# 佐賀大学大学院理工学研究科・先進健康科学研究科 ASEAN と日本の共発展を目指す T 型高度人材育成プログラム(EPAT) AI・データサイエンス高度人材の領域横断的育成プログラム(IEPAD) 博士前期・修士課程(外国人留学生-在日) 学生募集要項

## Guide for the Application for the Foreign Students of Education Program of Advanced T-shaped Person for Co-development of ASEAN and Japan (EPAT)

and

**Interdisciplinary Education Program for AI and Data Science Specialists** (IEPAD)

(Master Course)

## October 2025

## **April 2026**

	Enrollment	Application Deadline	Examinations and Interview	Final Results
First application	October 2025 or April 2026	June 4, 2025	July 4, 2025	July 22, 2025
Second application	October 2025 or April 2026	July 23, 2025	August 21, 2025	September 9, 2025
Third application	April 2026	October 15, 2025	November 14, 2025	December 2, 2025
Fourth application	April 2026	January 28, 2026	March 2, 2026	March 9, 2026

Graduate School of Science and Engineering
Graduate School of Advanced Health Science
SAGA UNIVERSITY

#### **Personal Information Use**

In accordance with the Act on the Protection of Personal Information and National University Corporation Saga University Personal Information Protection Regulation, personal information written on the application form submitted by applicants is utilized for educational purposes (including exemption of entrance and tuition fees, payment extension of entrance fee, and scholarship) as well as the selection of applicants by entrance examinations (including additional business such as statistical transaction).

Personal information possessed by Saga University is not utilized for different purposes from the aim denoted above, and is not provided to a third person without the applicant's agreement, except for the case prescribed by law.

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# THE FOREIGN STUDENTS OF EDUCATION PROGRAM OF ADVANCED T-SHAPED PERSON FOR CO-DEVELOPMENT OF ASEAN AND JAPAN (EPAT)

The Education Program of Advanced T-shaped Person for Co-development of ASEAN and Japan (EPAT) provides all lectures, seminars, and internships, etc. on global environmental, energy problems and health science expertise in English for both foreign and Japanese students. The EPAT is an educational course in the Graduate School of Science and Engineering and Graduate School of Advanced Health Science, Saga University, that started in October 2023, in order to nurture "T-shaped advanced human resources" who have a corporate perspective and AI data science besides a deep specialized research and development capabilities. This is a call for application to a two-year Master Course for the academic year of October 2025 and April 2026.

Environmental, energy and resource problems associated with rapid economic development are particularly serious in Asian countries, many of which are developing countries. For the sound development of developing countries, it is necessary to fully understand and analyze the challenges that Asian countries face, and to develop comprehensive technologies that also include management. EPAT will be established in the Graduate School of Science and Engineering and the Graduate School of Advanced Health Sciences in order to nurture "T-shaped advanced human resources" who have a corporate perspective and AI data science besides a deep specialized research and development capabilities. We aim to develop human resources who can demonstrate leadership in research and development related to the environment, equipped with specialized knowledge of science and engineering and medical engineering, a business perspective, and knowledge of AI and data science. We will contribute to the common development of ASEAN and Japan in order to solve energy and resource issues.

Applicants for EPAT's Master's degree program must determine their field of study from the courses below and select a relevant supervisor(s) listed in the faculty list. The applicants should contact the supervisor(s) before an application submission.

Graduate School of Science and Engineering:

Advanced Materials Chemistry Course, Energy and Mechanical Engineering Course (Enrollment in October 2025), Mechanical Systems Engineering Course (Enrollment in October 2025), Mechanical Engineering Course (Enrollment in April 2026), Electrical and Electronic Engineering Course, Civil Engineering Course, Architectural Design Course

Graduate School of Advanced Health Sciences:

Biomedical Engineering Course, Functional Biomolecular Science Course

Students who complete the Master Course program of the EPAT are granted the Master's Degree (Master of Science or Master of Engineering). The month of entrance is October 2025 or April 2026 and they can enter the EPAT course immediately after completing their Bachelor program in their country without learning of Japanese language.

NB: Energy and Mechanical Engineering Course and Mechanical Systems Engineering Course will be unified into the Mechanical Engineering Course from April 2026.

# THE FOREIGN STUDENTS OF INTERDISCIPLINARY EDUCATION PROGRAM FOR AI AND DATA SCIENCE SPECIALISTS (IEPAD)

The Interdisciplinary Education program for AI and Data Science Specialists (IEPAD) provides all lectures, seminars, and internships, etc. on AI and data science technologies in English for both foreign and Japanese students. Students from overseas can learn and study completely in Japan without a hurdle of Japanese language. The IEPAD is an educational course in the Graduate School of Science and Engineering and Graduate School of Advanced Health Science, Saga University, that will start in October 2025, in order to bring up global researchers and engineers who will contribute to technological innovation in AI and data science fields. This is a call for application to a two-year Master Course for the academic year of October 2025 and April 2026.

The wisdom that humankind has created by its academic deepening has brought humanity a prosperous life through developing science and technology. To improve science and technology, it is necessary to sustain efforts from the viewpoint of AI and data science technologies. Educational study of AI and data science should be performed from all-round and global viewpoints. The IEPAD has been established in the Graduate School of Science and Engineering and Graduate School of Advanced Health Science in order to discuss and solve AI and data science problems. The scope and goal of this IEPAD is interdisciplinary education for students to possess an all-round insight for AI and data science from the global point of view after their completion by acquiring knowledge and thinking power.

In the Master Course program of the IEPAD, education and research guidance of the fields are given by Data Science Course, Computer Science and Information Technology Course, Advanced Materials Chemistry Course, Energy and Mechanical Engineering Course (Enrollment in October 2025), Mechanical Systems Engineering Course (Enrollment in October 2025), Mechanical Engineering Course (Enrollment in April 2026), Electrical and Electronic Engineering Course, Civil Engineering Course, Architectural Design Course, Biomedical Engineering Course, and Functional Biomolecular Science Course in the Graduate School of Science and Engineering and Graduate School of Advanced Health Science. Applicants should decide the research fields and choose prospective relevant supervisor(s) appearing on the List of Academic Staffs. The applicants should contact the supervisor(s) before an application submission.

Students who complete the Master Course program of the IEPAD are granted the Master's Degree (Master of Science or Master of Engineering). The month of entrance is October 2025 or April 2026 and they can enter the IEPAD course immediately after completing their Bachelor program in their country without learning of Japanese language.

NB: Energy and Mechanical Engineering Course and Mechanical Systems Engineering Course will be unified into the Mechanical Engineering Course from April 2026.

#### **QUALIFICATIONS**

- \* For applicants who wish to enroll in April 2026, please replace "September 2025" with "March 2026".
- 1. **Nationality**: Non-Japanese citizens staying in Japan can apply for this program.
- 2. Academic carrier: The following candidates may apply for admission.
  - a. Those who have received Bachelor's Degree from Japanese university as of September 2025.
  - b. Those who have received Bachelor's Degree after completing 16 years course of school education in foreign country, or will receive it as of September 2025.
  - c. Those who have completed 16 years course of school education of foreign country in Japan through correspondence education of a foreign school, or will complete the course as of September 2025.
  - d. Those who have completed 16 years course of school education of foreign country at educational institutions of the foreign country in Japan, which is designated by the Minister of Education, Culture, Sports, Science and Technology of the Japanese Government, or will complete the course as of September 2025.
  - e. Those who have completed 15 years course of school education in foreign country, and been admitted by the Graduate School of Science and Engineering, Saga University to obtain sufficient credits with excellent score.
  - f. Those who have successfully completed the course that Minister of Education, Culture, Sports, Science and Technology of the Japanese Government appoints particularly among a specialized course of a special vocational school (it is limited to the course whose years required for graduation are more than 4 and that satisfies the other standards that Minister of Education, Culture, Sports, Science and Technology of the Japanese Government establishes.) after the day that Minister of Education, Culture, Sports, Science and Technology of the Japanese Government establishes.
  - g. Those who have been designated by the Minister of Education, Culture, Sports, Science and Technology of the Japanese Government.
  - h. Those who are 22 years old or more as of September 2025, and are admitted by the Graduate School of Saga University as that their academic abilities are equivalent to or higher than Bachelor's Degree of Japanese universities upon reviewing the submitted materials.
  - \* Those who intend to apply based on the terms e, f, g or h should submit the application form to the Entrance Examination Office of Saga University one month earlier than the application deadline.
- 3. **Language proficiency**: A good working level of English is required.

#### **TUITION EXPENSES**

- 1. **Entrance examination fee**: 30,000 yen.
- 2. **Entrance fee**: 282,000 yen.

**Tuition fee**: 267,900 Yen for each semester (scheduled). [535,800 Yen per academic year (scheduled).] Amount of due might be slightly revised depending on the decision of the administration council. Payments must be made for each semester biannually within the beginning two months of the semester. Information on the tuition assistance, exemption subsidization, and scholarships is available at the Benefits section in the following pages.

#### **SELECTION**

- 1. Selection for admission shall be achieved by written and/or oral examinations on the selected major subjects and interview. All examinations and interview will be conducted in English. The examinations will be conducted on the date indicated on the cover page.
- 2. The final results of selection will be noticed to the applicant by a letter. It will be dispatched on the date indicated on the cover page.
- 3. A few students can be admitted.

#### **ADMISSION**

- 1. Date of enrollment is October 1, 2025 or April 1, 2026.
- 2. Date of registration for admission: {First and Second application} mid September 2025

{Third application} from mid to late January 2026

{Fourth application} late March 2026

Details will be provided when you receive your acceptance letter. If the applicant does not register on these days, his/her admission shall be canceled.

3. Admission shall be canceled if the applicant fails to receive the Bachelor's Degree on or before September 2025 or March 2026.

#### **APPLICATION**

- \* For applicants who wish to enroll in April 2026, please replace "September 2025" with "March 2026".
- 1. Applicants should prepare the following documents to be forwarded to the Entrance Examination Office, Saga University. Simultaneous applications for both EPAT and IEPAD are acceptable. In the case of simultaneous applications, a comprehensive set of documents should be submitted for each application. However, it is acceptable to submit the original certificates for one program and the copy documents for the other program. In addition, the entrance examination fee must be paid for each application.
  - (1) **Application Form** (Form A).
  - (2) Official transcript of Bachelor's degree or certificate representing that the applicant will be conferred Bachelor's degree by September 2025. Original diploma is also acceptable; in this case the examination office may exemplify the diploma and the original may be returned at the office.
  - (3) Transcripts of **Academic Record** issued by university authorities and their English translation. (The criteria of academic assessment should be also shown.)
  - (4) English summary of **Graduation Thesis** or its equivalent if available, not exceeding four sheets of A4 size paper typed in double space. If a Graduation Thesis is not required by the university from which the applicant graduated, prepare a statement to this matter.
  - (5) Certificate of Citizenship issued by appropriate authorities.
  - (6) Recommendation and Reference
    - a. A letter of **Recommendation** (Form B) from the head (Dean, in case of university) of the applicant's affiliated institution.
    - b. Letter(s) of **Reference** (Form C) from those who know the applicant's research/study capability should be addressed to the President of Saga University.

The letters of recommendation and reference(s) should indicate the English proficiency of the applicant. Enclose, therein, a certificate indicating the scores of TOEFL or a corresponding English Ability Test, if any.

- (7) **Three Photographs** (hatless portrait), 4.5 cm × 3.5 cm in size, taken within six months before the date of application. Two copies should be attached to the application form. One extra copy should be enclosed therein, with the applicant's name and nationality on the reverse side of the copies.
- (8) **Receipt for Entrance Examination Fee** (30,000 yen). (Except Japanese Government Scholarship Students)

Please pay the fee via Flywire. Fees for the remittance should be paid by the applicant. Please submit the receipt that can be downloaded after payment to Saga University, or print out a screenshot of the payment completion screen. Please refer to "PAYMENT THROUGH Flywire" (see page 15). Applicants who cannot use Flywire for any reason should email the Entrance Examination Office (see page 5).

Flywire (URL): <a href="https://saga-u.flywire.com">https://saga-u.flywire.com</a>

or scan:

If you have any questions, please contact Flywire:

Web: <a href="https://www.flywire.com/support">https://www.flywire.com/support</a>

email: support@flywire.com

(9) Certificate of Registration as a Japanese Government Scholarship Student. (Japanese



Government Scholarship Students only)

2. All documents should be sent by registered mail and received by the Entrance Examination Office by the deadline indicated on the cover page.

#### Remarks

- 1) The above documents should be type-written in English on A4 size paper.
- 2) Incomplete documents are not acceptable.
- 3) None of the documents submitted is returned to the applicant in any case.

#### **NOTES**

- 1. An admitted student will be deprived of entrance under the following cases:
  - a. False statements on the documents.
  - b. Violation of the pledge.
- 2. Admitted students are recommended to be well acquainted with the Japanese language, culture, customs, etc. A knowledge of the Japanese language is necessary in daily life.
- 3. Admitted students are expected to complete their Master Course Program within two years.

#### **BENEFITS**

- 1. Exemption of tuition fee from complete to 50% may be granted depending on circumstances.
- 2. There are several scholarships for private-expense foreign students. Students can apply for these scholarships.
- 3. Housing: Students can apply to Saga University International House, or low-cost apartments supported by Saga prefecture and other organizations.

#### CORRESPONDENCE

Any correspondence relating to the application should be sent by mail to the address below. Note that the application forms must not be submitted in any kind of electronic form. Forms sent by facsimile and attached files on e-mail shall not be accepted on any occasion.

\* If you have difficulty mailing your documents by the deadline, please contact us at the e-mail address below by the application deadline.

Entrance Examination Office Saga University 1 Honjo-machi Saga 840-8502, Japan

E-mail: (EPAT) <u>epat@mail.admin.saga-u.ac.jp</u> (IEPAD) <u>iepad@mail.admin.saga-u.ac.jp</u>

#### Schedule for Entrance Examination (Master Course)

Date: Please check the examination schedule on the cover page.

Place: As indicated on the admission ticket for examination.

**Time**: 9:30

#### [EPAT]

Course	Subjects	Methods for Examination	Time Schedule
Advanced Materials Chemistry		Oral test	
Energy and Mechanical Engineering			
Mechanical Systems Engineering	Main malina de Constitu		
Electrical and Electronic Engineering	Major subjects for the		10:00 ~
Civil Engineering	course which you wish		10:00
Architectural Design	to enter		
Biomedical Engineering			
Functional Biomolecular Science			

NB: Applicants who wish to enroll in April 2026 should read Energy and Mechanical Engineering Course and Mechanical Systems Engineering Course as Mechanical Engineering Course.

#### [IEPAD]

Course	Subjects	Methods for Examination	Time Schedule
Data Science			
Computer Science and Information			
Technology			
Advanced Materials Chemistry			
Energy and Mechanical Engineering	Major subjects for the		
Mechanical Systems Engineering	course which you wish	10:00 ~	
Electrical and Electronic Engineering	to enter	including interview	
Civil Engineering			
Architectural Design			
Biomedical Engineering			
Functional Biomolecular Science			

NB: Applicants who wish to enroll in April 2026 should read Energy and Mechanical Engineering Course and Mechanical Systems Engineering Course as Mechanical Engineering Course.

# ACADEMIC STAFFS ATTENDING <u>EPAT</u> COURSES AND THEIR RESEARCH INTERESTS AND MAJOR FIELDS

#### GRADUATE SCHOOL OF SCIENCE AND ENGINEERING [MASTER COURSE]

Advanced Materials Chemistry Course

**Laboratory of Inorganic Chemistry**Academic Staff: Yamada, Y.

Measurements of magnetic susceptibility and ESR for transition-metal complexes Synthesis of binuclear

Research Fields: copper (II) complexes, polynuclear metal complexes, and model complexes of metalloenzyme, X-Ray

structural analysis of metal complexes

**Laboratory of Applied Physical Chemistry** 

Academic Staff: Sakaguchi, K.

Research Fields: Development, and applications of functional carbon materials and cellulose nanofibers, quantitative

evaluation of dispersibility for functional carbon materials

**Laboratory of Chemical Engineering** 

Academic Staff: Ohto, K. Morisada, S.

Research Fields: Separation science and engineering of metals and biomaterials with solvent extraction, ion exchange and

adsorption, Material resource recycling for sustainable society, Environmental Engineering, Colloid and

surface engineering

**Laboratory of Bioelectrochemistry** 

Academic Staff: Tominaga, M.

Research Fields: Bioelectrochemistry, Functional electrode, Biosensor, Microbial fuel cell, Electrochemical sensor

Laboratory of Applied Organic Chemistry

Academic Staff: Takeshita, M.

Research Fields: Construction of supramolecular systems based on molecular recognition and development for advanced

organic materials, Development of organic light-emitting diodes, Development of photo-functionalized

material

**Laboratory of Ceramic Engineering** 

Academic Staff: Yada, M.

Research Fields: Preparation of ceramics: solid state reaction, sol-gel process, reactive infiltration, Eco-friendly ceramics:

luminescence materials for energy-saving, ceramic recycle and porous ceramics for environmental

cleanup, Nano-size functional ceramics: nano-fiber, nano-tube, nano-composites

Laboratory of Environmental Chemical Engineering

Academic Staff: Kawakita, H.

Research Fields: Polymer preparation using enzymatic reaction, Metal adsorption by functional polymer, Polysaccharide

synthesis for food engineering

Laboratory of Organic Materials Chemistry

Academic Staff: Narita, T.

Research Fields: Polymer Chemistry, Colloid and Interface Chemistry, Hydrogel, Biopolymer Materials, Cell Scaffolds for

Regenerative Medicine, Stimuli-Responsive Smart Materials

Energy and Mechanical Engineering Course (From April 2026, Mechanical Engineering Course)

Laboratory of Environmental Fluids Systems

Academic Staff: Kinoue, Y. Shiomi, N.

Research Fields: Turbomachinery, Numerical analysis of fluid flow, High speed aerodynamics, Vibration and noise

control, Wells turbine for wave power generator, Control of shock wave, Flow separation, Development

of nozzle, Multiphase flow

**Laboratory of Thermal Energy Systems** 

Academic Staff: Mitsutake, Y. Kariya, K. Ishida, K.

Research Fields: Enhancement of boiling heat transfer and critical heat flux, High efficiency heat exchanger,

Measurements of thermophysical properties, Heat and mass transfer, Condensation, Boiling, Heat

exchanger, Heat pump, Refrigeration, Geothermal heat pump

Laboratory of Ocean Energy

Academic Staff: Ikegami, Y. Yoshida, S. Arima, H. Imai, Y.

Murakami, T.

Research Fields: Wave and tidal energy conversion systems, Marine hydrodynamics, Ocean thermal energy conversion

plant, Development of thermal energy conversion systems, Boiling heat transfer, two-phase flow, effective utilization of thermal energy, Rotor aerodynamic, aero-elastics, floating offshore wind turbine, wind farm

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Mechanical Systems Engineering Course (From April 2026, Mechanical Engineering Course) **Laboratory of Advanced Materials Systems** Academic Staff: Tadano, Y. Taketomi, S. Morita, S. Hagihara, S. Research Fields: Numerical analysis for structures, Mechanics of composite material, Finite element method, Evaluation of fatigue strength of various metals and advanced materials **Laboratory of Machine Design and Production Systems** Academic Staff: Hasegawa, H. Mawatari, T. Ohshima, F. Research Fields: Design and manufacturing system of gears, Precision machine elements and tribology, Precision finishing and characterization of solid surfaces, Rolling contact fatigue, Friction and wear of contact surfaces Laboratory of Advanced Robotics and Control Systems Academic Staff: Sato, K. Research Fields: Sustainable robots, Networked robots, Man-machine interface, Control theory, Adaptive control, Robust control, Mechatronics, Softcomputing, Nonlinear control

lectrical and Electronic Engineering Course			
Laboratory of Communication Engineering and Advanced Circuit Technology			
Academic Staff:	Tanaka, Takayuki. Nishiyama, E		
Research Fields:	Microwave circuits, Planar antennas, Wireless power transfer, Wireless communication systems		
Laboratory of Power	Electronics		
Academic Staff:	Takahashi, K.		
Research Fields:	Power electronic devices, Wide-gap semiconductors such as diamond, Synchrotron x-ray radiation,		
	Surface science, Photovoltaic System		
Laboratory of Optoel	lectronics		
Academic Staff:	Guo, Q. Tanaka, Tooru. Ihara, S.		
Research Fields:	Optoelectronic Materials and Applications, Epitaxial growth and characterization of semiconductor		
	materials, Advanced optoelectronic devices, Photovoltaics, Pulsed power engineering, Synchrotron light		
	application for materials processing and characterization		
Laboratory of Advan	nced Computational Engineering and Artificial Intelligence		
Academic Staff:	Wakuya, H. Itoh, H. Fukumoto, H.		
Research Fields:	Power Engineering and Smart Power Grid System, Electromagnetic and Acoustic Analyses, Virtual		
	Reality (VR) and Augmented Reality (AR), Biomedical Signal Processing, Neural Networks, Intelligent		
	Robotics, Natural Language Processing		
Laboratory of Plasma Electronics			
Academic Staff:	Ohtsu, Y.		
Research Fields:	Plasma electronics, Plasma discharge application (CVD, sputtering), Preparation of functional thin films		
	for electronic device		

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**Civil Engineering Course** Architectural Design Course Laboratory of Structural Engineering and Mechanics Academic Staff: Obiya, H. Z. M. Nizam Ito, Y. Structural engineering, Earthquake engineering, Linear, nonlinear, elastic, nonelastic, static, and dynamic Research Fields: analysis of structure, Concrete materials, reinforced and prestressed concrete structures Laboratory of Geotechnical Engineering Academic Staff: Hino, T. Negami, T. Research Fields: Analytical study of geotechnical problems, Soil improvement and earth reinforcement, Land subsidence, Stabilization of ground, Geoenvironmental engineering, Road engineering, Pavement engineering, Waste treatment engineering Laboratory of Environmental System Engineering Academic Staff: Yamanishi, H. Narumol, V. Oshikawa, H. Mishima, Y. Research Fields: Coastal engineering, Ecohydraulics and sediment transport, Fluid dynamics, River engineering, Water resources engineering, Water environmental engineering, Water pollution control, Wastewater treatment **Laboratory of Urban Design and Architecture** Academic Staff: Mishima, N. Miyahara, M. Goto, R. Research Fields: Architectural design, Architectural planning, Land- and townscape design, Regenerative design of architecture and urban space, Preservation of historic environment, Regional disaster prevention plan Laboratory of Environmental Design for Architecture Academic Staff: Kojima, S. Nakaohkubo, K. Research Fields: Building thermal environment, Urban thermal environment, Energy conservation of building environment, HVAC control for building environment Laboratory of Social Systems Management Academic Staff: Li, H. Inohae, T. Research Fields: Transportation system and planning, Urban development and urban systems, Residential environment evaluation, Prevention for urban disaster, Urban energy management, Urban environmental evaluation

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#### GRADUATE SCHOOL OF ADVANCED HEALTH SCIENCE [MASTER COURSE]

**Biomedical Engineering Course Laboratory of Systems Control** Academic Staff: Sugi, T. Matsuda, Y. Research Fields: Medical systems control, Plant systems control, Remote systems control, Mechatronic systems control and robotics, Reliability analysis for power plant, Control systems design **Laboratory of Applied Computing** Academic Staff: Muramatsu, K. Numerical analysis of electromagnetic field, Optimal design of electromagnetic apparatus, Modelling of Research Fields: magnetic materials **Laboratory of Biosensors** Academic Staff: Kimoto, A. Intelligent-composite multisensors, Tactile sensors mimicking human perceptions, Non-invasive imaging Research Fields: with composite sensors Laboratory of Smart Sensing Academic Staff: Khan, T. I. Research Fields: Smart sensing of biomedical engineering dynamics, Acoustics and Diagnostics, Artificial Intelligence, Sensing systems control, Non-destructive testing **Laboratory of Environmental Fluids Systems** Academic Staff: Hashimoto, T. Sumi, T. Research Fields: High speed aerodynamics, Medical application of shock wave, Multiphase flow, Rheology of soft materials, Computational fluid dynamics Laboratory of Robotics and Computational Intelligence

Robotics, Mechatronics, Computational Intelligence, Ma-chine learning

<b>Functional Biomolec</b>	ular Science Course	
Laboratory of Analy	ytical Chemistry	
Academic Staff:	Umecky, T.	
Research Fields:	Structure and dynamics of liquids and solutions, Solvation structure of amino acids, peptides, and	
	proteins in binary solutions, Physicochemical properties of room-temperature ionic liquids	
Laboratory of Inorg	ganic Chemistry	
Academic Staff:	Koikawa, M. Yoneda, K.	
Research Fields:	Synthesis and magnetochemistry of polynuclear transition-metal complexes, X-Ray crystal structural	
	analysis of metal complexes, Synthesis and guest-responsivity of porous coordination polymers	
Laboratory of Physi	ical Chemistry	
Academic Staff:	Unno, M. Fujisawa, T.	
Research Fields:	Molecular spectroscopy, Biophysics of Photoreceptors	
Laboratory of Bioor	rganic Chemistry	
Academic Staff:	Osada, S.	
Research Fields:	Structure-based design, synthesis and biological evaluation of enzyme inhibitors, Structure-Function	
	Relationship of biologically active peptides	
Laboratory of Cosn	netic Sciences	
Academic Staff:	Tokudome, Y.	
Research Fields:	Researching the cosmetic science, including formulation and efficacy. Especially focusing on drug	
	formulation and percutaneous delivery systems.	

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Academic Staff:

Research Fields:

Izumi, K.

# ACADEMIC STAFFS ATTENDING <u>IEPAD</u> COURSES AND THEIR RESEARCH INTERESTS AND MAJOR FIELDS

#### GRADUATE SCHOOL OF SCIENCE AND ENGINEERING [MASTER COURSE]

<b>Data Science Course</b>				
Computer Science and Information Technology Course				
Laboratory of Smart	t System			
Academic Staff:	Matsumae, S.	Nakayama, K.	Ueda, S.	
Research Fields:	Intelligent Informati	cs, Artificial Intelligence,	Parallel and Distributed Al	gorithms
Laboratory of Data S	Science			
Academic Staff:	Minamoto, T.	Ishimoto, Y.	Hirotomo, M.	Kimura, T.
Research Fields:	Numerical Verificati	ion, Image Processing, Sig	nal Processing, Digital Wa	termarking, Wavelet Analysis,
	Applied Mathematic	s, Data Science, Numerica	l Analysis, Mathematical I	Programming, Coding Theory,
	Information Theory,	Information Security, Life	escience informatics, Bioph	ysical system
Laboratory of Comp	outer Software			
Academic Staff:	Ohtsuki, M.			
Research Fields:	Software Engineerin	Software Engineering, Data Science, Information System, Computing Education, Learning Analytics,		
	Software Tool, Com	puter and Society		
Laboratory of Cyber	Laboratory of Cyber Physical System			
Academic Staff:	Fukuda, O.	Okumura, H.	Yamaguchi, N.	
Research Fields:	Artificial intelligenc	e, Robotics, Intelligent sen	sing, Data Science, Data v	isualization, Biological system,
	Remote sensing, Me	dical image processing, M	achine learning, Reinforcer	ment learning
Laboratory of Fundamental and Applied Informatics				
Academic Staff:	Hanada, E.	Hori, Y.	Okazaki, Y.	Hieida, Y.
	Otani, M.			
Research Fields:	Information/Commin	nication Systems in Clinica	al medicine/Healthcare/We	lfare, Hospital Facilities,
	Information and Sys	tems in Education, Compu	tational Science, Informati	on network, Network security

Advanced Materials (			
Laboratory of Inorg	ganic Chemistry		
Academic Staff:	Yamada, Y.		
	Measurements of magnetic susceptibility and ESR for transition-metal complexes Synthesis of binuclear		
Research Fields:	copper (II) complexes, polynuclear metal complexes, and model complexes of metalloenzyme, X-Ray		
	structural analysis of metal complexes		
Laboratory of Appli	ied Physical Chemistry		
Academic Staff:	Sakaguchi, K.		
Research Fields:	Development, and applications of functional carbon materials and cellulose nanofibers, quantitative		
	evaluation of dispersibility for functional carbon materials		
Laboratory of Chen	nical Engineering		
Academic Staff:	Ohto, K. Morisada, S.		
Research Fields:	Separation science and engineering of metals and biomaterials with solvent extraction, ion exchange and		
	adsorption, Material resource recycling for sustainable society, Environmental Engineering, Colloid and		
	surface engineering		
Laboratory of Bioel	ectrochemistry		
Academic Staff:	Tominaga, M.		
Research Fields:	Bioelectrochemistry, Functional electrode, Biosensor, Microbial fuel cell, Electrochemical sensor		
Laboratory of Appli	ied Organic Chemistry		
Academic Staff:	Takeshita, M.		
Research Fields:	Construction of supramolecular systems based on molecular recognition and development for advanced		
	organic materials, Development of organic light-emitting diodes, Development of photo-functionalized		
	material		
Laboratory of Cerai	mic Engineering		
Academic Staff:	Yada, M.		
Research Fields:	Preparation of ceramics: solid state reaction, sol-gel process, reactive infiltration, Eco-friendly ceramics:		
	luminescence materials for energy-saving, ceramic recycle and porous ceramics for environmental		
	cleanup, Nano-size functional ceramics: nano-fiber, nano-tube, nano-composites		

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Laboratory of Environmental Chemical Engineering

Academic Staff: Kawakita, H.

Research Fields: Polymer preparation using enzymatic reaction, Metal adsorption by functional polymer, Polysaccharide

synthesis for food engineering

**Laboratory of Organic Materials Chemistry** 

Academic Staff: Narita, T.

Research Fields: Polymer Chemistry, Colloid and Interface Chemistry, Hydrogel, Biopolymer Materials, Cell Scaffolds for

Regenerative Medicine, Stimuli-Responsive Smart Materials

Energy and Mechanical Engineering Course (From April 2026, Mechanical Engineering Course)

**Laboratory of Environmental Fluids Systems** 

Academic Staff: Kinoue, Y. Shiomi, N.

Research Fields: Turbomachinery, Numerical analysis of fluid flow, High speed aerodynamics, Vibration and noise

control, Wells turbine for wave power generator, Control of shock wave, Flow separation, Development

of nozzle, Multiphase flow

**Laboratory of Thermal Energy Systems** 

Academic Staff: Mitsutake, Y. Kariya, K. Ishida, K.

Research Fields: Enhancement of boiling heat transfer and critical heat flux, High efficiency heat exchanger,

Measurements of thermophysical properties, Heat and mass transfer, Condensation, Boiling, Heat

exchanger, Heat pump, Refrigeration, Geothermal heat pump

Laboratory of Ocean Energy

Academic Staff: Ikegami, Y. Yoshida, S. Arima, H. Imai, Y.

Murakami, T.

Research Fields:

Wave and tidal energy conversion systems, Marine hydrodynamics, Ocean thermal energy conversion

plant, Development of thermal energy conversion systems, Boiling heat transfer, two-phase flow, effective utilization of thermal energy, Rotor aerodynamic, aero-elastics, floating offshore wind turbine, wind farm

Mechanical Systems Engineering Course (From April 2026, Mechanical Engineering Course)

**Laboratory of Advanced Materials Systems** 

Academic Staff: Hagihara, S. Tadano, Y. Taketomi, S. Morita, S.

Research Fields: Numerical analysis for structures, Mechanics of composite material, Finite element method, Evaluation of

fatigue strength of various metals and advanced materials

**Laboratory of Machine Design and Production Systems** 

Academic Staff: Hasegawa, H. Mawatari, T. Ohshima, F.

Research Fields: Design and manufacturing system of gears, Precision machine elements and tribology, Precision finishing

and characterization of solid surfaces, Rolling contact fatigue, Friction and wear of contact surfaces

**Laboratory of Advanced Robotics and Control Systems** 

Academic Staff: Sato, K.

Research Fields: Sustainable robots, Networked robots, Man-machine interface, Control theory, Adaptive control, Robust

control, Mechatronics, Softcomputing, Nonlinear control

IEPAD courses 12

**Electrical and Electronic Engineering Course** 

Laboratory of Communication Engineering and Advanced Circuit Technology

Academic Staff: Tanaka, Takayuki. Nishiyama, E

Research Fields: Microwave circuits, Planar antennas, Wireless power transfer, Wireless communication systems

**Laboratory of Power Electronics** 

Academic Staff: Takahashi, K.

Research Fields: Power electronic devices, Wide-gap semiconductors such as diamond, Synchrotron x-ray radiation,

Surface science, Photovoltaic System

Laboratory of Optoelectronics

Academic Staff: Guo, Q. Tanaka, Tooru. Ihara, S.

Research Fields: Optoelectronic Materials and Applications, Epitaxial growth and characterization of semiconductor

materials, Advanced optoelectronic devices, Photovoltaics, Pulsed power engineering, Synchrotron light

application for materials processing and characterization

Laboratory of Advanced Computational Engineering and Artificial Intelligence

Academic Staff: Wakuya, H. Itoh, H. Fukumoto, H.

Research Fields: Power Engineering and Smart Power Grid System, Electromagnetic and Acoustic Analyses, Virtual

Reality (VR) and Augmented Reality (AR), Biomedical Signal Processing, Neural Networks, Intelligent

Robotics, Natural Language Processing

**Laboratory of Plasma Electronics** 

Academic Staff: Ohtsu, Y.

Research Fields: Plasma electronics, Plasma discharge application (CVD, sputtering), Preparation of functional thin films

for electronic device

**Civil Engineering Course** 

**Architectural Design Course** 

Laboratory of Structural Engineering and Mechanics

Academic Staff: Ito, Y. Obiya, H. Z. M. Nizam

Research Fields: Structural engineering, Earthquake engineering, Linear, nonlinear, elastic, nonelastic, static, and dynamic

analysis of structure, Concrete materials, reinforced and prestressed concrete structures

Laboratory of Geotechnical Engineering

Academic Staff: Hino, T. Negami, T.

Research Fields: Analytical study of geotechnical problems, Soil improvement and earth reinforcement, Land subsidence,

Stabilization of ground, Geoenvironmental engineering, Road engineering, Pavement engineering, Waste

treatment engineering

Laboratory of Environmental System Engineering

Academic Staff: Yamanishi, H. Narumol, V. Oshikawa, H. Mishima, Y.

Research Fields: Coastal engineering, Ecohydraulics and sediment transport, Fluid dynamics, River engineering, Water

resources engineering, Water environmental engineering, Water pollution control, Wastewater treatment

systems

Laboratory of Urban Design and Architecture

Academic Staff: Mishima, N. Goto, R. Miyahara, M.

Research Fields: Architectural design, Architectural planning, Land- and townscape design, Regenerative design of

architecture and urban space, Preservation of historic environment, Regional disaster prevention plan

Laboratory of Environmental Design for Architecture

Academic Staff: Kojima, S. Nakaohkubo, K.

Research Fields: Building thermal environment, Urban thermal environment, Energy conservation of building environment,

HVAC control for building environment

**Laboratory of Social Systems Management** 

Academic Staff: Li, H. Inohae, T.

Research Fields: Transportation system and planning, Urban development and urban systems, Residential environment

evaluation, Prevention for urban disaster, Urban energy management, Urban environmental evaluation

IEPAD courses 13

#### GRADUATE SCHOOL OF ADVANCED HEALTH SCIENCE [MASTER COURSE]

**Biomedical Engineering Course Laboratory of Systems Control** Academic Staff: Sugi, T. Matsuda, Y. Research Fields: Medical systems control, Plant systems control, Remote systems control, Mechatronic systems control and robotics, Reliability analysis for power plant, Control systems design **Laboratory of Applied Computing** Academic Staff: Muramatsu, K. Numerical analysis of electromagnetic field, Optimal design of electromagnetic apparatus, Modelling of Research Fields: magnetic materials **Laboratory of Biosensors** Academic Staff: Kimoto, A. Intelligent-composite multisensors, Tactile sensors mimicking human perceptions, Non-invasive imaging Research Fields: with composite sensors **Laboratory of Smart Sensing** Academic Staff: Khan, T. I. Research Fields: Smart sensing of biomedical engineering dynamics, Acoustics and Diagnostics, Artificial Intelligence, Sensing systems control, Non-destructive testing **Laboratory of Environmental Fluids Systems** Academic Staff: Hashimoto, T. Sumi, T. Research Fields: High speed aerodynamics, Medical application of shock wave, Multiphase flow, Rheology of soft materials, Computational fluid dynamics Laboratory of Robotics and Computational Intelligence

Robotics, Mechatronics, Computational Intelligence, Ma-chine learning

Functional Biomolec	ular Science Course		
Laboratory of Anal	ytical Chemistry		
Academic Staff:	Umecky, T.		
Research Fields:	Structure and dynamics of liquids and solutions, Solvation structure of amino acids, peptides, and		
	proteins in binary solutions, Physicochemical properties of room-temperature ionic liquids		
Laboratory of Inorg	ganic Chemistry		
Academic Staff:	Koikawa, M. Yoneda, K.		
Research Fields:	Synthesis and magnetochemistry of polynuclear transition-metal complexes, X-Ray crystal structural		
	analysis of metal complexes, Synthesis and guest-responsivity of porous coordination polymers		
Laboratory of Physi	ical Chemistry		
Academic Staff:	Unno, M. Fujisawa, T.		
Research Fields:	Molecular spectroscopy, Biophysics of Photoreceptors		
Laboratory of Bioor	rganic Chemistry		
Academic Staff:	Osada, S.		
Research Fields:	Structure-based design, synthesis and biological evaluation of enzyme inhibitors, Structure-Function		
	Relationship of biologically active peptides		
Laboratory of Cosn	netic Sciences		
Academic Staff:	Tokudome, Y.		
Research Fields:	Researching the cosmetic science, including formulation and efficacy. Especially focusing on drug		
	formulation and percutaneous delivery systems.		

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Academic Staff:

Research Fields:

Izumi, K.







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