Superfinishing of Optical and Electronic Materials</p> <p>Key Words Ultra-precision Machining, Diamond Tool, Tool Life, Tool Wear, Wear Mechanism, Wear Mitigation, Superfinishing, Mechanochemical Superabrasive Stone</p> <p>Applications Diamond Turnable Materials with High Heatresistance and Wear Resistance for Precision Moulds of High Performance Optical Components, Superfinishing of Optical Lens, Antifriction Bearing</p> <p>E-mail: furushiro@kansai-u.ac.jp</p>
<p>Mechanical Dynamics and Control Engineering</p>	<p>UTSUNO Hideo</p> <p>Master's Program</p> <p>Ph.D.Program</p> <p>YAMADA Keisuke</p> <p>Master's Program</p>	<p>Professor Doctor of Engineering Department of Mechanical Engineering Faculty of Engineering Science</p> <p>Associate Professor Doctor of Engineering Department of Mechanical Engineering Faculty of Engineering Science</p>	<p>Research Topics ① Evaluation of pulse wave propagation in blood vessel ② Noise reduction of automobile and Bulletin train ③ Vibration analysis of time variant system such as robot</p> <p>Key Words Vibration, Noise, Wave, Acoustics, Pulse wave in blood vessel, Soundproofing material, Tension, Time variant system, Arteriosclerosis</p> <p>Applications Noise and Vibration reduction of Machines, Design of soundproofing material, Diagnosis of tension, Diagnosis of blood vessel by using pulse wave</p> <p>E-mail: utsuno@kansai-u.ac.jp</p> <p>Research Topics ① Vibration and noise reduction using smart structure system ② Vibration suppression using dynamic vibration absorber ③ Seismic isolation</p> <p>Key Words Vibration, Noise, Smart structure, Dynamic vibration absorber, Seismic isolation table, Human dynamics, Sound absorption</p> <p>Applications Vibration and noise reduction of machines, Vibration isolation using seismic isolation table</p> <p>E-mail: yamadak@kansai-u.ac.jp</p>
<p>Measurement Systems</p>	<p>ARAI Yasuhiko</p> <p>Master's Program</p> <p>Ph.D.Program</p> <p>TAKATA Keiji</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor Doctor of Engineering Department of Mechanical Engineering Faculty of Engineering Science</p> <p>Professor Doctor of Science Department of Mechanical Engineering Faculty of Engineering Science</p>	<p>Research Topics ① Current research interests include a fringe analysis and moire fringes. ② Optical motor using Light Pressure</p> <p>Key Words Moire, Speckle, Interferometry, Shape Measurement, 3-D Measurement, Virtual Speckle Pattern, Optical Motor, Silicon Process, Light Pressure</p> <p>Applications Dynamic High Resolution Measurement for Deformation (out-of-plane and in-plane) with Rough Surface, Measurement of Out of Plane Deformation for Electro Devices, Control of Movement of Micro Structures under Environment of Vacuum</p> <p>E-mail: arai@kansai-u.ac.jp</p> <p>Research Topics ① Development and application of novel measurement techniques using scanning probe microscopy ② Scanning tunneling microscope with an ultrasonic detector to observe nonconductive material ③ Novel method, strain imaging, for imaging ferroelectric and ferromagnetic properties with high resolution</p> <p>Key Words Scanning Probe Microscopy, Strain Imaging, Piezoelectric Properties, Lead Zirconate Titanate, Magnetic Properties, Magnetostriction, Hard Disk Drive Head, Li-ion Batteries</p> <p>Applications Hard Disk Drives, High Density Memory Devices</p> <p>E-mail: takatak@kansai-u.ac.jp</p>

Robot and Microsystems	<p>AOYAGI Seiji</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Sensor feedback control for robotics, High speed and high precision control in mechatronics</p> <p>② Mobile home/welfare robot based on RECS (Robot Environment Compromising System)</p> <p>③ Micromachined medical tools such as microneedles, Micro sensors for robotics based on MEMS (MicroElectroMechanical Systems)</p> <p>Key Words</p> <p>Robotics, Mechatronics, Sensor Control, Home/Welfare Robot, MEMS, Microneedles, Micro Sensors (Accelerometer, Tactile Sensor, Ultrasonic Sensor, Magnetic Sensor)</p> <p>Applications</p> <p>Industrial Robot, Home/Welfare Robot, Micro Robot, Micro Medical Devices, Micro Sensors</p> <p>E-mail: aoyagi@kansai-u.ac.jp</p>
	<p>SUZUKI Masato</p> <p>Associate Professor</p> <p>Ph. D. (Engineering)</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Development of fabrication process for micro machining</p> <p>② Micro sensor system using semiconductor devices and MEMS devices</p> <p>Key Words</p> <p>Micro Electro Mechanical System (MEMS), Micro Sensors, Semiconductor Process, Optical Devices</p> <p>Applications</p> <p>Micro Machining, MEMS Processing, Precision Processing Technology, Sensor Engineering, Optical Engineering, Engineering for Semiconductor Devices</p> <p>E-mail: m.suzuki@kansai-u.ac.jp</p>
	<p>TAKAHASHI Tomokazu</p> <p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① MEMS based micro power generator</p> <p>② Universal robotic hand</p> <p>Key Words</p> <p>Micro Electro Mechanical Systems, Micro Power Generation, Vacuum gripper, Robot, Biomimetics</p> <p>Applications</p> <p>Material handling, Micro power generator</p> <p>E-mail: t.taka@kansai-u.ac.jp</p>
Ergonomics and Biomedical Engineering	<p>KOTANI Kentaro</p> <p>Professor</p> <p>Ph. D.</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Neurophysiological characteristics of tactile perception</p> <p>② Industrial and medical applications of eye movement characteristics</p> <p>Key Words</p> <p>Tactile Perception, Saccadic Eye Movement, Magnetoencephalography, Mechanoreceptors, Human-Computer Interaction, Input Device</p> <p>Applications</p> <p>Design of Input Device, Virtual Reality, Tactile Display, Medical Screening Device, Usability Evaluation, Ergonomics of Human Work, Work Physiology</p> <p>E-mail: kotani@kansai-u.ac.jp</p>
	<p>SUZUKI Satoshi</p> <p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Mechanical Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Non-contact vital-sign monitoring using microwave radar and application to medical engineering</p> <p>② Estimation of change in user's status using neurophysiological information</p> <p>③ Biological signal processing intended to apply for predictive control</p> <p>Key Words</p> <p>Non-contact, Vital-sign monitoring, Microwave radar, Mental stress, Arousal, Brain-machine Interface</p> <p>Applications</p> <p>Medical engineering, Biomedical measurement, Safety engineering, Welfare engineering, Man-machine interface, Psychophysiology</p> <p>E-mail: ssuzuki@kansai-u.ac.jp</p>

Electrical, Electronic and Information Engineering

Research field	Academic Advisors list	
Electrical Engineering	<p>OHASHI Shunsuke</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Electrical and Electronic Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Motor drive</p> <p>② Linear drive system and magnetic levitation system for transportation and conveyance system</p> <p>③ Application for superconductor</p> <p>④ New generation system using clean energy</p> <p>Key Words</p> <p>Magnetic Levitation, Electrical Machine, Electric Car, Linear Motor, High Temperature Superconductor, Renewable Energy</p> <p>Applications</p> <p>Magnetically Levitated Transportation and Conveyance System, Magnetic Bearing, Electric Car, Generator without CO₂</p> <p>E-mail: ohashi@kansai-u.ac.jp</p>
	<p>HAMADA Shoji</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Electrical Electronic and Information Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Safety investigation related to human exposure to electric and magnetic fields around electric power equipment</p> <p>② Lightning shielding of electric power transmission and distribution systems</p> <p>③ Control of eddy-current distribution using arrayed coils for magnetic stimulation</p> <p>Key Words</p> <p>Electric power equipment, Nondestructive inspection, Bioelectromagnetics, Numerical electromagnetic field analysis, High performance computing, Voxel modeling</p> <p>Applications</p> <p>Improvement of dielectric strength, Lightning shielding, Protection form electric shock, Electric/magnetic stimulation</p> <p>E-mail: shamada@kansai-u.ac.jp</p>
	<p>YAMAMOTO Yasushi</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Electrical and Electronic Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Liquid blanket and diverter for nuclear fusion reactors</p> <p>② Electrical grids</p> <p>③ Hydrogen permeation through ceramics</p> <p>Key Words</p> <p>Liquid blanket, lead lithium, silicon carbide, plasma discharge, neutron source, particle simulation, hydrogen permeation</p> <p>Applications</p> <p>Potable neutron source, Neutron diffraction, Fusion power generation</p> <p>E-mail: yama3707@kansai-u.ac.jp</p>
	<p>YONETSU Daigo</p> <p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Electrical and Electronic Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Evaluation and optimizing technique about electromagnetic induction phenomena for IH cooker and inductive power transfer apparatus</p> <p>② Evaluation and optimizing technique about electromagnetic environment</p> <p>Key Words</p> <p>Inverse Problem, Multi-objective Optimum Design, Finite Element Method, Method of Moment, FDTD Method, Evolutionary Computation, Electromagnetic Measurement</p> <p>Applications</p> <p>IT, Electric Power Engineering, Nondestructive Test, ITS, Electric Equipment Design</p> <p>E-mail: yonetsu@kansai-u.ac.jp</p>
Materials and Devices for Electronics and Optics	<p>KITAMURA Toshiaki</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Electrical and Electronic Engineering</p> <p>Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Electromagnetic Field Simulation</p> <p>② Optical Devices</p> <p>③ Near-Field Optics</p> <p>④ Microwave Devices</p> <p>Key Words</p> <p>Finite-Difference Time-Domain Method, Nonlinear Optics, Magneto-Optical Effect, Optical Scattering, Microwave Filter, Antenna</p> <p>Applications</p> <p>Optical Communication, Optical Disk, Mobile Telephone, Wireless LAN</p> <p>E-mail: kita@kansai-u.ac.jp</p>

Materials and Devices for Electronics and Optics	<p>TAJITSU Yoshiro Professor Ph. D</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Department of Electrical and Electronic Engineering Faculty of Engineering Science</p>	<p>Research Topics ① Electroactive Polymer ② Sensor & Actuator</p> <p>Key Words Piezoelectricity, Photoelasticity, Dielectrics, Ferroelectricity, Polymer, Sensing, Actuating, AFM Optical Activity, Biodegradability, Electrets, Chirality</p> <p>Applications Eco-cable, Optical Film for LCD, Touch Panel Transparency Speaker, Optical Modulator, Soft Sensor Galvanic Tweezers, Ultrasonic Motor</p> <p>URL: http://www2.ipcku.kansai-u.ac.jp/~tajitsu/</p>
	<p>SAIKI Taku</p> <p>Master's Program</p>	<p>Associate Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science</p>	<p>Research Topics ① Development of high-power and high-efficient solar-pumped solid-state lasers ② Development of new laser materials ③ Production of renewable energy using metallic nanoparticles based on laser ablation</p> <p>Key Words Solar Light, Ceramics, Laser, Metal Nanoparticle, Renewable Energy</p> <p>Applications Electric Power Generation, Hydrogen Production and Storing, New Material Production, Laser Energy Transmission</p> <p>E-mail: tsaiki@kansai-u.ac.jp</p>
	<p>SATO Shingo</p> <p>Master's Program</p>	<p>Associate Professor Doctor of Engineering Department of Electrical Electronic and Information Engineering Faculty of Engineering Science</p>	<p>Research Topics ① Device and process simulation ② TEG development for device analysis ③ Theory and modeling on semiconductor physics</p> <p>Key Words Scaling, MOSFET, SOI structure, LSI design, TEG development, quantum effect, device simulation</p> <p>Applications Electronic devices, VLSI, electronic measurement</p> <p>E-mail: satos@kansai-u.ac.jp</p>
	<p>NAKAMURA Kazuhiro</p> <p>Master's Program</p>	<p>Associate Professor Doctor of Engineering Department of Electrical, Electronic Engineering Faculty of Engineering Science</p>	<p>Research Topics ① Low-cost fabrication processes for silicon solar cells ② Deposition and characterization of ZnO thin films ③ Si/FeSi₂ heterojunction solar cells</p> <p>Key Words Solar Cell, Silicon, Low Cost, Thin-film Deposition, TiO₂, FeSi₂, Indium Tin Oxide (ITO), Anti-Reflection Coating (ARC), Semiconductor Material Characterization, Heterojunction</p> <p>Applications Solar Cells, Semiconductor Devices, Nanotechnology, Surface Science, Environmental Engineering</p> <p>E-mail: knaka@kansai-u.ac.jp</p>
Information and Communication Engineering	<p>YAMAMOTO Miki</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science</p>	<p>Research Topics ① New Generation Networks (Future Internet) ② Content Delivery</p> <p>Key Words New Generation Internet, Content Delivery, Traffic Control, Congestion Control, Wired and Wireless Internet Design</p> <p>Applications Future Internet, Content Delivery, Traffic Control, Network Performance Evaluation</p> <p>E-mail: yama-m@kansai-u.ac.jp</p>
	<p>YOMO Hiroyuki</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor Ph. D. (Osaka University, 2002) Department of Electrical and Electronic Engineering Faculty of Engineering Science</p>	<p>Research Topics ① Wireless network control for mobile communications network ② Advanced radio resource management with intelligent wireless access ③ Cross-layer protocol design for wireless network</p> <p>Key Words Wireless Network, Mobile Communications, Mesh Network, Cognitive Radio, Protocol Design, Radio Resource Management, Energy-Efficient Protocol Design</p> <p>Applications Wireless System Design</p> <p>E-mail: yomo@kansai-u.ac.jp</p>

Information and Communication Engineering	<p>HIRATA Kouji Associate Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics ① Future networking ② All-optical networking ③ Network optimization</p> <p>Key Words Information network, All-optical network, Future Internet, Green ICT</p> <p>Applications Network design, the Internet</p> <p>E-mail: hirata@kansai-u.ac.jp</p>
	<p>WADA Tomotaka Associate Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science</p> <p>Master's Program</p>	<p>Research Topics ① Inter-vehicle communications for next generation Intelligent Transport Systems ② Fast localization of passive RFID tags ③ Emergency Rescue Evacuation Support System</p> <p>Key Words Wireless Communications, Mobile Communications, Intelligent Transport Systems, Road-to-Vehicle Communications, Ubiquitous Computing</p> <p>Applications Wireless Communication System, Traffic Information System, Vehicular Collision Avoidance Support System, Sensor Network, Mobile Ad-hoc Network</p> <p>E-mail: wadat01@gmail.com</p>
System Informatics	<p>HIKAWA Hiroomi Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Hardware neural network ② Pattern classifier ③ Frequency synthesizer</p> <p>Key Words Neural Network, Self-organizing Map, Direct Digital Frequency Synthesizer, Hand Sign Recognition System, Image Compression, Digital Signal Processing, Field Programmable Gate Array, Digital Circuit Design</p> <p>Applications Information System, Signal Processing System, Communication System</p> <p>E-mail: hikawa@kansai-u.ac.jp</p>
	<p>MAEDA Yutaka Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① FPGA or analog implementations of artificial neural networks ② Applications of simultaneous perturbation optimization method ③ Robot control via visual information ④ Digital watermarking</p> <p>Key Words Simultaneous Perturbation Method, Neural Networks, FPGA, FPAA, Robot, Control</p> <p>Applications Visual Feedback Robot Control System, Simultaneous Perturbation Particle Swarm Optimization and Its Hardware Implementation, Adaptive Control Using Simultaneous Perturbation Method</p> <p>E-mail: maedayut@kansai-u.ac.jp</p>
	<p>MIYOSHI Seiji Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Analysis of online learning and associative memory model ② Statistical image processing</p> <p>Key Words Statistical Mechanical Analysis of Information Processing, Statistical Learning Theory, Associative Memory Model, Replica Method, Signal Processing, Image Processing</p> <p>Applications Pattern Recognition, Signal Processing, Image Processing</p> <p>E-mail: miyoshi@kansai-u.ac.jp</p>

Media Processing	<p>KAJIKAWA Yoshinobu</p> <p>Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Audio and Electroacoustics (Analysis and Design for Micro Speakers and Microphones) ② Signal Processing for Audio and Acoustic Systems (Active Noise Control, Parametric Loudspeakers, 3D Audio, Linearization of Loudspeakers, Biometrics Authentication Using Acoustic Information)</p> <p>Key Words Signal Processing, Active Noise Control, Active Sound Control, Digital Audio, Parametric Loudspeakers, Micro Speakers, Micro Microphones, 3D Audio, Biometrics Authentication</p> <p>Applications Transportations, Factory and Plants, Smartphones, Medical Equipment, Audio and Acoustic Systems, Security</p> <p>E-mail: kaji@kansai-u.ac.jp</p>
	<p>MATSUSHIMA Kyoji</p> <p>Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Creation of 3D images by computer holography ② Capture of high-definition wave-field ③ Simulation in wave-optics</p> <p>Key Words 3D Imaging, Computer Holography, Digital Holography, Diffractive Optical Element, Wave Field, Wave Optics</p> <p>Applications 3D Imaging, Display Device, Optical Device, Optical Measurement, Optical Simulation</p> <p>E-mail: matsu@kansai-u.ac.jp</p>
	<p>MUNEYASU Mitsuji</p> <p>Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Moving image processing and its applications ② Data embedding and extraction for printed images and their applications ③ Medical image processing ④ Noise reduction for images</p> <p>Key Words Digital Image Processing, Intelligent Image Processing, Object Finding, Object Tracking, Nonlinear Image Filtering, Digital Watermarking, Image Retrieval</p> <p>Applications Surveillance System, Security System, ITS, Image Restoration, Advertisement, Augmented Reality, Automatic Diagnosis for Medical Image</p> <p>E-mail: muneyasu@kansai-u.ac.jp</p>
Intelligent Software Engineering	<p>EBARA Hiroyuki</p> <p>Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Parallel Algorithm for Combinatorial Optimization Problem ② Cloud Computing System ③ Web Application for Laboratory</p> <p>Key Words Combinatorial Optimization, Parallel Algorithm, Cloud Computing, PC Cluster, Web Application</p> <p>Applications Computer, Software, Internet, Web, Algorithm</p> <p>E-mail: ebara@kansai-u.ac.jp</p>
	<p>TOKUMARU Masataka</p> <p>Professor Doctor (Engineering) Department of Electrical and Electronic Engineering Faculty of Engineering Science</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Human interface for an interactive evolutionary computing ② Intelligent model for Kansei robot action generation ③ Kansei analysis using fuzzy decision tree</p> <p>Key Words Kansei Information Processing, Partner Robot, Emotion Model, Human Computer Interaction, Evolutionary Computation, Data Mining</p> <p>Applications Soft Computing, Multimedia, Humanoid Robot, Color Coordinate System, Product Design Support</p> <p>E-mail: toku@kansai-u.ac.jp</p>

Intelligent Software Engineering	MURANAKA Noriaki	Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science	Research Topics ① Intelligence, kansei and intention information processing systems ② Safty, disaster prevention and comfortable information processing systems ③ Virtual lesson (penmanship) support system Key Words Multiple-valued Arithmetic Circuit, Intellectual Information Communication, Society / Traffic Safety Support, Penmanship Support System, NIRS, Electroencephalogram Applications VLSI Design, Intelligent Transport Systems, Disaster Prevention Simulation, Education Support Equipment, Welfare / Life Support Equipments E-mail: muranaka@kansai-u.ac.jp
	Master's Program Ph.D.Program		
	KOJIRI Tomoko	Associate Professor Doctor of Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science	Research Topics ① Verbalization Support System for Tacit Knowledge ② Logical Thinking Support System ③ Environment Design for Intelligent Activity Key Words Education/Learning Support, Intelligent Tutoring System, Skill Learning Support, Idea Creation Support, Navigation, Meta-learning Support, Visualization, Communication Interface, CSCW Applications Education/Learning Support System, Intelligent Activity Support System, e-Learning, Groupware, User Interface Design E-mail: kojiri@kansai-u.ac.jp
	Master's Program		
	HANADA Yoshiko	Associate Professor Ph. D. in Engineering Department of Electrical and Electronic Engineering Faculty of Engineering Science	Research Topics ① Heuristics, optimization and its applications ② Parallel processing Key Words Optimization, Evolutionary Computation, Genetic Algorithm, Combinatorial Problem, Multiobjective Optimization, Intelligent Processing, Learning Applications Design Optimization, Intelligent Processing E-mail: hanada@kansai-u.ac.jp
	Master's Program		

Architecture

Research field	Academic Advisors list		
Structural Engineering	<p>MASUI Takeshi</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Architecture</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Architecture</p> <p>Faculty of Environmental and Urban Engineering</p>	<p>Research Topics</p> <p>① Mechanics of wooden structures</p> <p>② Characteristics of the behavior of liquefied soil-pile foundation systems</p> <p>③ Stability of the masonry wall of castles under dynamic load</p> <p>Key Words</p> <p>Building Structure, Combined Nonlinear Analysis, FEM, Constitutive Law of Soil, Liquefaction, Pile Foundation, Response and Limit Strength Method, Slip Line, Bearing Capacity, Wooden Structure</p> <p>Applications</p> <p>Structural Design of Buildings, Foundation Structures, Conservation of Architectural Heritage</p> <p>E-mail: masui@kansai-u.ac.jp</p>
	<p>MATSUDA Satoshi</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Architecture</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Architecture</p> <p>Faculty of Environmental and Urban Engineering</p>	<p>Research Topics</p> <p>① Dynamic response and performance of structural systems under seismic excitations</p> <p>② Modeling and prediction of strong ground motions</p> <p>③ Random vibration theory and its application to seismic structural design</p> <p>Key Words</p> <p>Strong Ground Motion, Structural Response, Seismic Performance, Stochastic Process, Random Vibration Theory</p> <p>Applications</p> <p>Seismic Performance-based Design of Structural System, Seismic Performance and Risk Assessment, Seismic Hazard Mitigation</p> <p>E-mail: matsuda@kansai-u.ac.jp</p>
	<p>IKENAGA Masahiro</p> <p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Architecture</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p>	<p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Architecture</p> <p>Faculty of Environmental and Urban Engineering</p>	<p>Research Topics</p> <p>① Development of tuned viscous mass damper for seismic control</p> <p>② Development of smart passive device for base isolated structure</p> <p>③ Mechanism study on high-rise building under severe seismic events and suggestion to improve the seismic performance</p> <p>Key Words</p> <p>Displacement control design, Seismic structure, Isolated structure, Damper, Shake table test, Long period ground motion, High-rise building</p> <p>Applications</p> <p>Structural design, Foundation structure, Retrofit</p> <p>E-mail: mikenaga@kansai-u.ac.jp</p>
Architectural Design and Planning	<p>EGAWA Naoki</p> <p>Professor</p> <p>Master of Engineering</p> <p>Architect</p> <p>Department of Architecture</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor</p> <p>Master of Engineering</p> <p>Architect</p> <p>Department of Architecture</p> <p>Faculty of Environmental and Urban Engineering</p>	<p>Research Topics</p> <p>① Architectural and land design, urban design</p> <p>② Design of Housing complex</p> <p>Key Words</p> <p>Residence, Collective Housing, Village, Place, Earth, Land, Town, Region, City Block, Environmental Frame, Apartment of a Housing Complex Reproduction, Urban Area, Reproduction, Symbiosis, Participation, Scale, Continuation, Landscape</p> <p>Applications</p> <p>Engineering Works, Engineering Works Environment, Engineering Design, Landscape, Landscape Material, Regional Reproduction, Local Revitalization, City Planning</p> <p>E-mail: egawa@kansai-u.ac.jp</p>
	<p>OKAGE Yoshifumi</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Architecture</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Architecture</p> <p>Faculty of Environmental and Urban Engineering</p>	<p>Research Topics</p> <p>① Design and theory of architecture</p> <p>② Design and theory of public space</p> <p>③ Design and theory of landscape</p> <p>Key Words</p> <p>Landscape, Architectural Design, Urban Design, Environmental Design, Public space, Place, Time, Region</p> <p>Applications</p> <p>Architectural Design, Urban Design, Landscape Design</p> <p>E-mail: okage@kansai-u.ac.jp</p>

Architectural Design and Planning	<p>OKA Eriko Professor Doctor of Engineering Department of Architecture Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Interaction of changing lifestyles and dwellings ② The building types of houses forming town</p> <p>Key Words Residential Environment, Multiple Dwelling, Urban Housing, Urban Regeneration, Community Planning, Landscape, Osaka</p> <p>Applications Urban Planning, City Administration, Environmental Engineering, Urban Environment</p> <p>E-mail: okaeri@kansai-u.ac.jp</p>
	<p>KAMETANI Yoshihiro Professor Doctor of Engineering Department of Architecture Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① The phenomena of colour in townscape and mode of appearance of colour in townscape ② The design for the aged and the handicapped ③ The design for sustainable development and green building</p> <p>Key Words Townscape, Colour, Mode of Appearance, Normalization, Universal Design, Spatial Cognition, Global Environment, Sustainable Design</p> <p>Applications Spatial Planning and Architectural Design, Urban Design and Town Planning, Human and Sensuous Engineering, Men-Environment Transaction</p> <p>E-mail: kametani@kansai-u.ac.jp</p>
	<p>KINOSHITA Hikaru Professor Department of Architecture Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① design, management and ownership of public space in Asia ② design and site planning of urban dwelling ③ thermal effects of Japanese roof tiles and preservation of traditional roof-scape ④ urbanism and urban design of 1950's to 70's ⑤ regional revitalization through traditional local industry</p> <p>Key Words Public Retail Market, Asia, Public Space, High Density, Urban Housing, Roof Tile, Roof-scape</p> <p>Applications Architectural Design, Urban Design, Urban Planning</p> <p>E-mail: kinosita@kansai-u.ac.jp</p>
Environmental Engineering in Architecture	<p>KAWAI Yasuhito Professor Doctor of Engineering Department of Architecture Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Noise reduction by screens ② Prediction of the area effect of a sound absorbent surface ③ Sound transmission through an aperture</p> <p>Key Words Boundary Integral Equation, BEM, Wave Equation, Sound Field Analysis, Sound Absorption, Noise Insulation, Diffraction of Sound, Area Effect</p> <p>Applications Designing of an Auditorium, Reduction of Road Traffic Noise by a Barrier, Prediction of Sound Transmission Through a Window</p> <p>E-mail: kawai@kansai-u.ac.jp</p>
	<p>HARA Naoya Professor Ph. D (Engineering) Department of Architecture Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Fundamental Study for Designing the Visual and Lighting Environment of Interior and Exterior ② Integration of Daylighting and Artificial lighting Effective to Visual Perception and Energy Saving</p> <p>Key Words Brightness, Visibility, Glare, Impression, Color and Visual Appearance, Readability, Visual Performance, Lighting Simulation, Lighting Calculation, Light Reflection Property of the Surface</p> <p>Applications Architectural Design, Lighting Design, Interior Lighting, Exterior Lighting, Window and Luminaire Design, Light and Color Control, Color Planning and Design</p> <p>E-mail: nhara@kansai-u.ac.jp</p>

<p>Environmental Engineering in Architecture</p>	<p>TOYODA Masahiro</p> <p>Associate Professor Doctor of Engineering</p> <p>Department of Architecture Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Vibroacoustic analysis ② Prediction of floor impact sound ③ Improvement of sound insulation performance</p> <p>Key Words</p> <p>Sound Insulation, Sound Absorption, Structure-borne Sound, Floor Impact Sound, Vibroacoustics, Mode Expansion, FDTD Method, Parallel Computation</p> <p>Applications</p> <p>Designing of Sound-insulation Structures, Development of Sound-absorption Materials</p> <p>E-mail: toyoda@kansai-u.ac.jp</p>
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Civil, Environmental and Applied Systems Engineering

Research field	Academic Advisors list	
Environmental Engineering	<p>ISHIGAKI Taisuke</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Civil, Environmental and Applied Systems Engineering</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Urban environment, Flood disaster and its recent and traditional counter measures</p> <p>② Urban flood and evacuation - its mechanism and disaster prevention, disaster mitigation-</p> <p>Key Words</p> <p>Flood Disaster, River Hydraulics, Turbulence Structure of Open Channel Flow, Hydraulic Modeling, Flow Visualization and Flow Measurement</p> <p>Applications</p> <p>Hydraulics for Disaster Prevention, Natural Disaster Science, Hydraulics, River Engineering, Applied Fluid Dynamics, Historical Studies in Civil Engineering</p> <p>E-mail: ishigaki@kansai-u.ac.jp</p>
	<p>KUSUMI Harushige</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Civil, Environmental and Applied Systems Engineering</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Safety analysis of ground slope and tunnelling by numerical method</p> <p>② Monitoring method of aging slope using geophysical prospecting by self organizing map</p> <p>③ Establishing ground water management system using seepage analysis</p> <p>Key Words</p> <p>Slope, Tunnelling, Distinct Element Method, Ground Water, Numerical Method, Geophysical Prospecting, Monitoring, Aging Slope</p> <p>Applications</p> <p>Monitoring Method of Ground Movement, Management of Ground Water, Slope Engineering, Development of Slope Stability Method, Prevention of Ground Water Pollution</p> <p>E-mail: kusumi@kansai-u.ac.jp</p>
	<p>OZAKI Taira</p> <p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Civil, Environmental and Applied Systems Engineering</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Urban runoff water management - environmental mitigation and flood disaster prevention-</p> <p>② Environmental system and management for low-carbon societies</p> <p>Key Words</p> <p>Water Management, Watershed Management, Urban Drainage, Urban Flooding, Environment Education, Disaster-prevention Education, Life Cycle Assessment, Environmental System</p> <p>Applications</p> <p>Water Environmental Planning, Flood Disaster Prevention Planning, Sewer System Planning, Engineering Systems Design for Low-carbon Society, Energy Management</p> <p>E-mail: ozaki_t@kansai-u.ac.jp</p>
	<p>TOBITA Tetsuo</p> <p>Associate Professor</p> <p>Ph.D.</p> <p>Department of Civil, Environmental and Applied Systems Engineering</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Combined failure mechanisms of geotechnical structure</p> <p>② Centrifuge modeling on geotechnical problems</p> <p>③ Application of the generalized scaling law to saturated ground</p> <p>④ Stability of natural slopes during earthquakes</p> <p>Key Words</p> <p>Disaster Prevention in geotechnics, Liquefaction, Slope stability, Dynamic soil-structure interaction, Centrifuge modeling, Laboratory testing for soil, Constitutive equations, Finite element method, Finite difference method, Seismic site response analysis</p> <p>Applications</p> <p>Urban disaster prevention, geology, Geotechnical earthquake engineering, Foundation engineering, Theory of plasticity</p> <p>E-mail: tobita@kansai-u.ac.jp</p>

Environmental Engineering	<p>HAYASHI Michiko Associate Professor Doctor of Engineering Department of Civil, Environmental and Applied Systems Engineering Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p>	<p>Research Topics ① History of landscape and civil engineering ② Landscape and environmental management of public space ③ Disaster management planning based on traditional counter measures and local history</p> <p>Key Words Landscape, Environmental Planning, History of Civil Engineering, Public Space, Waterfront, Park, Modern Civil Engineering Heritage, Traditional Water Utilization and Flood Control</p> <p>Applications Urban and Regional Planning, Landscape Preservation, Community Development, Education for Disaster Prevention</p> <p>E-mail: mhayashi@kansai-u.ac.jp</p>
	<p>YASUDA Tomohiro Associate Professor Doctor of Engineering Department of Civil, Environmental and Applied Systems Engineering Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p>	<p>Research Topics ① Mitigation of coastal disasters ② Assessment of climate change impact and adaptation ③ Integrated assessment on disaster resiliency of coastal area ④ Performance design of coastal structures</p> <p>Key Words Climate Change, Coastal Disaster, Tsunami, Storm Surge, High Waves, Risk Assessment, Coastal Preservation, Resilience, Performance Design, Numerical Simulation, Hydraulic Experiment</p> <p>Applications Coastal Engineering, Coastal Disaster Mitigation, Adaptation to Climate Change, Integrated Counter-measures, Asset Management</p> <p>E-mail: yasuda-t@kansai-u.ac.jp</p>
Design and Construction	<p>KOBAYASHI Akira Professor Doctor of Engineering Department of Civil, Environmental and Applied Systems Engineering Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Investigation of present situation and degradation prediction for soil structure ② Risk management of public facilities for earthquake, flood and environment ③ Asset management of public facilities</p> <p>Key Words Geomechanics, Nondestructive investigation, Risk management, Asset management, Numerical simulation</p> <p>Applications Asset management of public facilities, Risk management of irrigation facilities</p> <p>E-mail: koba5963@kansai-u.ac.jp</p>
	<p>SAKANO Masahiro Professor Doctor of Engineering Department of Civil, Environmental and Applied Systems Engineering Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Fatigue and corrosion problems in steel bridges ② Retrofit and rehabilitation of existing bridges</p> <p>Key Words Steel Structures, Bridge, Fatigue, Corrosion, Crack, Design, Retrofit, Rehabilitation, Health Monitoring, Inspection, Diagnosis</p> <p>Applications Design, Inspection, Diagnosis, Retrofit, Rehabilitation, and Monitoring of Steel, Composite, and Hybrid Structures</p> <p>E-mail: peg03032@kansai-u.ac.jp</p>
	<p>TSURUTA Hiroaki Professor Doctor of Engineering Department of Civil, Environmental and Applied Systems Engineering Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Effective utilization of industrial wastes for concrete ② Durability in concrete structures ③ Effects of aggregate quality on mechanical properties in concrete ④ Estimation of semi self-compacting concrete</p> <p>Key Words Aggregate Quality, Concrete, Strength, Young's Modulus, Shrinkage, Effective Use of Waste, Durability, Surface Protection, Maintenance</p> <p>Applications Estimation of Performance in Concrete, Effective Use of Natural Resources, Keeping a Long Service Life in Concrete Structures, Building a Sustainable Society</p> <p>E-mail: tsurutah@kansai-u.ac.jp</p>

Design and Construction	<p>ISHIKAWA Toshiyuki</p> <p>Associate Professor Doctor of Engineering Department of Civil, Environmental and Applied Systems Engineering Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Patch plate bonding repair of deteriorated structures ② Development of simple repair method for fatigue cracks ③ Application of new materials for infrastructures ④ Evaluation of behavior of existing structures</p> <p>Key Words</p> <p>Steel bridge, maintenance, design, composite structure, repair and strengthening, corrosion, fatigue, carbon fiber, aluminum alloy</p> <p>Applications</p> <p>Infrastructure, Bridge, Design, Maintenance</p> <p>E-mail: t-ishi@kansai-u.ac.jp</p>
	<p>UEDA Naoshi</p> <p>Associate Professor Doctor of Engineering Department of Civil, Environmental and Applied Systems Engineering Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Structural Performance Evaluation of Concrete Structures deteriorated by Alkali Silica Reaction ② Damage Evaluation of Concrete Structures by means of Nonlinear Finite Element Analysis ③ Simulation of Failure Behavior of Fiber Reinforced Concrete Structures</p> <p>Key Words</p> <p>Concrete, Reinforced Concrete, Prestressed Concrete, Fiber Reinforced Concrete, Damage Evaluation, Seismic Performance, Durability, Alkali Silica Reaction</p> <p>Applications</p> <p>Seismic Performance Evaluation, Deterioration Prediction of Concrete Structures, Structural Design for Fiber Reinforced Concrete Structure</p> <p>E-mail: n.ueda@kansai-u.ac.jp</p>
Planning and Management	<p>AKIYAMA Takamasa</p> <p>Professor Doctor of Engineering Department of Civil, Environmental and Applied Systems Engineering Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Urban Transport Planning and Traffic Engineering with Soft Computing Techniques ② Urban and Regional Planning in terms of Healthy and Low Carbon Environment</p> <p>Key Words</p> <p>Traffic Engineering, Urban Planning, Traffic Simulation, Fuzzy Logic, Soundscape Design, Traffic Safety Analysis, Travel Behaviour Analysis, Low Carbon Society</p> <p>Applications</p> <p>Travel Behaviour Modelling, Fuzzy Traffic Control, Pricing Policy for Urban Expressway, Local City Development, Soundscape Design in City Planning, The Mental Climate Analysis for Regional Planning, Complex Modelling, Smart Mobility</p> <p>E-mail: akiyama@kansai-u.ac.jp</p>
	<p>KITAZUME Keiichi</p> <p>Professor Doctor of Engineering Department of Civil, Environmental and Applied Systems Engineering Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Meso- and microscopic land-use model using Geographic Information System (GIS) ② Assessment and management of Infrastructure Projects and PPP ③ Urban Revitalization and community regeneration</p> <p>Key Words</p> <p>Cost Benefit Analysis, Land-use Model, Micro Simulation, Hedonic Approach, GIS, Generational Accounting, Management Accounting</p> <p>Applications</p> <p>Urban Planning, City Planning, Urban Revitalization, Public Private Partnership, Asset Management, Risk Analysis, Resilience Policy</p> <p>E-mail: kitazume@kansai-u.ac.jp</p>
	<p>KIMURA Toshikazu</p> <p>Professor Doctor of Engineering Department of Civil, Environmental and Applied Systems Engineering Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Exploring decision support models in OR-oriented finance ② Evaluation of investment projects under uncertainty ③ Analysis and control of congestion phenomena in urban infrastructure</p> <p>Key Words</p> <p>Financial Engineering, Risk Management, Real Options, Investment Projects, Teletraffic, Queues, Stochastic Models, Operations Research</p> <p>Applications</p> <p>Valuation of Derivatives, Investment Decision, Traffic Design</p> <p>E-mail: t.kimura@kansai-u.ac.jp</p>

Planning and Management	<p>YUN Yeboon</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Civil, Environmental and Applied Systems Engineering</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Multi-objective optimization and sequential approximate optimization</p> <p>② Data envelopment analysis and its applications</p> <p>③ Machine learning</p> <p>Key Words</p> <p>Optimization, Artificial Intelligence, Data Mining</p> <p>Applications</p> <p>Optimal Design, Optimal Control, Predictive Control, Development of Systems on Disaster Prevention and Measures</p> <p>E-mail: yeboon@kansai-u.ac.jp</p>
	<p>INOKUCHI Hiroaki</p> <p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Civil, Environmental and Applied Systems Engineering</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Analysis of CO₂ emission of automobile</p> <p>② Characteristic of electric vehicle</p> <p>③ Structure of urban transport system for health city planning</p> <p>Key Words</p> <p>Traffic Simulation Model, Traffic Assignment Model, Carbon Dioxide Emission, Public Transportation, Traffic Safety, Electric Vehicle, Ultra Light-weight Vehicle, Health City Planning</p> <p>Applications</p> <p>Transport Planning, Environmental Planning, Health City</p> <p>E-mail: inokuchi@kansai-u.ac.jp</p>
Applied Systems Engineering	<p>KANEKIYO Hiroaki</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Civil, Environmental and Applied Systems Engineering</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Practical applications of stochastic systems and stochastic differential equations</p> <p>② System reliability analysis</p> <p>③ Risk analysis</p> <p>④ Development of fast simulation schemes for reliability-risk analyses</p> <p>Key Words</p> <p>Stochastic differential equation, Reliability engineering, Risk analysis, Monte Carlo method</p> <p>Applications</p> <p>Safety assessment of structural systems, Optimal maintenance for social infrastructures, Risk assessment applicable for various fields</p> <p>E-mail: hiro.t.k@kansai-u.ac.jp</p>
	<p>TAKIZAWA Yasuhisa</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Civil, Environmental and Applied Systems Engineering</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Wireless Networks</p> <p>② Ubiquitous Computing</p> <p>③ Mobile Computing</p> <p>④ Network Dynamics</p> <p>Key Words</p> <p>Wireless Ad-hoc Networks, Wireless Sensor Actuator Networks, Self Organizing Networks, Distributed System, Internet of Things, Swarm Intelligence</p> <p>Applications</p> <p>Smart City, Environment Monitoring Systems, Emergency Systems, Energy on Demand, Smart Grid Systems</p> <p>E-mail: takizawa@kansai-u.ac.jp</p>
	<p>YASUMURO Yoshihiro</p> <p>Professor</p> <p>Ph. D. (Engineering)</p> <p>Department of Civil, Environmental and Applied Systems Engineering</p> <p>Faculty of Environmental and Urban Engineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① 3 dimensional measurement and modeling — scanning scheme and adaptive data processing for scalable 3D modeling —</p> <p>② Human-friendly system — easy-to-understand and interactive human-machine interface —</p> <p>Key Words</p> <p>Computer Vision, Computer Graphics, 3D visualization, 3D Modeling, Augmented and/or Mixed Reality, physic-based simulation, Human Interface</p> <p>Applications</p> <p>Supporting and Assistive System for Medical, Productive, Archaeological and Constructive Fields, Visual Simulation for Designing and Planning</p> <p>E-mail: yasumuro@kansai-u.ac.jp</p>

	<p>ADACHI Naotoshi Associate Professor Doctor of Engineering Master's Program Department of Civil, Environmental and Applied System Engineering Faculty of Environmental and Urban Engineering</p>	<p>Research Topics ① Modeling and performance analysis of communication system and network dynamics ② Security architecture of computer network and communication system Key Words Communication System, High Performance Protocol Design, Security Architecture, Network Dynamics, Network Modeling, Stochastic System Applications Modeling of Network System and Performance Analysis of Communication System, Design of Network Architecture and Protocol, Sensor Network E-mail: n-adachi@kansai-u.ac.jp</p>
<p>Applied Systems Engineering</p>	<p>KUBOTA Satoshi Associate Professor Doctor of Engineering Department of Civil, Master's Program Environmental and Applied Systems Engineering Faculty of Environmental and Urban Engineering</p>	<p>Research Topics Information management system for civil infrastructures, Advanced research of GIS and geospatial information, Application system of three-dimensional CAD, GIS, and CG Key Words Civil Infrastructure, Geospatial Information, GIS, Product Data Model, 3D-CAD, 3D Spatial and Temporal Information Applications Civil Infrastructure, Maintenance of Civil Infrastructure, Survey Fields, Smart City, Smart Infrastructure E-mail: skubota@kansai-u.ac.jp</p>
	<p>DAN Hiroshige Associate Professor Doctor of Informatics Department of Civil, Master's Program Environmental and Applied Systems Engineering Faculty of Environmental and Urban Engineering</p>	<p>Research Topics ① Large-scale/Nonlinear optimization problem ② Mathematical modeling of problems around our life Key Words Mathematical Optimization, Mathematical model, Algorithm, Scheduling, Large-scale Optimization Problem, Nonlinear Optimization Problem, Operations Research Applications Facility Location Problem, Scheduling, Image Processing, Signal Processing, Transportation E-mail: dan@kansai-u.ac.jp</p>

Chemical, Energy and Environmental Engineering

Research field	Academic Advisors list		
Energy Engineering	IKENAGA Naoki Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering Master's Program Ph.D.Program	Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering	Research Topics ① Hydrogen production from some kinds of hydrocarbons and bio fuels ② Light olefins production through F-T synthesis and oxidative dehydrogenation of paraffins ③ Production of meso-porous materials Key Words Partial Oxidation, Steam Reforming, F-T Synthesis, Oxidative Dehydrogenation, Meso-porous Material, Bio Diesel Fuel, Carbon Nanotube, Chlorofluorocarbon Applications Hydrogen Production, Bio Diesel Fuel Production, Carbon Nanotube Production, Chlorofluorocarbon Detoxification Techniques E-mail: ikenaga@kansai-u.ac.jp
	NAKAGAWA Kiyoharu Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering Master's Program Ph.D.Program	Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering	Research Topics ① Diamond surface chemistry ② Nanocarbon synthesis Key Words Diamond, Carbon Nanotube, Fuel cell, Capacitor, Lithium-ion rechargeable battery Applications Fuel Cell, Electric Double-layer Capacitor, Catalyst Material E-mail: kiyoharu@kansai-u.ac.jp
	MIYAKE Takanori Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering Master's Program Ph.D.Program	Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering	Research Topics ① Hydrothermal synthesis of micro- and meso-porous manganese-containing composite oxides ② Partial oxidation to produce petro-chemicals, total oxidation of organic compounds and hydrogenation of esters to produce alcohols with catalysts Key Words Hydrothermal Synthesis, Manganese Oxide, Catalyst, Oxidation, Hydrogenation, Bio-ethanol, Micro-porous, Meso-porous, Volatile Organic Compound, Ion Exchange, Adsorption, Metal-Organic Framework Applications Petrochemical, Environmental Remediation, Fuel Cell, Biomass Conversion, Catalysis E-mail: tmiyake@kansai-u.ac.jp
	MURAYAMA Norihiro Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering Master's Program Ph.D.Program	Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering	Research Topics ① Preparation of functional inorganic materials using industrial wastes such as coal fly ash, incineration ash, aluminum dross, steel slag ② Removal of toxic materials with ion exchangers and adsorbents synthesized from wastes and by-product Key Words Zeolite, Layered Double Hydroxide, Hydrotalcite-like Compounds, AlPO ₄ -n, Functional Inorganic Materials, Ion Exchanger, Adsorbent, Porous Materials Applications Recycling and Effective Use of Industrial Wastes and By-product, Waste Water Treatment, Gas Adsorption, Removal and Fixation of Toxic Materials, Recovery of Valuables E-mail: murayama@kansai-u.ac.jp
	SANO Makoto Associate Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering Master's Program	Associate Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering	Research Topics ① Development of functional inorganic and inorganic-organic hybrid materials and their applications ② Development of Environmental conservation technologies ③ Development of Resource-Recycling Technologies Key Words Functional Materials, MOF, Catalyst, Environmental conservation, Extraction, Resource-Recycling Applications Environmental conservation, Biomass Application, Resource-Recycling, Fuel Cells E-mail: msano@kansai-u.ac.jp

Environmental Chemistry	OKADA Yoshiki	Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering	<p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Measurement and synthesis of gas-born nanoparticles ② Reaction control in microreactors ③ Water purification using microbubbles</p> <p>Key Words Nanoparticles in Gas Phase, Size Classification, Measurement of Chemical Compositions of Nanoparticles, Production of Non-aggregated Nanoparticles, Microreactors, Water Purification, Microbubbles</p> <p>Applications Environmental Engineering, Particle Production, Chemical Reactor Engineering</p> <p>E-mail: yokada@kansai-u.ac.jp</p>
	HAYASHI Jun'ichi	Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering	<p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Production of Porous Material (Activated Carbon, Carbon Molecular Sieve) from Waste Material ② Carbonization of Biomass and Waste Material ③ Biomass Gasification ④ Production of Porous Material by Sol-gel Method</p> <p>Key Words Activated Carbon, Carbon Molecular Sieve, Porous Material, Biomass, Adsorption, Carbonization, Gasification, Sol-gel, Recycle</p> <p>Applications Separation Process, Purification Process, Gas Storage, Water Treatment, Recycle or Reuse of Waste Material, Carbon Material</p> <p>E-mail: hayashi7@kansai-u.ac.jp</p>
	YAMAMOTO Hideki	Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering	<p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Regeneration of high-purity CaF₂ from global warming gases (HFC, PFC) using chemical reaction ② Distillation separation of acid (HF, HNO₃ and HCl) from etching waste in semiconductor manufacturing process ③ Development of compact sized falling needle rheometer (FNR) for measurement of human blood viscosity ④ Estimation of solubility parameter (SP value) for materials and their application for evaluation</p> <p>Key Words Regeneration, Recycle, Distillation, Global Warming Gas, Acid Waste, Phase Equilibrium, Flow Properties, Rheometer, Blood Viscosity, Solubility Parameter</p> <p>Applications Proposition of Novel and Regenerative Chemical Production System for Environmental Protection Development of Recycling and Recovery System for Valuable Materials from Industrial Wastes</p> <p>E-mail: yhideki@kansai-u.ac.jp</p>
	ARAKI Sadao	Associate Professor Doctor of Engineering Department of Chemical, Energy and Environmental Engineering Faculty of Environmental and Urban Engineering	<p>Master's Program</p>	<p>Research Topics</p> <p>① Hydrogen production from water, biogas and natural gas ② Development of porous inorganic membranes for gas separation and pervaporation ③ Process design for reaction and separation using membrane reactors</p> <p>Key Words Hydrogen, Water Splitting, Membrane Separation, Gas Separation, Pervaporation, Ion-electron Mixed Conductor, Membrane Reactor, Biomass, Sol-gel, Reforming reaction</p> <p>Applications Hydrogen Production, Membranes and Adsorbents for Gas Separation and Waste Treatment, Membrane Separation and Purification Processes</p> <p>E-mail: araki_sa@kansai-u.ac.jp</p>

Environmental Chemistry	KINOSHITA Takuya Associate Professor Department of Chemical, Energy and Environmental Master's Program Engineering Faculty of Environmental and Urban Engineering	Research Topics ① Synthesis of Functional Fine Particles ② Fine Particle Materials for Solid Oxide Fuel Cell ③ Magnetic Fine Particle Materials for Hyperthermia Therapy Key Words Fine Particles, Nanoparticles, Metal, Metal Oxide, Porous, Magnetism, Surface Modification, Adsorption, Aerosol, Spray Pyrolysis Applications Synthesis of Fine Particles, Fuel Cell, Magnetic Materials, Biomedical Materials E-mail: t_kino@kansai-u.ac.jp
	TANAKA Shunsuke Associate Professor Doctor of Engineering Department of Chemical, Master's Program Energy and Environmental Engineering Faculty of Environmental and Urban Engineering	Research Topics ① Synthesis of ordered nanoporous materials ② Application of nanoporous materials to separation, catalysis, and devices Key Words Self-Assembly of Nanoporous Materials, Morphology Control, Structural Analysis, Nanoporous Thin Films, Monodisperse Spherical Particles, Zeolite, Metal-Organic Frameworks, Molecular Sieving, Mechano chemical Applications Membrane Separation, Pervaporation, Devices for Energy Applications, Low-k, Fuel Cell, Electric Double Layer Capacitor, Photocatalyst, Membrane Reactor E-mail: shun_tnk@kansai-u.ac.jp
	HASEGAWA Isao Associate Professor Doctor of Engineering Department of Chemical, Master's Program Energy and Environmental Engineering Faculty of Environmental and Urban Engineering	Research Topics ① Production of valuable chemicals from biomass components under hydrothermal condition ② Isolation of biomass components during pyrolysis at different temperature ranges ③ Kinetics for biomass pyrolysis and gasification ④ Degradative fractionation of lignocellulosic biomass with solvent Key Words Woody biomass, Lignin, Cellulose, Pyrolysis, Gasification, Hydrothermal decomposition, Pretreatment, Biorefinery Applications Chemical Industry, Substitute for petroleum, Bio-Plastics production E-mail: hase7@kansai-u.ac.jp

Chemistry and Materials Engineering

Research field	Academic Advisors list		
Metallic Materials Design	IKEDA Masahiko Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering Master's Program Ph.D.Program	Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering	Research Topics ① Development of cost affordable titanium alloys for health-care and medical applications ② Development of Tin, Sn alloys for Lead, Pb free solder Key Words Titanium Alloys, Tin Alloys, Ubiquitous Metallic Elements, Low Cost and Price, Aging Behavior, Phase Transformation, Mechanical Properties Applications Health-care Applications (e.g. Wheel-chair), Medical Applications, Sport Goods, Automobile E-mail: hikoik@kansai-u.ac.jp
	UEDA Masato Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering Master's Program Ph.D.Program	Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering	Research Topics ① Low temperature synthesis of inorganic films ② Control of bioactivity in metallic and inorganic materials ③ Photochemical reaction in nano-ordered structure and improvement of light energy conversion efficiency Key Words Ceramics, Composites, Surface Modification, Morphological Control, Hydrothermal Synthesis, Phase Transformation, Electron Microscope, EBSD Applications Biomaterials, Biomedical Applications, Solar Cells, Photocatalysts, Photoelectrode, Sensors E-mail: m-ueda@kansai-u.ac.jp
Metallic Materials Processing	TAKENAKA Toshihide Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering Master's Program Ph.D.Program	Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering	Research Topics ① Innovative production process of rare-metals ② Progressive recycling process of rare-metals ③ Chemical phenomena in high temperature medium ④ Improvement of lifetime of rare-metals Key Words Rare-metal, Titanium, Magnesium, Lithium, Calcium, Nuclear Waste, Refining, Recycle, Energy Reduction, Molten Salt, High-temperature Chemistry Applications Metal Production, Metal Recycling E-mail: ttakenak@kansai-u.ac.jp
	NISHIMOTO Akio Professor Ph. D. Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering Master's Program Ph.D.Program	Professor Ph. D. Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering	Research Topics ① Surface modification of metallic materials ② Preparation of functional materials by pulsed electric current sintering ③ Metallographic investigation on bonding of dissimilar materials Key Words Plasma-nitriding, Active Screen Plasma Nitriding (ASPN), Diffusion-coating, CVD, Stainless Steel, Pulsed Electric Current Sintering (PECS), Spark Plasma Sintering (SPS), Ceramics, Metal, Bonding, DLC Applications Materials Science and Engineering, Automotive Parts, Nuclear Industry, Hard Coating Parts, Industrial Parts E-mail: akionisi@kansai-u.ac.jp
	HOSHIYAMA Yasuhiro Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering Master's Program Ph.D.Program	Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering	Research Topics ① Production of rapidly solidified composite deposits ② Solidification process of metals and alloys ③ Surface modification of metallic materials Key Words Rapid Solidification, Plasma Spraying, Composite Deposit, Precipitate, In-situ, Supersaturation, Full Mold, Carburizing Applications Automobile Engine Parts, Machine Parts E-mail: hosiyama@kansai-u.ac.jp

Metallic Materials Processing	<p>MARUYAMA Toru Professor Doctor of Philosophy Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Castings (Full mold process, Investment casting) ② Alloy design of cast iron, steel, aluminum alloy, copper alloy, and zinc alloy ③ Design for fire refining ④ Thermal spray (Spray materials, Blasting)</p> <p>Key Words Castings, Full Mold Process, Investment Casting, Cast Iron, Steel, Bronze, Alloy Design, Fire Refining, Thermal Spray, Wetting at High Temperature Melt</p> <p>Applications Castings, Thermal Spraying, Vehicle, Plumbing Products, Rail, Ship, Aircraft, Industrial Machine, Production of Metallic Material</p> <p>E-mail: tmaru@kansai-u.ac.jp</p>
	<p>MORISHIGE Taiki Associate Professor Ph. D. in Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p>	<p>Research Topics ① Grain refinement processings of light metal alloys ② Friction stir welding of dissimilar metals and alloys ③ Development of corrosion resistance of Mg alloys ④ Refining process of Mg alloys</p> <p>Key Words Aluminum alloys, Magnesium alloys, Microstructure, Friction stir welding, Friction stir processing, Severe plastic deformation, Thermomechanical processing, Recycling process</p> <p>Applications Structural materials for transportation industries</p> <p>E-mail: tmorishi@kansai-u.ac.jp</p>
Metallic Inorganic Materials Properties	<p>ARACHI Yoshinori Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Crystal structure and physical properties of inorganic materials for rechargeable batteries. ② Electronic structure of transition metal oxides.</p> <p>Key Words Ionic Conductor, Li-ion Secondary Battery, Solid Oxide Fuel Cells, Layered Compounds, Stabilized Zirconia, Crystal Structure Analysis, X-ray Absorption Spectroscopy, Ab-initio Electronic Structure Calculation</p> <p>Applications Processing of Ceramics, Battery, Sensor</p> <p>E-mail: arachi@kansai-u.ac.jp</p>
	<p>KOZUKA Hiromitsu Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Science on the sol-gel coating technique for fabricating ceramic, glass and organic-inorganic hybrid thin films ② Modification of the sol-gel coating technique for improving the properties of thin film products and enhancing the reality in processing</p> <p>Key Words Ceramics, Glasses, Organic-Inorganic Hybrid Materials, Coating, Thin Films, Sol-Gel Method</p> <p>Applications Ferroelectrics, Dielectrics, Reflective and Anti-Reflective Coatings, Wear-Resistant and Anti-Scratching Coatings, Photoelectrodes for Wet-Type Solar Cells, Photonic Devices</p> <p>E-mail: kozuka@kansai-u.ac.jp</p>
	<p>TAKESHITA Hiroyuki T. Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics ① Development of new hydrogen storage materials ② Analysis of phase transition and crystal structure ③ Evaluation of electronic structure of materials ④ Thermodynamic and kinetic analyses of gas-solid reaction</p> <p>Key Words Hydrogen, Hydrogen Storage Materials, Intermetallic Compound, Phase Diagram, X-ray Diffraction, Rietveld Analysis, Density Functional Theory</p> <p>Applications Automobiles, Energy and Environment, Battery, Heat Pump, Refrigeration, Sensor, Purification and Separation of Gas, Catalyst, Nuclear Power</p> <p>E-mail: h-take@kansai-u.ac.jp</p>

Metallic Inorganic Materials Properties	<p>HARUNA Takumi</p> <p>Professor Ph. D.</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics</p> <p>① Development of the metal materials exhibiting high corrosion resistance ② Development of evaluation techniques for susceptibility to corrosion of metals ③ Development of intelligent metal surfaces</p> <p>Key Words Stainless Steels, Carbon Steels, Ti Alloys, Al Alloys, Corrosion, Environment-assisted Cracking, Hydrogen Embrittlement, Electrochemistry, Surface Modification</p> <p>Applications Chemical and Petroleum Industry, Automobile Industry, Medical Industry, Nuclear and the Other Power Industry, Electric and IT Industry</p> <p>E-mail: haruna@kansai-u.ac.jp</p>
	<p>UCHIYAMA Hiroaki</p> <p>Master's Program</p>	<p>Associate Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics</p> <p>① Science on the self-organization and self-assembly for fabricating nanostructured ceramic materials ② Science on the growth of inorganic crystals in solutions for morphological control of ceramic materials</p> <p>Key Words Ceramics, Functional Metal Oxides, Nanostructured Materials, Solution Process, Patterning, Sol-Gel Method, Crystal Growth</p> <p>Applications Photoelectrodes for Wet-Type Solar Cells, Photonic Devices, Electrodes for Batteries</p> <p>E-mail: h_uchi@kansai-u.ac.jp</p>
	<p>KONDO Ryota</p> <p>Master's Program</p>	<p>Associate Professor Doctor of Philosophy Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics</p> <p>① Complex metal hydrides ② Hydrogen storage alloy ③ Hydrogen storage composite</p> <p>Key Words Hydrogen storage materials, Phase control, Microstructure analysis, X-ray diffraction, Transmission electron microscopy, Scanning electron microscopy</p> <p>Applications Renewable energy, Battery, Automobile, Sensor, Gas purification or separation</p> <p>E-mail: rkondo@kansai-u.ac.jp</p>
Inorganic and Physical Chemistry	<p>AOTA Hiroyuki</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor Doctor of Science Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics</p> <p>① Artificial photosynthesis ② Molecular wire</p> <p>Key Words Photosynthesis, Molecular Wire, Pi-conjugated Polymer</p> <p>Applications Solar Cell, Molecular Computer, Semiconductor</p> <p>E-mail: aota@kansai-u.ac.jp</p>
	<p>ISHIKAWA Masashi</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Professor Doctor of Engineering Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics</p> <p>① Advanced materials for electrochemical supercapacitors ② Advanced materials for rechargeable batteries ③ Physical chemistry and kinetics of electrode reactions</p> <p>Key Words Supercapacitor, Electric Double Layer Capacitor, Rechargeable Lithium Battery, Ionic Liquid, Nanomaterial, Satellite, Electrolyte, Anode, Cathode</p> <p>Applications Electric Vehicle, Hybrid Electric Vehicle, Power Supply, Aerospace, Battery, Renewable Energy, Satellite</p> <p>E-mail: masaishi@kansai-u.ac.jp</p>

Inorganic and Physical Chemistry	<p>KAWASAKI Hideya Professor Doctor of Science</p> <p>Master's Program Ph.D.Program</p>	<p>Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics ① Metal nanoparticles: synthesis, characterization, and applications ② Self-assembly of amphipathic substances ③ Nanomaterials for mass spectrometry</p> <p>Key Words Colloid and Interface Science, Metal Nanoparticles, Nanostructured Surfaces, Surfactant Self-assembly, Bioanalysis Chip, Mass Spectrometry</p> <p>Applications Catalysis, Emulsification, Coating Material, Cosmetic Product, Luminescence Material, Electrical Conducting Material, Battery Material, Simple Examination Kit</p> <p>E-mail: hkawa@kansai-u.ac.jp</p>
	<p>YAMAGATA Masaki Associate Professor Ph. D. in Engineering</p> <p>Master's Program</p>	<p>Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics ① The development of lithium-ion batteries and supercapacitors ② Research on new electrochemical materials for energy storage devices</p> <p>Key Words Electrochemistry, Ionic Liquids, Lithium-ion Batteries, Supercapacitors, Energy Chemistry, Energy Storage</p> <p>Applications Electric Vehicles, Hybrid Vehicles, Portable Devices, Dispersed-type Battery Energy Storage/Conversion Technology</p> <p>E-mail: yamagata@kansai-u.ac.jp</p>
Organic Chemistry	<p>OBORA Yasushi Professor Ph. D.</p> <p>Master's Program Ph.D.Program</p>	<p>Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics ① Development of new homogeneous catalysis and organometallic chemistry ② Development of new synthetic organic reactions using transition-metal catalysts.</p> <p>Key Words Homogeneous Catalyst, Synthetic Chemistry, Organic Transformation, Transition-metal, Ligand Modification, Organometallic Chemistry</p> <p>Applications Industrial-scale Organic Synthesis from Mass Feedstock, Selective and Active Catalysis in Organic Synthesis</p> <p>E-mail: obora@kansai-u.ac.jp</p>
	<p>SAKAGUCHI Satoshi Professor Doctor of Engineering</p> <p>Master's Program Ph.D.Program</p>	<p>Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics ① Ligand design for asymmetric organic transformations ② Development of a new transition metal-catalyzed organic reaction</p> <p>Key Words Synthetic Organic Chemistry, Asymmetric Catalytic Reaction, N-Heterocyclic Carbene, Ligand Design, Catalyst, Enantioselective Organic Transformation, Organometallics, Transition Metals, Organocatalysis</p> <p>Applications Chemical Industry, Pharmaceutical Chemistry, Material Science, Organic Chemistry, Medical Chemistry</p> <p>E-mail: satoshi@kansai-u.ac.jp</p>
	<p>TANAKA Koichi Professor Doctor of Science</p> <p>Master's Program Ph.D.Program</p>	<p>Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics ① Novel Metal-Organic Frameworks (MOF) for Asymmetric Catalysis and Enantiomer Separation ② Novel Chiral Schiff Base Macrocycles for Chiral Recognition and Asymmetric Catalyst ③ Organic Photochromic Crystals</p> <p>Key Words Metal-Organic Frameworks (MOF), Asymmetric Catalysis, Enantiomer Separation, Chiral Schiff Base Macrocycles, Chiral Recognition</p> <p>Applications Chemical Industry, Pharmaceutical and Agricultural, Green Chemistry</p> <p>E-mail: ktanaka@kansai-u.ac.jp</p>

Organic Chemistry	<p>NISHIYAMA Yutaka Professor</p> <p>Doctor of Engineering</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Development of new synthetic and catalytic reactions</p> <p>② Development of new organic functional materials including heteroatom</p> <p>Key Words</p> <p>Carbon Monoxide, Carbonylation, Reduction, Sulfur, Selenium, Heteroatom Compounds, Lanthanoid Compounds, Transition Metal Compounds, Organic Functional Materials</p> <p>Applications</p> <p>Organosynthetic Reactions</p> <p>E-mail: nishiya@kansai-u.ac.jp</p>
	<p>UMEDA Rui Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Development of synthesis of novel polycyclic aromatic hydrocarbons</p> <p>② Prediction of physical properties and design of molecules based on computational chemistry</p> <p>Key Words</p> <p>Organic Synthetic Chemistry, Structural Organic Chemistry, π-Conjugated Compounds</p> <p>Applications</p> <p>Organic Reaction, Organic Functional Materials, Organic Electronics</p> <p>E-mail: umeda@kansai-u.ac.jp</p>
	<p>YANO Masafumi Associate Professor</p> <p>Doctor of Science</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Material and Bioengineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Design, Synthesis and properties of redox-active organic compounds with triarylamine units</p> <p>② Design synthesis of novel lanthanide complexes</p> <p>Key Words</p> <p>Triarylamine, Catitoneradical, High-spin Molecule, Organic Synthesis, Electrochemistry, Lanthanides</p> <p>Applications</p> <p>Novel Magnet, Molecular Electronics</p> <p>E-mail: myano@kansai-u.ac.jp</p>
Polymer Chemistry	<p>KUDO Hiroto Professor</p> <p>Doctor of Engineering</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Synthesis of cage-molecule by dynamic covalent chemistry mechanism</p> <p>② Synthesis of cyclic polymers by ring-expansion polymerization</p> <p>③ Development of next-generation resist materials</p> <p>④ Development of high or low-refractive index materials</p> <p>⑤ Development of UV or thermal curing materials</p> <p>Key Words</p> <p>Dynamic covalent chemistry, polymer synthesis, cyclic polymer, refractive-index, curing material, resist</p> <p>Applications</p> <p>Resist material, UV curing material, thermal curing material, high or low refractive index material</p> <p>E-mail: kudoh@kansai-u.ac.jp</p>
	<p>SANDA Fumio Professor</p> <p>Doctor of Engineering</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Development of transition metal catalysts, and the application to conjugated polymer synthesis</p> <p>② Design and synthesis of optically active polymers</p> <p>③ Synthesis of stimuli-responsive polymers</p> <p>Key Words</p> <p>Transition Metal Catalyzed Polymerization, Organometallic Complex, Living Polymerization, Conjugated Polymer, Helical Polymer, Optically Active Polymer, Stimuli-Responsive Polymer</p> <p>Applications</p> <p>Photoelectric Materials, Chiral Separation Materials, Asymmetric Induction Catalysts, Molecular Sensor</p> <p>E-mail: sanda@kansai-u.ac.jp</p>

<p>Polymer Chemistry</p>	<p>HARADA Miyuki</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① High thermal conductive network polymers</p> <p>② High thermal resistance and fracture toughness network polymers</p> <p>③ High insulation resistance nano composites</p> <p>Key Words</p> <p>Thermosetting Polymers, Epoxy Resins, Liquid Crystals, Mesogenic Groups, Self-organization Polymer Nanocomposites</p> <p>Applications</p> <p>Electrical Encapsulation Materials, Adhesives, Paints</p> <p>E-mail: mharada@kansai-u.ac.jp</p>
<p>Biomaterials Chemistry</p>	<p>IWASAKI Yasuhiko</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Synthesis and characterization of well defined bio-inspired polymers</p> <p>② Surface modification of biomedical devices with biocompatible polymers</p> <p>Key Words</p> <p>Polymer Synthesis, Surface Modification, Biocompatibility, Bio-inspired Polymers, Biointerface, Non-fouling Surface, Biomaterials</p> <p>Applications</p> <p>Medical Devices, Diagnostic Devices, Biosensor Applications, Cell Culture, Separation of Biosubstances Drug Delivery System</p> <p>E-mail: yasu.bmt@kansai-u.ac.jp</p>
	<p>OHYA Yuichi</p> <p>Professor</p> <p>Ph. D. (Engineering)</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① The synthesis of novel polylactide-based biodegradable polymers and their application as biomedical materials</p> <p>② Construction of supramolecular and molecular organization with DNAs</p> <p>Key Words</p> <p>Biomaterials, Biodegradable Materials, Injectable Polymer, Polylactide, Tissue Engineering, Drug Delivery System, DNA, Molecular Organization, Supramolecular Chemistry</p> <p>Applications</p> <p>Medical Polymers, Regenerative Medicine, Drug Delivery System, Biodegradable Plastics, Nanotechnology, DNA Detection System, Molecular Device</p> <p>E-mail: yohya@kansai-u.ac.jp</p>
	<p>KUZUYA Akinori</p> <p>Professor</p> <p>Ph. D. in Engineering</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Construction of nanostructures made of DNA</p> <p>② Fusion of DNA and functional material</p> <p>③ Single molecule imaging of bio-oriented supramolecules</p> <p>Key Words</p> <p>DNA, Nucleic Acids Chemistry, Molecular Devices, Nanotechnology, Nanobiotechnology, Single Molecule Sensing</p> <p>Applications</p> <p>Sensing and Diagnostics, Electronics</p> <p>E-mail: kuzuya@kansai-u.ac.jp</p>
	<p>TAMURA Hiroshi</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Development of biomaterials using natural polymers, especially chitin and chitosan</p> <p>② Fabrication of natural polymers for fiber, film to develop several materials</p> <p>Key Words</p> <p>Natural Polymer, Polysaccharides, Chitin, Chitosan, Gelatin, Biodegradability, Anti-bacterial, Biomaterials, Fiber Spinning, Fabrication, Bacterial Cellulose, Alginate</p> <p>Applications</p> <p>Biomaterials, Biodegradable Materials, Fiber, Cosmetics, Anti-bacterial Materials, Functional Foods, Packaging Materials</p> <p>E-mail: tamura@kansai-u.ac.jp</p>

Biomaterials Chemistry	<p>HIRANO Yoshiaki</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Peptide based biomaterials for tissue engineering</p> <p>② Structure-activity relationships of bioactive peptides</p> <p>③ Conformation analysis of proline containing periodic peptide</p> <p>Key Words</p> <p>Biomaterial, Tissue Engineering, Cell Scaffold, Amino Acid, Peptide, Protein, Secondary Structure, β-sheet Peptide, Extracellular Matrix, Self-assembly, Biosensor</p> <p>Applications</p> <p>Biomaterials, Tissue Engineering & Regenerative Medicine, Healthcare Chip</p> <p>E-mail: yhirano@kansai-u.ac.jp</p>
	<p>FURUIKE Tetsuya</p> <p>Professor</p> <p>Doctor of Environmental Earth Science</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Synthesis of glycocluster compounds from unused resource</p> <p>② Synthesis of carbohydrates based on sustainable chemistry</p> <p>Key Words</p> <p>Oligosaccharide, Bioactive Sugar, Glycodendrimer, Glycocluster Compound, Nanomaterial, Ionic Liquid, Environmental Material, Sustainable Chemistry</p> <p>Applications</p> <p>Glycodrug, Biodegradable Material, Environmental- Conscious Synthetic Process, Biomedical Material, Environmental Depuration</p> <p>E-mail: furuike@kansai-u.ac.jp</p>
Biomaterials Chemistry	<p>MIYATA Takashi</p> <p>Professor</p> <p>Doctor of Engineering</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Smart polymer gels</p> <p>② Functional polymer membranes</p> <p>③ Bio-inspired materials</p> <p>④ Surface science of polymers</p> <p>Key Words</p> <p>Functional Polymers, Gels, Membranes, Biomedical Polymers, Intelligent Materials, Biomimetic Materials, Bio-inspired Materials, Surface Science</p> <p>Applications</p> <p>Biomaterials, Sensors, Biotechnology, Nanotechnology, Environment- and Energy-related Applications</p> <p>E-mail: tmiyata@kansai-u.ac.jp</p>
	<p>KAKINOKI Sachiro</p> <p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Chemistry and Materials Engineering</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Artificial extracellular matrix</p> <p>② Biofunctionalization of material surface</p> <p>③ Structural analysis of artificial peptides and proteins</p> <p>Key Words</p> <p>Biomaterials, Peptide and Protein Science, Genetically-engineered Protein, Tissue Engineering, Artificial Organ, Surface Modification, Bioinspired Materials</p> <p>Applications</p> <p>Medical devices, Biomedical materials, Regenerative medicine, Cell engineering</p> <p>E-mail: sachiro@kansai-u.ac.jp</p>
	<p>KAWAMURA Akifumi</p> <p>Associate Professor</p> <p>Doctor of Engineering</p> <p>Department of Chemistry and Materials Engineering,</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Polymer Nanomaterials for Biomedical Applications</p> <p>② Functional Soft Materials</p> <p>③ Surface Chemistry of Polymer Materials</p> <p>Key Words</p> <p>Polymer Synthesis, Functional Polymers, Polymer Gels, Supramolecular Chemistry, Nanomaterials, Self-assembly, Biomaterials</p> <p>Applications</p> <p>Biomedical Materials, Sensors, Nanotechnology, Biotechnology</p> <p>E-mail: akifumi@kansai-u.ac.jp</p>

Biofunctional Molecular Chemistry	<p>NAKABAYASHI Yasuo</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin-bottom: 2px;">Master's Program</div> <div style="border: 1px solid black; padding: 2px; width: fit-content;">Ph.D.Program</div>	<p>Professor Doctor of Philosophy Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics ① The application of metal complexes as anticancer drugs ② The evaluation of metal complexes as mediators for biosensors and biofuel cells</p> <p>Key Words Metal Complex, DNA, Anticancer Drug, Photodynamic Therapy, Active Oxygen, Mediator, Biosensor, Biofuel Cell</p> <p>Applications Chemotherapeutic and Photochemotherapeutic Agents, Biological Inorganic Chemistry, Medical and Analytical Application, Bioelectrochemistry, Construction of Glucose Sensor and Biological Fuel Cell</p> <p>E-mail: yasuo@kansai-u.ac.jp</p>
	<p>YAJIMA Tatsuo</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin-bottom: 2px;">Master's Program</div> <div style="border: 1px solid black; padding: 2px; width: fit-content;">Ph.D.Program</div>	<p>Professor Doctor of Science Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics ① Syntheses and preparations of optical active amino acids by optical resolutions with crystallization ② Development of novel methods for optical resolutions using metal complexes</p> <p>Key Words Optical Resolution, Asymmetric Transformation, Amino Acids, Racemization, Epimerization, Preferential Crystallization, Replacing Crystallization, Metal Complex, pH Titration, Solution Equilibrium</p> <p>Applications Syntheses and Preparations of Precursors for Medicines, Pesticides, Cosmetics, and Food Additives</p> <p>E-mail: t.yajima@kansai-u.ac.jp</p>
	<p>NAKAI Misaki</p> <div style="border: 1px solid black; padding: 2px; width: fit-content;">Master's Program</div>	<p>Associate Professor Doctor of Science Department of Chemistry and Materials Engineering Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics ① The development of photosensitizer for photodynamic therapy ② Synthetic sugar metal complexes as therapeutic and diagnostic agents</p> <p>Key Words Photodynamic Therapy, Diagnostic Drug, Insulin-mimetic Drug, Sugar Linked Complex</p> <p>Applications The Development of Medical Metal Complexes</p> <p>E-mail: nakai@kansai-u.ac.jp</p>

Life Science and Biotechnology

Research field	Academic Advisors list	
Life and Pharmaceutical Science	<p>OIKAWA Tadao</p> <p>Professor</p> <p>Doctor of Agriculture, Kyoto University</p> <p>Department of Life Science and Biotechnology</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Isolation and characterization of novel enzymes from microorganisms</p> <p>② Enzymological and microbial production of industrially useful compounds and D-amino acids</p> <p>③ Analysis and function of D-amino acids in foods</p> <p>Key Words</p> <p>D-Amino Acid, Novel Enzyme, Stereospecific Synthesis, Biocatalyst, Screening of Novel Microorganisms, Fermentative Food, Cold-active Enzymes</p> <p>Applications</p> <p>Production of Food Additive, Functional Food, Medicine, Agricultural Chemicals, and Biopolymer; Food Process; Biomass; Biosensor</p> <p>E-mail: oikawa@kansai-u.ac.jp</p>
	<p>SHIMOKE Koji</p> <p>Professor</p> <p>Doctor of Science</p> <p>Department of Life Science and Biotechnology</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Basic therapeutic research based on molecular and cellular biology about neurodegenerative disorders</p> <p>② Epigenetic regulation during neuronal differentiation</p> <p>③ Molecular mechanism on building neuronal networks</p> <p>Key Words</p> <p>Apoptosis, ER Stress, Alzheimer's Disease, Parkinson's Disease, PC12 Cells, Cerebral Cortical Neuron, Neurotrophic Factors, Signal Transduction</p> <p>Applications</p> <p>Development of Medicine for Neurodegenerative Diseases, Discovery of Target Molecules for Cognitive or Personality Disorder</p> <p>E-mail: shimoke@kansai-u.ac.jp</p>
	<p>NAGAOKA Yasuo</p> <p>Professor</p> <p>Ph. D.</p> <p>Department of Life Science and Biotechnology</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Explorative study of bioactive compounds</p> <p>② Synthesis of functional molecules</p> <p>③ Pharmaceutical engineering</p> <p>Key Words</p> <p>Drug Discovery, Natural Products, Molecular Target Drugs, Gene Delivery, Polyphenol, Histone Deacetylase Inhibitor</p> <p>Applications</p> <p>Pharmaceuticals, Cosmetics, Dietary Supplements</p> <p>E-mail: ynagaoka@kansai-u.ac.jp</p>
	<p>SUMIYOSHI Takaaki</p> <p>Associate Professor</p> <p>Ph. D.</p> <p>Department of Life Science and Biotechnology</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Drug discovery of bioactive compounds</p> <p>② Discovery of natural products</p> <p>③ Construction of chemical library</p> <p>④ Identification of molecular mechanism of bioactive compounds</p> <p>Key Words</p> <p>Medicinal Chemistry, Protein-Protein Interaction, Macrocycles, Epigenetics, Chemical Library, Natural Products, Neurodegenerative disease, Anticancer Drug, Drug Delivery to Brain</p> <p>Applications</p> <p>Pharmaceuticals, Drug Discovery</p> <p>E-mail: t-sumiyo@kansai-u.ac.jp</p>
	<p>YASUHARA Hiroki</p> <p>Associate Professor</p> <p>Ph. D. (Science)</p> <p>Department of Life Science and Biotechnology</p> <p>Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Cell plate formation in higher plant cells – Mechanisms of the centrifugal development of the phragmoplast –</p> <p>② The role of microtubule associated proteins in cell division and cell elongation</p> <p>Key Words</p> <p>Plant Cytokinesis, Phragmoplast, Cell Plate, Microtubules, Actin Filaments, Cytoskeleton, XMAP215, TMBP200, Kinesin Related Proteins</p> <p>Applications</p> <p>Breeding of Plants</p> <p>E-mail: yasuhara@kansai-u.ac.jp</p>

<p>Life and Pharmaceutical Science</p>	<p>YAMANAKA Kazuya</p> <p>Associate Professor Ph. D. Department of Life Science and Biotechnology Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Genomics-guided Discovery of Biosynthetic Genes for Novel Bioactive Molecules ② Biosynthetic Studies for Structurally Unique Microbial Bioactive Molecules ③ Development of a Genetic Platform for Efficient Production of Bioactive Molecules</p> <p>Key Words Genome-mining, Natural product, Biosynthesis, Microbial genetics, Actinobacteria, microbial production, fermentation</p> <p>Applications Pharmaceutical and Agricultural drugs, Food preservatives, Cosmetics, Biopolymers, Chemicals</p> <p>E-mail: kazuyay@kansai-u.ac.jp</p>
<p>Microbiology and Environmental Science</p>	<p>IWAKI Hiroaki</p> <p>Professor Doctor of Engineering Department of Life Science and Biotechnology Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Analysis and development of bacterial metabolic activities for xenobiotics and its application for bioremediation of environmental pollution ② Ecological study of xenobiotics degrading bacteria in soil and marine environments</p> <p>Key Words Biodegradation, Bioconversion, Nitroaromatics, Marine Bacteria, Baeyer-Villiger monooxygenase</p> <p>Applications Bioremediation of Xenobiotics, Bioconversion of Xenobiotics-related Compounds to Useful Chemicals, Wastewater Treatment</p> <p>E-mail: iwaki@kansai-u.ac.jp</p>
	<p>KATAKURA Yoshio</p> <p>Professor Doctor of Agriculture Department of Life Science and Bioengineering Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Ethanol production by consolidated continuous solid state fermentation ② Delignification of biomass by a bacterium ③ Symbiosis of lactic acid bacterium and yeast ④ Adhesion of lactic acid bacteria to carbohydrate</p> <p>Key Words Bioethanol, Solid state Fermentation, Yeast, Lactic acid Bacteria, Symbiosis, Probiotics, Engineering ethics</p> <p>Applications Entire Design of Bioethanol Production, Adhesion of Lactic Acid Bacteria to Carbohydrate</p> <p>E-mail: katakura@kansai-u.ac.jp</p>
	<p>HASEGAWA Yoshie</p> <p>Professor Doctor of Engineering Department of Life Science and Biotechnology Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Biodegradation of environmental pollutants ② Application of Baeyer-Villiger monooxygenase to organic synthesis</p> <p>Key Words Biodegradation, Biocatalysis, Biotransformation, Environmental pollutants, Cycloparaffin, Nitroaromatic Compounds, Baeyer-Villiger Monooxygenase</p> <p>Applications Treatment of Wastewater, Green Chemistry, Genetic Improvement of Strains or Biocatalysts, Bioremediation</p> <p>E-mail: yoshie@kansai-u.ac.jp</p>

Microbiology and Environmental Science	<p>MATSUMURA Yoshinobu</p> <p>Professor Doctor of Engineering Department of Life Science and Biotechnology Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Bioremediation of chemical pollutants by environmental bacteria and their activities ② Bacterial biofilm formation and development of biofilm removal system ③ Outbreak mechanism of stress resistant bacterial and their resistant mechanism</p> <p>Key Words Bioremediation, Chemical Pollutant, Cytochrome P450 Monooxygenase, Molecular Chaperone, Protein Stability, Biofilm, Surfactant, Reactive Oxygen Species, Disinfectant, Sterilization System, Stress Response, Genetics, Endogenous Plasmid</p> <p>Applications Sewage Disposal System, Improvement of Polluted Soil, Development of Disinfectant, Food Processing, Pharmaceutical Manufacturing, Medicals, Enzymatic Industry</p> <p>E-mail: ymatsu@kansai-u.ac.jp</p>
	<p>YAMASAKI Shino</p> <p>Associate Professor Ph. D. in Engineering Department of Life Science and Biotechnology Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p>	<p>Research Topics</p> <p>① Evaluation and development of probiotics based on immune response ② Bioactivity screening from natural product extracts ③ Development of novel microbial culture systems and the evaluation tools</p> <p>Key Words Probiotics, Mucosal immunity, Natural product extract, Modeling, Three-dimensional culture</p> <p>Applications Functional Food, Adjuvant for Mucosal Immunity, Bioethanol Production</p> <p>E-mail: shino.ya@kansai-u.ac.jp</p>
Food and Nutrition Science	<p>FUKUNAGA Kenji</p> <p>Professor Doctor of Fisheries Science Department of Life Science and Biotechnology Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① We study on the absorption, metabolism, nutrigenomics, and chemistry of marine functional compounds such as n-3 polyunsaturated fatty acid or marine organic compounds. ② Our research project also includes attempts to improve protein functionality, food process characteristics and biofunctions, using molecular modification.</p> <p>Key Words Fish Oil, n-3 Polyunsaturated Fatty Acid, Fish Protein, Fish Peptide, Marine Products, Protamine</p> <p>Applications Functional Foods, Utilization of Marine Bio-resources, Materials of Pharmaceutical Compounds</p> <p>E-mail: fukunagk@kansai-u.ac.jp</p>
	<p>YOSHIDA Munehiro</p> <p>Professor Doctor of Philosophy in Agriculture, Doctor of Philosophy in Medical Science Department of Life Science and Biotechnology Faculty of Chemistry, Materials and Bioengineering</p> <p>Master's Program</p> <p>Ph.D.Program</p>	<p>Research Topics</p> <p>① Nutritional approach to minerals and trace elements in foods ② Environmental assessment of urban and rural area using community of butterflies</p> <p>Key Words Trace Elements, Nutrition, Food, Iron, Copper, Selenium, Zinc, Iodine, Chromium, Molybdenum, Dietary Reference Intake, Butterfly, Urban Environment</p> <p>Applications Nutritional Enrichment, Nutritional Supplements, Analysis of Trace Elements, Nutritional Assessment, Environmental Assessment</p> <p>E-mail: hanmyou4@kansai-u.ac.jp</p>

<p>Food and Nutrition Science</p>	<p>HOSOMI Ryota</p> <p>Master's Program</p>	<p>Assistant Professor Doctor of Engineering Department of Life Science and Biotechnology Faculty of Chemistry, Materials and Bioengineering</p>	<p>Research Topics</p> <p>① Influence of Superchilling (Hyo-On) Treatment on Food Components ② Health Promoting Effect of Novel Component Derive from Seafood</p> <p>Key Words</p> <p>Superchilling (Hyo-On), Food Preservation, Aging, Seafood, Fish Protein, Marine Phospholipid</p> <p>Applications</p> <p>Food Preservation Technology, Novel Aging Technology, Functional Food and Component</p> <p>E-mail: hryotan@kansai-u.ac.jp</p>
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Kansai University Graduate School

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Senriyama Campus

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Graduate School of Business and Commerce Graduate School of Sociology
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Graduate School of Psychology Graduate School of East Asian Cultures Graduate School of Governance

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