



APPLICATION PROCEDURE FOR STUDENT ADMISSION TO  
THE SPECIAL PROGRAM FOR INTERNATIONAL STUDENTS (SP)  
OF THE GRADUATE SCHOOL  
(MASTERS COURSES IN ENGINEERING),  
UNIVERSITY OF MIYAZAKI

2021  
Autumn Admission

GRADUATE SCHOOL OF ENGINEERING  
UNIVERSITY OF MIYAZAKI  
JAPAN

## 1. SPECIAL PROGRAM

Graduate School of Engineering aims at providing education for cultivating engineers and researchers who are creative and have advanced knowledge and technology. We offer a Special Program catering for students of non-Japanese nationality. In this program, all the lectures will be taught in English.

Therefore, students are expected to have a good command of English. Although there are no specific score requirements, equivalent score of 61 in TOEFL (iBT) should be minimum. Master's Degree of Engineering will be conferred on the students who have successfully completed all the course requirements.

## 2. APPLICABLE COURSES AND NUMBER TO BE ADMITTED

	Course	Number to be admitted
Graduate Course in Engineering	Environmental Systems Course Energy and Electronics Course Mechanical Systems and Informatics Course	A few

\*Before applying, applicants are required to contact your prospective supervisor (see "appendix") to inquire about the detailed application procedure, contents of the education and research curriculum.

## 3. REQUIREMENTS FOR APPLICANTS

Applicants must have non-Japanese nationality and have completed 16 years of school education in the countries except Japan, or who are scheduled to complete it by the end of September 2021.

Note: If you do not have (will not obtain) a "foreign student" qualification ("Student Visa"), you will not be able to get those services available for "foreign student" such as tuition exemption, scholarships, and tutors.

## 4. APPLICATION PROCEDURE

### (1) Application Deadline

Application documents must reach the Academic Affairs and Student Services Section during the following period and arrive by **July 16 (Fri.), 2021.**

**From July 13 (Tue.) to 16 (Fri.), 2021.**

(Office Hours: 9:00 to 17:00)

### (2) Application Documents

Submit the following **original** documents completed **in English**.

Application for Admission, Photograph Card and Identification for Examination	Fill in the prescribed forms and paste a photograph (head and shoulders, hatless, facing forward, 4cm×3cm, taken within the last 3 months) as indicated.
Graduation Certificate	Certificate of graduation or scheduled graduation from the university or college attended. (English Translation)
Certified Academic Record	Official transcript from the university or college attended (English Translation).
Scholarship Certificate (not necessary)	Scholarship certificate from the Japanese Government or her/his home government scholarship, or official statement that the applicant can get the scholarship by the time of admission, issued by the government or the university if available.
Score of TOEIC, TOEFL, IELTS	Certificate of an official English test score such as TOEIC, TOEFL and IELTS.

Recommendation Letter	Confidential reference of recent date from the last supervisor or immediate manager at the place of work. (In case of postgraduate research students of UOM, the present supervisor.)
Personal History	Fill in the prescribed form.
Research Plan	Write research subject, aim and method of research plan in about 300 words. Be advised: Applicants are required to contact with a professor concerned with your research topic before submitting the application.
Application Fee 30,000Yen	Using the designated transfer-request form (Form A) remit the application fee of ¥30,000 from any financial institution (other than Japan Post Bank Co., Ltd.) within the remittance period. After remitting the fee, submit Form C (certificate of application fee remittance, bearing a "Collected" stamp) together with the written application. See Note.

Note: Applicants supported by a scholarship from the Japanese government are exempted from the application fee.

### **(3)Application Process**

Application documents must reach the Academic Affairs and Student Services Section within the application period.

In case of mailing, all the application documents should be sent together by registered mail (registered air mail when sent from abroad) with an envelope marked in red "Application for Foreign Student Admission to the Graduate School".

On receipt of the required documents the identification for examination and others will be mailed to the applicant.

### **(4)Submitting Place**

Academic Affairs and Student Services Section  
Faculty of Engineering, University of Miyazaki  
1-1 Gakuen Kibanadai Nishi, Miyazaki, 889-2192, Japan  
Telephone: +81-985-58-7979, Fax: +81-985-58-7287

### **(5)Other Notices**

- 1) Check and make sure that all blanks have been properly filled in before submitting the documents.
- 2) The contents in the application documents cannot be changed after application.
- 3) Except for the following reasons, the application fee will not be returned:

In the case that the application fee was paid, but no application documents were submitted nor received by the institute, or in the case that the application fee was paid in duplicate.

\*Charge for the refund of application fee should be paid by the applicant.

- 4) For further inquiry about graduate admission, please contact with the Academic Affairs and Student Services Section. (E-mail: eng-nyu@of.miyazaki-u.ac.jp)

## **5. SCREENING**

All applicants are evaluated by the combined scores resulting from the followings: the information provided in their application, the interview including the oral exam, and the certificate of an official English test score such as TOEIC, TOEFL and IELTS.

All applicants must take an interview.

Also, all applicants must take an oral exam to elaborate the final research paper at the bachelor's degree. In case that the final research paper was not conducted, applicants must elaborate an alternative research paper or a future research plan. All applicants must give a five-minutes presentation and take a

question session. Please bring your own PC with a file of presentation and also provide ten printed copies of presentation on the exam day.

The oral exam may include the matters related to the special field of the bachelor's degree.

**(1) Date of Examination**

August 17 (Tue.), 2021.

**(2) Place of Examination**

Faculty of Engineering, University of Miyazaki. The applicant from the university which has concluded academic or student exchange agreement with University of Miyazaki can take examination interview at own university according to the decision of the department which she/he applies.

**(3) Announcement of Results**

August 31 (Tue.), 2021. 10:00 A.M. (JST)

\*The list of successful candidates will be notified on the notice board in front of the Academic Affairs and Student Services Section of the Faculty of Engineering, University of Miyazaki. For the successful candidates, an acceptance letter and documents for matriculation will be sent out.

**(4) Preliminary Consultation for the Applicants who have disabilities**

The applicants who have a disabling condition as shown in the following examples and require special assistance during entrance examination as well as special considerations in the course of their studies, should consult with the Academic Affairs and Student Services Section of the Faculty of Engineering before submitting the application documents.

1) Consultation Period

Until June 29 (Tue.), 2021.

However, consultations by applicants who incur disabilities caused by an accident after this period will be allowed.

2) Consulting Method

Download the application form for consulting from the university website, and fill out the form with the following items and submit it with a doctor's certificate (submission by mail is also accepted):

- a) Applicant's name and desired course
- b) Type and degree of disability
- c) The need for special assistance and considerations in entrance examinations and in the course of studies.
- d) Special measures and considerations taken in the previous school
- e) Daily living situation
- f) Address and telephone number

Depending upon the circumstances, it may be necessary to interview the applicants or their representatives.

(\*Website: <http://www.miyazaki-u.ac.jp/exam/admission/1789-2.html>)

3) Contact Address for Consultation

Academic Affairs and Student Services Section  
Faculty of Engineering, University of Miyazaki  
1-1 Gakuen Kibanadai Nishi, Miyazaki, 889-2192, Japan  
Telephone: +81-985-58-7979, Fax: +81-985-58-7287

Examples	
Visually Impaired	Visually impaired individuals are those who find it impossible or difficult to visually distinguish words and diagrams even with the use of a magnifying glass.

Hearing-Impaired	Hearing-impaired individuals are those who find it impossible or difficult to make out a normal speaking voice even with the use of a hearing aid.
Physically Disabled	1. Physically disabled individuals are those who find it impossible or difficult to engage in basic daily activities like note-taking. 2. Physically disabled include those who require constant medical observation and supervision.
Sickly	1. Sickly individuals are those who with chronic respiratory illness, kidney disease, nervous disorders, malignant neoplasms, or other chronic medical conditions, and require medical treatment or a regulated lifestyle. 2. Sickly individuals also include those with chronically weak constitutions who require a regulated lifestyle
Developmental Disorder	Individuals for whom special measures are required due to autism, Asperge's syndrome, learning disabilities, or attention deficit hyperactivity disorder, etc.
Other	Disabled individuals include those who do not fall into the above categories but have impairments that are serious enough to require special consideration in order to study and take exams.

### **(5) Admission / Enrollment**

October 2021.

### **(6) School Expenses**

Entrance Fee: 282,000 Yen

Tuition Fee: 267,900 Yen per semester

\*If the regulations are altered, the amount of money will be changed.

\*Foreign students supported by scholarship from the Japanese government are exempted from entrance fee and tuition fee.

\*Once the entrance fee is paid, it will not be refunded under any circumstances except for the following reasons.

- a) When the admission process was not made although the entrance fee was paid.
- b) When the entrance fee was paid twice by mistake.

\*Charge for the refund of entrance fee should be paid by the applicant.

\*Tuition fee should be paid after autumn semester begins.

### **(7) Management of Personal Information**

a) The personal information at University of Miyazaki is handled securely and appropriately in compliance with the relevant laws and Rules for Protection of Personal Information.

b) The names of individuals, their addresses and other personal information provided by them in connection with applications and admissions procedures will be used for 1)conducting entrance examinations (processing applications, conducting examinations), 2)announcing successful candidates, and 3)Enrollment procedures.

c) Entrance exam scores will be used as investigation and research material for applicant selection at the university.

d) University of Miyazaki may outsource some of the above operations 2 and 3.

e) Personal information in the application form of the successful candidates will be only used for 1) educational affairs purposes (registration, curriculum guidance, etc.), 2)student support purposes (health care, job support, tuition waiver / scholarship application, etc.), and 3)tuition collection.

## **Admission Policy**

The Master's Program in the Graduate School of Engineering offers education in which students can acquire professional knowledge and advanced engineering skills integrating with the undergraduate courses. We aim to cultivate professional engineers who have the practical ability to apply theories in the industry and business contexts and researchers. Also, we welcome students who are motivated and have abilities stated in the [Qualifications for admission].

### **【Qualifications for admission】**

1. Those who have the basic academic skills in their specialized area of study in order to acquire professional knowledge and advanced engineering skills.
2. Those who learn actively, and have strong motivation for research.
3. Those who have the adequate communication skills for their research development in Japanese and/or English.

### **【Basic policy of screening】**

1. Applicants will be evaluated comprehensively based on the [qualifications for admission] described above.
2. Applicants will be evaluated fairly and objectively.

### **【Method of screening and viewpoint of evaluation】**

Each candidate will be evaluated comprehensively by the result of interview (including oral exam), the documents submitted, and the score of the internationally-recognized third-party English proficiency test.

1. By the interview, applicants will be evaluated mainly the knowledge and skills related to the specialized field, the ability to think, individuality, interest in studying, and eagerness to major field.
2. By documents submitted, applicants will be evaluated the knowledge and skills.
3. By the score of the internationally-recognized third-party English proficiency test, applicants will be evaluated the communication skill.



GRADUATE SCHOOL  
UNIVERSITY OF MIYAZAKI

Photograph Card	
Examinee's No	*
Name	
Course you wish to enter	
Academic adviser's name proposed	

Photograph
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1. Head and shoulders, hatless, facing forward, 4cm×3cm, taken within the last 3 months.
2. Paste thoroughly
3. Fill in all columns except those marked \*

GRADUATE SCHOOL  
UNIVERSITY OF MIYAZAKI

Identification Card for Examination	
Examinee's No	*
Name	
Course you wish to enter	
Academic adviser's name proposed	

Photograph
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1. Head and shoulders, hatless, facing forward, 4cm×3cm, taken within the last 3 months.
2. Paste thoroughly
3. Fill in all columns except those marked \*

Do not cut off



Examinee's No	*
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## Recommendation Letter

Applicant Name

Date of Birth

Name of Dean

Signature

Name of University

Country Name

Date

Personal History

Examinee's No	*
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Name		Nationality	Sex	Male Female
Date of Birth	Day    Month    Year	Marital Status	Single	Married

Academic Background

	Name and Location School Attended	Years Required for Graduation	Year and Month Entrance	Year and Month of Graduation
Elementary Education		Years	From	To
Secondary Education		Years	From	To
Higher Education		Years	From	To
University		Years	From	To

Employment Record
Japanese Language Background

## Research Plan

Name		Course you wish to enter		Examinee's No.	(Leave blank)
Research Subject					
Write your research subject, aim and method in about 300 words.					

## Environmental Systems Course

OSHIMA Tatsuya: Ph.D., Professor

- 1) Development of formulation techniques for poorly water soluble drugs and bioactive ingredients
- 2) Development of adsorbents and extractants for separation of peptides and proteins
- 3) Development of novel adsorbents and extractants for separation of rare metals
- 4) Development of novel cellulosic materials

E-mail: oshimat@cc.miyazaki-u.ac.jp

SHIOMORI Koichiro: Ph.D., Professor

- 1) Development and application of microcapsules and macroporous materials
- 2) Development of separation process based on solvent extraction and molecular assemblies
- 3) Development of environmental technologies using microencapsulation and separation processes
- 4) Development of chemical technologies for biomass utilization

E-mail: shiomori@cc.miyazaki-u.ac.jp

SHIRAGAMI Tsutomu: Ph.D., Professor

- 1) Photocatalysis of metalloporphyrin complexes
- 2) Photovoltaic cell sensitized by metalloporphyrin complexes
- 3) Emission properties of ionic liquids

E-mail: t0g109u@cc.miyazaki-u.ac.jp

YUI Toshifumi: Ph.D., Professor

- 1) Properties and functionalities of biomaterials
- 2) Recognition of proteins with carbohydrate substrates

E-mail: tyui@cc.miyazaki-u.ac.jp

SUGAMOTO Kazuhiro: Ph.D., Associate Professor

- 1) Synthesis and biological activities of flavonoid derivatives
- 2) Biological activities of plant extracts
- 3) Development of eco-friendly organic synthesis

E-mail: sugamoto@cc.miyazaki-u.ac.jp

NABETANI Yu: Ph.D., Associate Professor

- 1) Fabrication of photo-responsive organic/inorganic hybrid materials
- 2) Photochemistry of molecular assemblies coupled with the surrounding microenvironment
- 3) Spectroscopic and microscopic analyses of photo-functional materials

E-mail: yu.nabetani@cc.miyazaki-u.ac.jp

HIROSE Jun: Ph.D., Associate Professor

- 1) Structure, function and engineering of redox enzyme
- 2) Degradation of environmental pollutants by bacteria
- 3) Transformation of biomass products into fine chemicals
- 4) Genomic analysis of environmental bacteria

E-mail: jhirose@cc.miyazaki-u.ac.jp

MATSUNE Hideki: Ph.D., Associate Professor

- 1) Catalytic reaction of nanostructures and nanocapsules

- 2) Fabrication of stimuli-responsive nanocapsules for delivery systems
  - 3) Fabrication of porous microcapsules for separation system
- E-mail: matsune@cc.miyazaki-u.ac.jp

MATSUMOTO Jin: Ph.D., Associate Professor

- 1) Water-soluble porphyrin with bioaffinity
  - 2) Photochemical material transformation in micro reaction fields
  - 3) Preparation and application of photopolymerizable vesicles
- E-mail: jmatsu@cc.miyazaki-u.ac.jp

OHE Kaoru: Ph.D., Associate Professor

- 1) Development of adsorbents for arsenic
  - 2) Development of adsorbents for oxometallic ions
  - 3) Development of hybrid material and its application for water treatment
- E-mail: okaoru@cc.miyazaki-u.ac.jp

MIYATAKE Munetoshi: Ph.D., Assistant Professor

- 1) Arsenic removal using microorganisms
  - 2) Production of functional oligosaccharides using microorganisms
  - 3) Production of useful material from industrial waste using microorganisms
- E-mail: t0g205u@cc.miyazaki-u.ac.jp

UTO Takuya: Ph.D., Assistant Professor

- 1) Crystal structure of polysaccharides and their dissolution behavior
  - 2) Reaction mechanism of carbohydrate-related enzymes
  - 3) Development of molecular mechanics force field
- E-mail: t.uto@cc.miyazaki-u.ac.jp

INADA Asuka: Ph.D., Assistant Professor

- 1) Development of metal-organic frameworks using biomolecules
  - 2) Development of carriers for drug delivery systems
  - 3) Development of formulation techniques for poorly water-soluble materials
- E-mail: a.inada@cc.miyazaki-u.ac.jp

IRIE Mitsuteru: Ph.D., Professor

- 1) Surface water resource management
- 2) Flood control and water resource development
- 3) Environmental management in estuary and wetland
- 4) Exploitation of sediment in reservoirs

E-mail: irie.mitsuteru.p2@cc.miyazaki-u.ac.jp

SUETSUGU Daisuke: Dr. Eng., Professor

- 1) Long-term durability of improved soil/ground
- 2) Reinforcement of soft ground using timber
- 3) Geotechnical utilization of industrial waste materials
- 4) Slope disaster prevention

E-mail: suetsugu@cc.miyazaki-u.ac.jp

SUZUKI Yoshihiro: Dr. Eng., Dr. Fish. Sci., Professor

- 1) Monitoring of water quality in water environments
- 2) Physicochemical treatment for water purification
- 3) Pathogenic microorganism in water environments

E-mail: ysuzuki@cc.miyazaki-u.ac.jp

DOTE Yutaka: Dr. Eng., Professor

- 1) Phosphorus and potassium recovery from organic residues
- 2) Leaching control of MSWI residues
- 3) Control of leachate quality
- 4) Management of landfill site

E-mail: dote@cc.miyazaki-u.ac.jp

MORITA Chihiro: Dr. Eng., Professor

- 1) Structural analysis of steel bridges
- 2) Soundness evaluation of weathering steel bridges
- 3) 3-D measurement of structures
- 4) Maintenance of bridges

E-mail: cgmorita@cc.miyazaki-u.ac.jp

MURAKAMI Keisuke: Ph.D., Professor

- 1) Sustainable development on coastal area
- 2) Restoration of coastal environment
- 3) Mitigation of coastal disasters, Tsunami, storm surge and high waves
- 4) Coastal erosion and sedimentation control

E-mail: keisuke@cc.miyazaki-u.ac.jp

SHIMAMOTO Hiroshi: Dr. Eng., Associate Professor

- 1) Transportation network modeling
- 2) Transportation planning using statistical data
- 3) Sustainable transportation planning
- 4) Reliability issues of transportation

E-mail: shimamoto@cc.miyazaki-u.ac.jp

SEKITO Tomoo: Ph.D., Associate Professor

- 1) Utilization and environmental assessment of waste incineration residues
- 2) Sustainable recycling of solid waste in developing countries
- 3) Community-based household waste management and recycling behavior

E-mail: sekito@cc.miyazaki-u.ac.jp

FUKUBAYASHI Yoshinori: Dr. Eng., Associate Professor

- 1) Transportation Geotechnics
- 2) Road engineering in developing countries
- 3) Prevention/mitigation of geotechnical hazard in rural area
- 4) Utilization of local resources as geotechnical material

E-mail: fukubayashi@cc.miyazaki-u.ac.jp

LI Chunhe: Ph.D., Associate Professor

- 1) Long-term durability of cementitious materials
- 2) Influence of admixtures on material performance of concrete
- 3) Influence of curing conditions on material performance of concrete
- 4) Crack control of concrete structures

E-mail: lichunhe@cc.miyazaki-u.ac.jp

NAKANO Atsushi: Ph.D., Associate Professor

- 1) Materials for Sustainable Engineering
- 2) Evaluation of Material Degradation
- 3) Evaluation and Monitoring for Atmospheric Corrosion
- 4) Maintenance for Civil Infrastructures

E-mail: atsushi.n.7.25@cc.miyazaki-u.ac.jp

NUKAZAWA Kei: Ph.D., Associate Professor

- 1) Assessing impacts of human-induced changes (dams, climate changes) on aquatic animals
- 2) Hydrological modeling
- 3) Habitat modeling of aquatic animals
- 4) Biodiversity (species, genetic)

E-mail: nukazawa.kei.b3@cc.miyazaki-u.ac.jp

KOUYAMA Atsushi: Ph.D., Assistant Professor

- 1) Disaster mitigation of earth structure
- 2) Breaching mechanism of embankment of reservoir
- 3) Reinforcement of bridge by geofom material

E-mail: a-koyama@cc.miyazaki-u.ac.jp

## Energy and Electronics Course

FUKUYAMA Atsuhiko: Ph.D., Professor

- 1) Development of high-sensitive investigation method of deep defect levels in semiconductor using nonradiative transition
- 2) Development of contactless investigation method of photovoltaic performance of solar cell materials
- 3) Optical and electrical properties of photovoltaic materials, such as a-Si, micro-c-Si, and diamond-like carbon, III-V-N for multi-junction solar cells
- 4) Carrier transport properties in quantum well and super lattice structured semiconductors

E-mail: a-fukuyama@cc.miyazaki-u.ac.jp

MAEDA Koji: Ph.D., Professor

- 1) Evaluation of superlattice for mid-wavelength infrared emission
- 2) Development of sensitive mechano-luminescence materials
- 3) Structural characterizations of semiconductor thin films by Raman scattering and X-ray diffraction methods
- 4) Applied research by weak light detection

E-mail: t0b153u@cc.miyazaki-u.ac.jp

YAMAUCHI Makoto: Ph.D., Professor

- 1) Multi-wavelength study on gamma-ray bursts
- 2) Observational study on active galactic nuclei
- 3) Development of X-ray detectors onboard satellites

E-mail: yamauchi@astro.miyazaki-u.ac.jp

YOKOTANI Atsushi: Ph.D., Professor

- 1) Material processing using vacuum ultraviolet radiation
- 2) Development of a new technique for analysis of trace amount organic impurities
- 3) Formed short pulse laser and their application
- 4) Development of a new fabrication technique for fiber Bragg grating sensors

E-mail: a-yokotani@opt.miyazaki-u.ac.jp

YOSHINO Kenji: Ph.D., Professor

- 1) Development of compound semiconductor based solar cells
- 2) Development of organic solar cells
- 3) Development of transparent conductive oxide materials

E-mail: t0b114u@cc.miyazaki-u.ac.jp

MORI Koji: Ph.D., Professor

- 1) Observational study of high-energy astronomical objects with both ground-base and space-borne detectors
- 2) Development of cosmic-X-ray detectors onboard satellite

E-mail: mori@astro.miyazaki-u.ac.jp

NISHIOKA Kensuke: Ph.D., Professor

- 1) Development of concentrator photovoltaic systems
- 2) Solar to hydrogen system using photovoltaic and electrochemical cell
- 3) Development of vehicle integrated photovoltaic

E-mail: nishioka@cc.miyazaki-u.ac.jp



IIDA Masato: Dr. Sci., Professor

- 1) Reaction-diffusion approximations to quasi-linear differential equations
- 2) Stacked waves for reaction-diffusion systems and multi-phase invasion in population dynamics
- 3) Mathematical models of bio-diffusion

E-mail: iida@cc.miyazaki-u.ac.jp

IGARASI Akinori: Ph.D., Professor

- 1) Theoretical study on atomic collisions

E-mail: igarashi@phys.miyazaki-u.ac.jp

MATSUDA Tatsuro: Ph.D., Professor

- 1) Experimental study of nucleon spin structure and meson spectroscopy
- 2) Application of ECR ion source for material science
- 3) Development of radiation detectors

E-mail: matsuda@phys.miyazaki-u.ac.jp

KON Ryusuke: Ph.D., Professor

- 1) Biomathematics, Mathematical biology
- 2) Dynamical systems (ordinary differential equations and difference equations), especially in biology
- 3) Mathematical modeling of biological systems

E-mail: konr@cc.miyazaki-u.ac.jp

ARAI Masakazu: Ph.D., Associate Professor

- 1) Study of metal organic vapor phase epitaxy.
- 2) Development of photonic device for sensing

E-mail: arai.masakazu@cc.miyazaki-u.ac.jp

SUZUKI Hidetoshi: Ph.D., Associate Professor

- 1) Fabrication and characterization of new materials for super high efficiency multi-junction concentrator photovoltaic
- 2) Crystal growth of III-V compound semiconductor alloys on Si substrates.
- 3) Crystal growth of dilute nitride thin films by the atomic layer epitaxy technique

E-mail: hsuzuki@cc.miyazaki-u.ac.jp

TAKEDA Ayaki: Ph.D., Associate Professor

- 1) Development of radiation semiconductor detectors
- 2) Development of data acquisition systems for radiation imaging

E-mail: takeda@astro.miyazaki-u.ac.jp

IZUHARA Hirofumi: Ph.D., Associate Professor

- 1) Mathematical modeling and analysis for complex phenomena
- 2) Self-organized pattern formation arising in reaction-diffusion systems
- 3) A relation between nonlinear diffusion equations and reaction-diffusion systems

E-mail: izuhara@cc.miyazaki-u.ac.jp

UMEHARA Morimichi: Ph.D., Associate Professor

- 1) Mathematical analysis of the basic equations of fluid mechanics
- 2) Compressible and viscous fluid flow
- 3) Astrophysical phenomena

E-mail: umehara@cc.miyazaki-u.ac.jp

MAEDA Yukie: Ph.D., Associate Professor

- 1) Experimental study of few-body problems and three-nucleon force effects
- 2) Development of isotope targets

E-mail: yukie@cc.miyazaki-u.ac.jp

NAGAOKA Akira: Ph.D., Associate Professor

- 1) Development of a novel thermoelectric device
- 2) Development of a novel photovoltaic device
- 3) Single crystal growth of functional materials

E-mail: nagaoka.akira.m0@cc.miyazaki-u.ac.jp

KATTO Masahito: Ph.D., Associate Professor

- 1) Generation and application of VUV radiations
- 2) Material processing with lasers
- 3) Development of new technique for film fabrication
- 4) Measurement technique with lasers

E-mail: mkatto@opt.miyazaki-u.ac.jp

SAKAI Kentaro: Ph.D., Associate Professor

- 1) Optical characterization of various materials
- 2) Fabrication and characterization of ZnO related semiconductors
- 3) Fabrication and characterization of nanoscale semiconductors
- 4) Instrument analysis of various materials

E-mail: k-sakai@cc.miyazaki-u.ac.jp

KAMEYAMA Akihiro: Ph.D., Assistant Professor

- 1) Photosensitivity of silica glass for VUV laser irradiation
- 2) Fabrication of Fiber Bragg grating (FBG) sensors
- 3) Fabrication of refractive index sensor

E-mail: kame@opt.miyazaki-u.ac.jp

ITOH Tsubasa: Ph.D., Assistant Professor

- 1) Potential theory
- 2) Mathematical analysis of fluid mechanics
- 3) Partial differential equations

E-mail: tsubasa@cc.miyazaki-u.ac.jp

SAKODA Tatsuya: Ph.D., Professor

- 1) Development of ozonizer using micro-barrier discharge formed in water
- 2) Development of diagnostic technique for electric power apparatus
- 3) Development of polymer insulator / arrester

E-mail: sakoda@cc.miyazaki-u.ac.jp

TANNO Koichi: Ph.D., Professor

- 1) Design of MOS analog integrated circuits
- 2) Development of front-end circuits for biological signals and their application
- 3) Development of nanoscale mist sprayer and its application

E-mail: tanno@cc.miyazaki-u.ac.jp

THI THI ZIN: Ph.D., Professor

- 1) Image Processing and Visual Human Activity Analysis
- 2) Video Surveillance and Monitoring Systems for (i) Public Security Concerns, (ii) Elderly Health Care and Daily Activity Analysis, (iii) Medical Diagnosis
- 3) Development of Advanced Image Technologies for Dairy Cow Management Systems

E-mail: thithi@cc.miyazaki-u.ac.jp

YOKOTA Mitsuhiro: Ph.D., Professor

- 1) Scattering from a periodic structure
- 2) Design of photonic and electromagnetic devices
- 3) Development of modeling for indoor radio propagation environment
- 4) Reconstruction of dielectric constant using electromagnetic wave

E-mail: t0b210u@cc.miyazaki-u.ac.jp

KAKU Masanori: Ph.D., Associate Professor

- 1) Generation of VUV ultrashort pulses using harmonic radiations
- 2) Characterization of femtosecond pulses in VUV spectral region
- 3) VUV rare gas excimer lasers
- 4) Laser-product-plasma emission sources in EUV spectral region
- 5) Surface analyses using EUV light

E-mail: kaku@opt.miyazaki-u.ac.jp

TAKEI Amane: Ph.D., Associate Professor

- 1) Research of electromagnetism theory and applications
- 2) Research and development of numerical electromagnetic field analysis method
- 3) Development of large-scale numerical analysis method

E-mail: takei@cc.miyazaki-u.ac.jp

NAKA Yoshihiro: Ph.D., Associate Professor

- 1) Design of optical waveguide devices for integrated optical circuits
- 2) Development of numerical method for high-precision electromagnetic field analysis

E-mail: ynaka@cc.miyazaki-u.ac.jp

MATSUMOTO Hiroki: Ph.D., Associate Professor

- 1) Low voltage switched-capacitor circuits
- 2) Integrated digital capacitance meter
- 3) Analog-to-digital converter using MOSFET's

E-mail: matsumotoh@cc.miyazaki-u.ac.jp

NAGATA Shoichiro: Ph.D., Assistant Professor

- 1) Eddy current non-destructive evaluations
- 2) Two-dimensional vector magnetic property measurement
- 3) Numerical analysis technique of electromagnetics
- 4) Improvement of electric apparatus

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OTA Yasuyuki: Ph.D., Assistant Professor

- 1) Development of technology for advanced utilization of solar power and light concentrating system
- 2) Development of super-high efficiency concentrator
- 3) Generation of hydrogen using solar energy

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## Mechanical Systems and Informatics Course

KAWASUE Kikuhito: Ph.D., Professor

- 1) Computer vision and its application
- 2) Pipe measurement robot using Laser Projection Method
- 3) 3D hand held scanner for shape measurement

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SAKAI Go: Ph.D., Professor

- 1) Development of electrocatalysts for PEFC
- 2) Development of positive electrode materials for secondary batteries
- 3) Development of catalysts for biomass conversion

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TAMURA Hiroki: Ph.D., Professor

- 1) Development of human interface using Surface-ElectronMyoGram
- 2) Biomechanical analysis and pattern recognition
- 3) Performance improvement of neural networks
- 4) Metaheuristics for combinatorial optimization problems
- 5) Human behavior analysis and monitoring systems using multi-sensors

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HODAKA Ichijo: Ph.D., Professor

- 1) System fault detection of switching converters
- 2) Theoretical and experimental development of high-efficiency wireless power transfer
- 3) Controller design of photovoltaic power generation system
- 4) Fast computer algorithm for symbolic analysis of electronic circuits
- 5) Approximate solutions of linear periodic differential equations
- 6) Education materials of microcontroller embedded system

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OKUYAMA Yuji: Ph.D., Professor

- 1) Electrochemical properties of ionic conducting oxides
- 2) Development of electrolytes for PCFC (protonic ceramic fuel cell)
- 3) Development of the galvanic cell-type hydrogen sensor

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LEE Geunho: Ph.D., Associate Professor

- 1) Agricultural Robots and Control Scheme
- 2) Propulsion Mechanism for Aerial and/or Underwater Robots
- 3) Locomotion Assist Robots (Welfare Robots)
- 4) Large Numbers of Robots and Self-Organization
- 5) Convergence of IoT and Robotics

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- 1) Development of cathode materials for AFCs
- 2) Development of positive electrode materials for secondary batteries
- 3) Corrosion properties of Mg alloy

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YOKOMICHI Masahiro: Ph.D., Associate Professor

- 1) Path planning and obstacle avoidance for mobile robot
- 2) Self localization and control of autonomous mobile robots
- 3) Computer vision and image processing

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TAKAHASHI Nobuya: Ph.D., Assistant Professor

- 1) Robust control of linear systems
- 2) Analysis and design of networked control system

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KAWAMURA Ryuusuke: Ph.D., Professor

- 1) Analysis of mechanics of functional materials and structures
- 2) Development of solar thermal energy storage technologies
- 3) Applications of high reflective paint to environment improvement
- 4) Development of water washing/paint spraying robot for a concentrated feed tank

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SHIN Byeong Rog: Ph.D., Professor

- 1) Computational methods for compressible and incompressible flows
- 2) Large computation of turbulent flows for advance design of turbomachinery
- 3) Numerical simulation of gas-liquid two-phase flows
- 4) Numerical schemes with high computational performance

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- 1) Fatigue strength evaluation for machine elements
- 2) Method for fatigue crack length measurement and fatigue crack initiation detection
- 3) Biomechanics analysis on human joints and bones

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NAGASE Yoshinori: Ph.D., Professor

- 1) Heat flux measurement on focal plane of solar concentrating system
- 2) Development of heat storage system for solar concentrators
- 3) Development of solar furnace for solar concentrators

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OHNISHI Osamu: Dr. Eng., Associate Professor

- 1) Fabrication of micro tools and micro cutting and grinding
- 2) Cutting and grinding assisted by ultrasonic vibration
- 3) High-value added precision polishing

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KINOSHITA Hiroyuki: Ph.D., Associate Professor

- 1) Impact riveting
- 2) Development of high-strength porous ceramics produced by recycling waste GFRP
- 3) Development of green composite consists of woodchips and bamboo fibers

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BONKOBARA Yasuhiro: Dr. Eng., Associate Professor

- 1) Approach to solving vibration problems in mechanical systems
- 2) Hand-held vibrating tools using self-synchronization phenomena
- 3) New method of multi damage identification analysis

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- 1) Biomechanical imaging of patient-specific finite element models
- 2) Development of orthopaedic implants
- 3) Sports and rehabilitation biomechanics

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- 1) Blood flow analysis
- 2) Development of measurement-integrated simulation method
- 3) Computational method for mass transfer through a membrane

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- 1) Tribological failure analysis on mechanical elements
- 2) Tribo-chemical reactions in hybrid polymer bearings
- 3) Development of polymer composite mechanical elements

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- 1) Advanced utilization of high temperature heat for solar concentrators
- 2) Development of compressed air engine
- 3) Advanced utilization of medium to low temperature heat

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- 1) Computer networks
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- 1) Design and visualization to develop software efficiency
  - 2) Software testing for guarantee of software quality
  - 3) Software reliability for embedded systems
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  - 3) Observational study of transient objects
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  - 3) Fault-tolerant computing
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SAKAMOTO Makoto: Ph.D., Professor

- 1) Theoretical computer science such as automata theory, language, computation, and digital geometry
  - 2) Computational complexity and recognizability of picture
  - 3) Application of image processing, computer graphics, and entertainment computing
  - 4) Application of virtual technology such as AR, VR, and MR
  - 5) Analysis of various problems by complex systems
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  - 2) Combinatorial optimization problems
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- 1) Mathematical neuroscience
- 2) Representation and computation in the brain
- 3) Information processing models: Minds and machines
- 4) Probability modeling and statistical inference
- 5) Population dynamics of large networks of neurons

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- 2) Gene data analysis

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- 1) Modeling and simulation in biological signaling system
- 2) Gene expression analysis
- 3) Software development for systems biology

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- 1) Scheduling and management of chemical plants
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