

GUIDE FOR THE APPLICATION OF THE JAPANESE GOVERNMENT (MONBUKAGAKUSHO) SCHOLARSHIP
ASIA-PACIFIC ENGINEERING DESIGN PROGRAM
IN THE INTERNATIONAL PRIORITY GRADUATE PROGRAM (PGP),
GRADUATE SCHOOL OF ENGINEERING AND SCIENCE, UNIVERSITY OF THE RYUKYUS
(MASTER'S PROGRAM)

ABOUT THE PROGRAM

The Asia-Pacific Engineering Design Program is organized in order to offer better opportunities for graduate study to students from abroad by (1) instructing all courses in the English language, and (2) commencing the academic program in October.

This is a call for application to a two year Master's Course for the academic years 2012-2014, sponsored by the Scholarship Program of Monbukagakusho (The Japanese Ministry of Education, Culture, Sports, Science and Technology).

Upon enrollment, candidates will each be assigned an advisor who will direct their thesis research for two years in their designated field of specialization. The degree of Master of Engineering will be awarded in recognition of thesis research and course work including seminar participation, with a minimum of 30 credits hours.

Before deciding the field and the topic of research, applicants are to establish contact with appropriate supervisor(s) by referring to the List of Faculty Members.

GUIDELINES FOR APPLICATION

1. Study Areas and Admission Intake

A total of 1 student, supported by the scholarships from The Japanese Ministry of Education, Culture, Sports, Science and Technology (MONBUKAGAKUSHO), will be accepted for enrollment under the Asia-Pacific Engineering Design Program, Graduate School of Engineering and Science, University of the Ryukyus.

2. Qualifications Required for Applicants

- (1) Prospective applicants are advised to get in touch with a potential thesis advisor at the University of the Ryukyus for consultation on research themes and plans; applicants who have not obtained prior approval from a potential advisor may not receive full consideration during the admission screening.
- (2) Nationality: Nationals of those nations recognized under the international scholarship programs of Monbukagakusho. Applicants must be residents of a foreign country.
- (3) Age limit: Applicants should be under 35 years of age, as of April 1, 2012, i.e. born after April 2, 1977.
- (4) Academic Status: Applicants for the Graduate Program leading to a Master's Degree should have or be receiving a Bachelor's Degree or an equivalent degree as of September 30, 2012.
- (5) Medical Requirements: Applicants should be in good mental and physical health.
- (6) Language proficiency: A good working level of English is required.
- (7) Time limit for arrival in Japan: Applicants should arrive in Japan between October 1-7, 2012.
- (8) Those who can guarantee their admission to the university if they are accepted.

Remarks:

- 1) Military personnel and civilian employees of the armed forces are not eligible for scholarship.
- 2) Those who do not arrive within the time limit will be subject to cancellation of their

scholarship.

- 3) Persons already with financial support from their government or other organizations are not eligible for this scholarship.
- 4) Those applicants who will have failed to earn a Bachelor's degree by September 30, 2012 will be subject to cancellation of their scholarship.

3. Scholarship and Expenses

- (1) A monthly stipend of 152,000 yen will be awarded for a year from October 2012. A monthly stipend is expected amount. It may change by the time of enrollment or while attending the University. However, this may be suspended during periods of leave of absence or when the student remains off campus for prolonged periods without authorization.
 - (2) Travel Expenses
 - 1) Onward Travel: An economy class air ticket, from the international airport* which is the closest to the student's home to the New Tokyo International Airport (or, if more economical, another international airport), will be given.
 - 2) Return Travel: An economy class air ticket, from the New Tokyo International Airport (or another international airport) to the closest international airport* to the student's home, will be given to those persons who will be leaving after the scholarship period and before the expiry of the time limit designated by Monbukagakusho.
- * Applicants should use the International Airport in the country where they have their nationalities.

Remarks:

- 1) Expenses for domestic travel between the international airport and Okinawa are to be paid by the student.
- 2) Fees for travel insurance of both onward and return trips should be paid by the student.
- 3) School Fees: Fees for entrance examinations, admission, and tuition will be waived.

4. Selection and Admission

- (1) Applicants will be examined by the Screening Committee of the Program. Only those who have a solid academic background, good research capability and strong commitment to research shall be selected. The final decision of Monbukagakusho will be informed to the candidates through the University of the Ryukyus around the mid-July, 2012.
- (2) The number of scholarships is 1 and the scholarship period is strictly limited to two years for the Master's Course.

Remarks:

- 1) Applicants selected by Monbukagakusho as grantee must enroll in the program. Refusal to enter the course after acceptance is not allowed.
- 2) Those who apply for the University of the Ryukyus are not allowed to apply for any other universities as the Monbukagakusho scholarship student.
- 3) If you are admitted as the Monbukagakusho scholarship student of the University of the Ryukyus and other universities, the Monbukagakusho will cancel your scholarship appointment for all universities.

5. Enrollment

- (1) The official date of enrollment is October 1, 2012.
- (2) Scholarship grantees shall be enrolled as regular graduate students of the University of the Ryukyus.

6. Application

Applicants should prepare the following documents, which are to be forwarded to the Graduate School of Engineering and Science, University of the Ryukyus through the head of the universities or the institutions with which the applicants are affiliated. Applicants who presently have no formal affiliation with any educational institution should send the following documents through the Dean / Director of the University from which they have last graduated.

- (1) Application form
- (2) Health certificate in the prescribed form completed by a registered medical doctor within six months of the date of the application
- (3) Certificate of Graduation (undergraduate, and graduate) or Certified Letter from the Graduate School at which the applicant is currently enrolled, stating the expected graduation date.
- (4) Transcripts of academic record (undergraduate, and graduate) issued by the university authorities and their respective English translations.

A GRADE POINT AVERAGE (GPA) must be issued by the university authorities.

$$\text{GPA} = \frac{(\text{A course credits} \times 4\text{points}) + (\text{B course credits} \times 3\text{points}) + (\text{C course credits} \times 2\text{ points}) + (\text{D course credits} \times 1\text{Point})}{\text{Total Credits Registered}}$$

Grading Scale

A	Excellent(90-100)	4 Grade Points
B	Good(80-89)	3 Grade Points
C	Average(70-79)	2 Grade Points
D	Passing(60-69)	1 Grade Point
F	Failure(0-59)	0 Grade Point

- (5) Certificate of Citizenship or Proof of Residence in applicant's home country.
- (6) A letter of recommendation from the head of the applicant's affiliated institution addressed to the Director of Graduate School of Engineering and Science. Letter(s) of reference from those who know the applicant's research / study capability should be addressed also to the Director of Graduate School of Engineering and Science.
- (7) Three photographs (close-up portrait of face and shoulders, no headgear against a plain background), 6 cm × 4 cm in size, taken within six months of the application date. Two copies should be attached to the application form. One copy should be enclosed therein, with the applicant's name and the nationality clearly written on the reverse side of the copies.
- (8) AN OFFICIAL TOEFL SCORE of 550 (Paper Based Test Score) / 213 (Computer Based Test Score) / 79-80 (Internet-based Test Score) or above for applicants whose instructional language at their home institution is NOT ENGLISH (Applicants must take the proper procedure of sending your OFFICIAL score report through the Educational Testing Service to the Graduate School of Engineering and Science, University of the Ryukyus / TOEFL CODE No.8884). For applicants whose instructional language at their home institutions is English, a certificate indicating English as the medium of instruction must be issued by university authorities.
- (9) An abstract of the graduation thesis or project. Those who are not required by their universities to submit a graduation thesis should submit an outline of their major field of study.
- (10) Letter of Guarantee for those who are also applying for the non-scholarship program.
- (11) Certificate of Guaranteed Admission (Those who have a job need to make sure to turn in a document from your employer which states that you are allowed to attend the University of the Ryukyus temporarily. There is no required format for this.

Remarks:

- 1) The above documents should be typewritten or be completed in print on A4-sized paper.
- 2) Applications will not be considered if any of the above documents are incomplete, incorrect, or lacking supporting evidence, nor will they be considered if they arrive after the deadline.
- 3) The letters of reference and recommendation should indicate the English proficiency of applicants as excellent, good, or fair.
- 4) All the submitted documents will be retained and not be returned to the applicant.
- 5) Information for documents mentioned in clauses (1), (2), (6) and (10) must be written on the forms provided. Only the original forms will be accepted.
- 6) Those who applied for this Monbukagakusho-supported scholarship should not also apply, at the same time, for other scholarship programs, and vice versa.
- 7) All documents are to be prepared in English. For those unable to complete the forms in English, a separate English translation must be attached.

7. Application Deadline

Documents for application should be submitted to the Academic Affairs Unit (Faculty of Engineering), Graduate School of Engineering and Science, University of the Ryukyus by February 1, 2012.

8. Reservations

An enrolled student may be denied scholarship payment when:

- (1) A serious falsehood is found in the application documents, and in this case, admission may be cancelled even after enrollment.
- (2) He or she has violated the pledge declared to the Minister of Education, Culture, Sports, Science and Technology, Government of Japan.
- (3) He or she has been subjected to a disciplinary action or has been judged by the faculty as not being able to continue the Program.

9. Other Notes

- (1) Successful applicants are expected to study and understand the geography, climate, customs and habits of Okinawa as well as the general features and conditions of the University of the Ryukyus. It must be noted that English is not normally spoken among the majority of people in Okinawa.
- (2) Depending on room availability, the International House and Student Dormitory may be available for accommodation at reasonable cost.
- (3) Areas of research conducted by the faculties and curricula of the Graduate Program are outlined in the following section.
- (4) Grantees are expected to complete their Master's Course Program within two years. No extension of the term of scholarship will be available.
- (5) Those grantees who have completed their Master's Course in the Graduate Program can apply for admission to the Doctoral Program, but not necessarily Monbukagakusho scholarships are available for the admission.
- (6) It is recommended that accepted students be well acquainted with the Japanese language, culture, and customs. Knowledge of the Japanese language is necessary in daily life.

Correspondence

The application must be sent by registered air mail by the head of the affiliated institution / employing body on behalf of the applicant.

All the correspondence related to this application should be addressed to:

**Academic Affairs Unit (Faculty of Engineering), Graduate School of Engineering and Science,
University of the Ryukyus**

1 Senbaru, Nishihara, Okinawa 903-0213, Japan

**GUIDE FOR THE APPLICATION OF THE NON - SCHOLARSHIP
ASIA-PACIFIC ENGINEERING DESIGN PROGRAM
IN THE INTERNATIONAL PRIORITY GRADUATE PROGRAM (PGP),
GRADUATE SCHOOL OF ENGINEERING AND SCIENCE, UNIVERSITY OF THE RYUKYUS
(MASTER'S PROGRAM)**

ABOUT THE PROGRAM

The Asia-Pacific Engineering Design Program is organized in order to offer a better opportunities for graduate study particularly to students from abroad by (1) instructing all courses in the English language, and (2) commencing the academic program in October. *

This is a call for application to a two year Master's Course for the academic years 2012-2014.

Upon enrollment, the candidates will each be assigned an advisor who will direct their thesis research for two years in their designated field of specialization. The degree of Master of Engineering will be awarded in recognition of thesis research and course work including seminars, with a minimum of 30 credits hours.

Before deciding the field and the topic of research, applicants are to establish contact with appropriate supervisor(s) by referring to the List of Faculty Members.

*This program is also open to applicants who hold Japanese citizenship.

GUIDELINES FOR APPLICATION

1. Study Areas and Admission Intake

A small, limited number of students will be accepted for enrollment under the Asia-Pacific Engineering Design Program, Graduate School of Engineering and Science, University of the Ryukyus.

2. Qualifications Required for Applicants

- (1) Prospective applicants are advised to get in touch with a potential thesis advisor at the University of the Ryukyus for consultation on research themes and plan; applicants who have not obtained prior approval from a potential advisor may not receive full consideration during the admission screening.
- (2) Nationality: Open to applicants of all nationalities
- (3) Academic Status: Applicants for the Graduate Program leading to a Master's Degree should have or be receiving a Bachelor's Degree or an equivalent degree, as of September 30, 2012.
- (4) Medical Requirements: Applicants should be in good mental and physical health.
- (5) Language proficiency: A good working level of English is required.
- (6) Time limit for arrival in Japan: Applicants should be able to arrive in Japan between October 1-7, 2012.

3. Expenses

- (1) Entrance Examination Fee: 30,000 yen
- (2) Admission Fee: 282,000 yen
- (3) Tuition Fees: A total of 535,800 yen for one year, to be paid in October and April in two separate installments.

4. Selection and Admission

Applicants will be examined by the Screening Committee of the Program. Only those who have a solid academic background, good research capability and strong commitment to research shall be selected. The final decision will be made known to selected applicants through the University of the Ryukyus around the mid- June, 2012.

5. Enrollment

The official date of enrollment is October 1, 2012.

6. Application

Applicants should prepare the following documents, which are to be forwarded to the Graduate School of Engineering and Science, University of the Ryukyus through the head of the universities or the institutions with which the applicants are affiliated. Applicants who presently have no formal affiliation with any educational institution should send the following documents through the Dean/Director of the University from which they have last graduated.

- (1) Application form
- (2) Health certificate in the prescribed form completed by a registered medical doctor within six months of the date of the application
- (3) Certificate of Graduation (undergraduate and graduate) or Certified Letter from the Graduate School at which the applicant is currently enrolled, stating the expected graduation date.
- (4) Transcripts of academic records (undergraduate and graduate) issued by the university authorities with their respective English translations.
- (5) Certificate of Citizenship or Proof of Residence in applicant's home country.
- (6) A letter of recommendation from the head of the applicant's affiliated institution addressed to the Director of Graduate School of Engineering and Science. Letter(s) of reference from those who know the applicant's research / study capability should be addressed also to the Director of Graduate School of Engineering and Science.
- (7) Three photographs (close-up portrait of face and shoulders, no headgear against a plain background), 6 cm × 4 cm in size, taken within six months of the application date. One copy should be attached to the application form. One extra copy should be enclosed therein, with the applicant's name and the nationality clearly written on the reverse side of the copy.
- (8) AN OFFICIAL TOEFL SCORE of 550 (Paper Based Test Score) / 213 (Computer Based Test Score) / 79-80 (Internet-based Test Score) or above for applicants whose instructional language at their home institution is NOT ENGLISH (Applicants must take the proper procedure of sending your OFFICIAL score report through the Educational Testing Service to the Graduate School of Engineering and Science, University of the Ryukyus / TOEFL CODE No.8884). For applicants whose instructional language at their home institutions is English, a certificate indicating English as the medium of instruction must be issued by university authorities.
- (9) An abstract of the graduation thesis or project. Those who are not required by their universities to submit a graduation thesis should submit an outline of their major field of study.
- (10) Letter of Guarantee
- (11) Entrance Examination fee of 30,000 yen.

Remarks:

- 1) The above documents should be typewritten or be completed in print on A4-sized paper.
- 2) Applications will not be considered if any of the above documents are incomplete, incorrect or lacking supporting evidence, nor will they be considered if they arrive after the deadline.
- 3) The letters of reference and recommendation should indicate the English proficiency of applicants as excellent, good, or fair.
- 4) All the submitted documents will be retained and not be returned to the applicant.
- 5) Information for documents mentioned in Clauses (1), (2), (6) and (10) must be written on the forms provided. Only the original forms will be accepted.
- 6) All documents are to be prepared in English. For those unable to complete the forms in English, a separate English translation must be attached.

7. Application Deadline

Documents for application should be submitted to the Academic Affairs Unit (Faculty of Engineering), Graduate School of Engineering and Science, University of the Ryukyus by February 1, 2012.

8. Other Notes

- (1) Successful applicants are expected to study and understand the geography, climate, customs and habits of Okinawa as well as the general features and conditions of the University of the Ryukyus. It must be noted that English is not normally spoken among the majority of people in Okinawa.
- (2) Depending on room availability, the International House and Student dormitory may be available for accommodation at reasonable cost.
- (3) Areas of research conducted by the faculties and curricula of the Graduate Program are outlined in the following section.
- (4) It is recommended that accepted students be well acquainted with the Japanese language, culture, and customs. Knowledge of the Japanese language is necessary in daily life.

Important

The application must be sent by registered air mail by the head of the affiliated institution or employing body on behalf of the applicant.

All the correspondence related to this application should be addressed to:

**Academic Affairs Unit (Faculty of Engineering), Graduate School of Engineering and Science,
University of the Ryukyus
1 Senbaru, Nishihara, Okinawa 903-0213, Japan**

Faculty and Research Fields

Mechanical Systems Engineering

Professors:

Fukumoto, Isao : Dr. Eng., Osaka University, 1986
Manufacturing Process, Injection Molding, Composite Materials.
E-mail: fukumoto@tec.u-ryukyu.ac.jp

Furukawa, Toshio: Dr. Eng., Osaka Prefecture University, 1983
Solid Mechanics, Theory of Elasticity, Computational Mechanics.
E-mail: furukawa@teada.tec.u-ryukyu.ac.jp

Kinjo, Hiroshi : Dr. Eng., Tokushima University, 1994
Control Engineering, Signal Processing, Intelligent Systems.
E-mail: kinjo@tec.u-ryukyu.ac.jp

Kurata, Koji: Dr. Eng., The University of Tokyo, 1995
Mathematical Engineering, Neural Networks, Self-Organization.
E-mail: kurata@mibai.tec.u-ryukyu.ac.jp

Makabe, Chobin : Dr. Eng., Kyushu University, 1985
Fatigue Fracture Mechanics, Fracture Dynamics, Fracture Mechanics of Materials,
Fatigue Strength of Metals.
E-mail: makabe@tec.u-ryukyu.ac.jp

Nosoko, Takehiro : Dr. Eng., Keio University, 1986
Wave Dynamics on Falling Films, Mass Transfer into Film Flow, Solar Desalination,
Drying.
E-mail: yongrang@tec.u-ryukyu.ac.jp

Saitou, Masatoshi : Dr. Eng., Waseda University, 1993
Theory of Crystal Growth.
Fractal in Crystal Growth, Electrodeposition, Computer Simulation.
E-mail: saitou@tec.u-ryukyu.ac.jp

Shibata, Shinichi: Dr. Eng., Niigata University, 1999
Composite material, Bio polymer
E-mail: shibata@tec.u-ryukyu.ac.jp

Yaga, Minoru : Dr. Eng., Kyushu University, 1989
Impingement Heat Transfer, Under Expanded Jet, Compressible Flow.
E-mail: yaga@tec.u-ryukyu.ac.jp

Suzuki, Masami : Dr. Eng., The University of Tokyo, 2002
Computational Fluid Dynamics, Wave Power Generation, Wind Turbine.
E-mail: m-suzuki@tec.u-ryukyu.ac.jp

Associate Professors:

Kondou, Ryouji: Dr. Eng., Okayama University, 2003

Theory of Plasticity, Theory of Crystal Plasticity, Theory of Dislocations.
E-mail: kondou@teada.tec.u-ryukyu.ac.jp

Miyazaki, Tatsujiro: Dr. Eng., Kyushu University, 2003
Strength of Materials, Metal Fatigue.
E-mail: t-miya@tec.u-ryukyu.ac.jp

Oshikawa, Wataru: Dr. Eng., The University of Tokyo, 2005
Corrosion and Protection
E-mail: oshikawa@tec.u-ryukyu.ac.jp

Oshiro, Naoki: Dr. Eng., Osaka University, 2000
Robot vision, Machine learning
E-mail: oshiro@mibai.tec.u-ryukyu.ac.jp

Senaha, Izuru: Dr. Eng., Nagoya University, 2001
Thermal Engineering, Heat Transfer Engineering, Fluid Dynamics
E-mail: senaha@tec.u-ryukyu.ac.jp

Sueyoshi, Toshiyasu: Ph.D.(Information Sciences), Tohoku University, 2004
Engineering of Plasticity, Plastic Constitutive Equation, Numerical Analysis
E-mail: sueyoshi@teada.tec.u-ryukyu.ac.jp

Uezato, Eiho: Dr. Eng., Kobe University, 1996
Control Engineering
E-mail: uezato@mibai.tec.u-ryukyu.ac.jp

Nakazono, Kunihiko: Dr. Eng., Keio University, 2010
Control Engineering
E-mail: nakazono@mibai.tec.u-ryukyu.ac.jp

Assistant Professors:

Fujikawa, Masaki: Dr. Eng., Aoyama Gakuin University, 2006
Computational Mechanics, Experimental Mechanics, Solid Mechanics.
E-mail: fujikawa@tec.u-ryukyu.ac.jp

Ishikawa, Masaaki: Dr. Eng., University of Fukui, 2000
Engineering of Multiphase Flow, Fluid Dynamics, PIV (Particle Image Velocimetry)
E-mail: ishi8614@tec.u-ryukyu.ac.jp

Matsuda, Shoichi: Dr. Eng., University of the Ryukyus, 2001
Thermal Engineering, Heat Transfer Engineering, Fluid Dynamics
E-mail: matsudas@tec.u-ryukyu.ac.jp

Civil Engineering and Architecture

Professors:

Arizumi, Yasunori: Dr. Eng., Nagoya University, 1984
Structural Engineering, Steel-structural Engineering, Structural Analysis, Structural Stability.
E-mail: arizumi@tec.u-ryukyu.ac.jp

Nakaza, Eizo: Dr. Eng., Tokyo Institute of Technology, 1990
Coastal Engineering, Integrated Coastal Zone Management, Coastal Zone Ecosystem, Coral Sea Engineering, Waves and Currents in Coral seas, Internal Waves, Design of Maritime Structures, Fluid dynamics, Elasticity.

Ogura, Nobuyuki: Ph.D., Tokyo University of Fine Arts and Music, 1988
Architectural Design and Planning, History of Tropical Modern Architecture.
E-mail: oguranob@tec.u-ryukyu.ac.jp

Tsutsumi, Jun-ichiro: Dr. Eng., Kyushu University, 1987
Urban and Architectural Environmental Engineering, Computational Fluid Dynamics, Architectural and Urban Energy Planning, Urban Thermal Environmental Engineering, Environmental Fluid Engineering, Urban Meteorology, Ecological House.
E-mail: jzutsumi@tec.u-ryukyu.ac.jp

Morishita, Youichi: Dr. Eng., Kyushu University, 1983
Structural Engineering.
E-mail: morisita@tec.u-ryukyu.ac.jp

Yamada, Yoshitomo: Dr. Eng., Utsunomiya University, 2000
Construction Materials (Buildings), Concrete Engineering, Fresh Concrete Rheology.
E-mail: b985553@tec.u-ryukyu.ac.jp

Associate Professors:

Ando, Tetsuya: Dr. Eng., University of Tokyo, 1992
Urban and Regional Planning, Urban and Landscape Design.
E-mail: tando@tec.u-ryukyu.ac.jp

Hara, Hisao: Dr. Eng., University of the Ryukyus, 2004
Soil mechanics, Environmental geo-engineering.
E-mail: soil@tec.u-ryukyu.ac.jp

Irie, Toru: Dr. Eng., Yokohama National University, 2002
Architectural Design, Architectural Theory
E-mail: irie@tec.u-ryukyu.ac.jp

Matsui, Toru: Ph.D., University of Tsukuba, 1990
Applied Microbiology, Biochemical Engineering.
E-mail: tmatsui@comb.u-ryukyu.ac.jp

Shimizu, Hajime: Dr. Eng., Kyoto University, 1994
Urban and Regional Planning.
E-mail: shimizu@tec.u-ryukyu.ac.jp

Shimozato, Tetsuhiro: Dr. Eng., University of the Ryukyus, 2008
Structural Engineering, Steel-structural Engineering, Bridge-maintenance Engineering
E-mail: simozato@tec.u-ryukyu.ac.jp

Tokashiki, Takeshi: Dr. Eng., Shinshu University, 2005
Environmental Engineering, Room Acoustics.
E-mail: ttake@tec.u-ryukyu.ac.jp

Tomiyama, Jun: Dr. Eng., University of the Ryukyus, 2000

Computational Mechanics, Concrete Engineering.
E-mail: jun-t@tec.u-ryukyu.ac.jp

Electrical and Electronics Engineering

Professors:

Fujii, Satoshi : Ph.D., Hokkaido University, 2000
Rader Signal Processing, Remote Sensing, Radio Oceanography.
E-mail: fujii@eee.u-ryukyu.ac.jp

Higa, Akira : Dr. Eng., Osaka University, 1996
Thin Film Engineering, Carbon Materials, Solid State Electronics
E-mail: higa@eee.u-ryukyu.ac.jp

Kaneko, Eiji : Dr. Eng., Nagoya University, 1989
High Power and High Voltage Engineering, Power System Engineering, Pulsed Power Engineering, Electrical Discharges and Plasma Engineering.
E-mail: kaneko@eee.u-ryukyu.ac.jp

Nagata, Yasunori : Dr. Eng., Meiji University, 1996
Fault tolerant systems, Asynchronous systems, Multiple-valued logic, Embedded systems.
E-mail: ngt@eee.u-ryukyu.ac.jp

Namihira, Yoshinori : Dr. Eng., Tohoku University, 1979
Optical Fiber and Component Measurement Technologies, Optimum Design of Optical Fibers, Optical Transmission Systems, Photonic Crystal Fibers for Medical Applications.
E-mail: namihira@eee.u-ryukyu.ac.jp

Noguchi, Takashi : Dr. Eng., Doshisya University, 1992
TFT (Thin Film Transistor), LCD (Liquid Crystal Display), FPD (Flat Panel Display), mobile-phone, KEITAI, SoG (System on Glass), New Solar Cell, Active matrix, Polysilicon, Amorphous laser crystallization silicon mobility, O-LED (Organic LED).
E-mail: tnoguchi@tec.u-ryukyu.ac.jp

Senjyu, Tomonobu : Dr. Eng., Nagoya University, 1994
Power Electronics, Electronic Machine, Power System Engineering, Intelligent Control Engineering, Renewable Energy Engineering, System Optimization
E-mail: b985542@tec.u-ryukyu.ac.jp URL: <http://pesc.eee.u-ryukyu.ac.jp/>

Yonesu, Akira : D.Sc., Kyushu University, 1989
Plasma Engineering.
E-mail: yonesu@eee.u-ryukyu.ac.jp

Associate Professors:

Hanba, Shigeru: Ph. D., The Graduate University for Advanced Studies, 1996
Nonlinear Control Theory
E-mail: hanba@eee.u-ryukyu.ac.jp

Harada, Shigemi: Dr. Eng., Hiroshima University, 1999
Power System Analysis.
E-mail: harada@eee.u-ryukyu.ac.jp

Higa, Hiroki : Dr. Eng., Tohoku University, 1997
Medical Instrumentation, Therapeutic and prosthetic devices
E-mail: hrhiga@eee.u-ryukyu.ac.jp

Kinjo, Mitsunaga: Dr. Inf. Sci., Tohoku University, 2001
Quantum Computation, Quantum Algorithms, Quantum Devices
E-mail: mitsu@eee.u-ryukyu.ac.jp

Saito, Masato: Ph. D., Nagoya University, 2001
Wireless Communication
E-mail: saito@eee.u-ryukyu.ac.jp

Urasaki, Naomitsu : Dr. Eng., University of the Ryukyus, 2004
Electric Machinery, Motor Drives, Power Electronics
E-mail: urasaki@tec.u-ryukyu.ac.jp

Yamamoto, Ken-ichi : Dr.Eng., Gifu University,1996
Magnetic Materials and Applications, Magnetic Measurement, Magneto-elastic Effects
E-mail: yamamoto@eee.u-ryukyu.ac.jp

Yamazato, Masaaki : Dr. Eng., Kumamoto University, 1999
Electronic materials and devices, Bio materials
E-mail: yamazato@eee.u-ryukyu.ac.jp

Kageyama, Hiroshi : Dr. Eng., Osaka University, 1997
Organic Electronics
E-mail: kageyama@tec.u-ryukyu.ac.jp

Assistant Professors:

Okada, Tatsuya: Dr. Eng., Hiroshima University, 2009
Thin Film Semiconductor
E-mail: tokada@tec.u-ryukyu.ac.jp

Yona, Atsushi: Dr. Eng., University of the Ryukyus, 2009
Power Energy Conversion
E-mail: yona@tec.u-ryukyu.ac.jp

Information Engineering

Professors:

Asharif, Mohammad Reza : Dr. Eng., University of Tokyo, 1981
Digital Signal Processing, Digital Image Processing, Acoustic Signal Processing,
Simulation Engineering, Active Noise Canceling, Double Talk Echo Canceling, Image
Compression, Model-Based Image Coding, Speech Processing, Image Processing, Neural
Networks, Statistical Signal Processing, Digital Communications, OFDM, BSS, ICA, LPC.
E-mail: asharif@ie.u-ryukyu.ac.jp

Endo, Satoshi : Dr. Eng., Hokkaido University, 1995
Artificial Intelligence, Neural Networks, Intelligent Systems, Adaptive Algorithms,
Machine Learning.

E-mail: endo@ie.u-ryukyu.ac.jp

Nakamura, Morikazu : Dr. Eng., Osaka University, 1995
Distributed algorithms, Computational Intelligence, Parallel and Distributed Systems.
E-mail: morikazu@ie.u-ryukyu.ac.jp

Takara, Tomio : Dr. Eng., Tokyo Institute of Technology, 1983
Pattern Information Processing, Spoken Language Processing, Speech Analysis, Synthesis and Recognition, Artificial Intelligence.
E-mail: takara@ie.u-ryukyu.ac.jp

Tamaki, Shiro : Dr. Eng., Osaka University, 1987
Control Engineering, Robust Control of Heat Transfer System, Optimal Design of Power Generation System Using Natural Energy.
E-mail: shiro@ie.u-ryukyu.ac.jp

Wada, Tomohisa : Dr. Eng., Osaka University, 1994
System VLSI Design, Digital & Analog Circuit Design and Digital Computer design.
E-mail: wada@ie.u-ryukyu.ac.jp

Associate Professors:

Kang, Dongshik : Dr. Eng., University of Osaka Prefecture, 1999
Intelligent Systems, Audio Information Processing, Geographic Information Systems(GIS).
E-mail: kang@ie.u-ryukyu.ac.jp

Kono, Shinji : Ph.D. (Eng.), University of Tokyo, 1989
Temporal Logic Based Program Specification and Synthesis, Concurrent Object Oriented Language.
E-mail: kono@ie.u-ryukyu.ac.jp

Yamada, Koji : Dr. Eng., Hokkaido University, 1995
Complex Systems, Intelligent Robotics, Artificial life, Evolutional Computation.
E-mail: koji@ie.u-ryukyu.ac.jp

Nagayama, Itaru : Ph.D. (Eng.), The University of Tokushima, 1994
Neural Networks, Adaptive Signal Processing, Computer Vision, Data Mining Systems.
E-mail: nagayama@ie.u-ryukyu.ac.jp

Assistant Professors:

Toma, Naruaki : Dr. Eng., University of the Ryukyus, 2003
Complex Systems, Artificial Intelligence, Web Intelligence.
E-mail: tnal@ie.u-ryukyu.ac.jp

Subject Descriptions

Mechanical Systems Engineering Course

Design, Analysis and Processing of Engineering Materials

Advanced Theory of Crystal Growth (Saitou, M.)

This lecture focuses on crystals in static or dynamic growth that spans many disciplines, ranging from applied physics, applied mathematics and chemistry to materials science.

Advanced Fracture Mechanics (Makabe, C.)

On the basis of the fracture mechanics, students investigate some special topics for the strength of cracked materials. Then they study what are the useful parameters to evaluate such material's strength. Also, they learn how to apply the fracture mechanics to the real problems.

Advanced Theory of Plasticity (Sueyoshi, T.)

Studies on continuum mechanics and plastic constitutive theory, Analysis of plastic large deformation of metals.

Advanced Manufacturing System Engineering I (Fukumoto, I.)

Analysis of ultra precision cutting grinding, Design of optimum condition in manufacturing system, Injection molding of composite material.

Advanced Stress Analysis (Furukawa, T.)

Stress and strain, Constitutive equation, Stress function, Two-dimensional elastic stress analysis, Integral transforms, Boundary element method.

Theory of Elasticity (Miyazaki, T.)

Study on stress analysis of two-dimensional problems and linear fracture mechanics.

Corrosion Engineering (Oshikawa, W.)

Corrosion, Corrosion Protection.

Advanced Manufacturing System Engineering II (Shibata, S.)

Design of composite material in polymers, polymerization theory, Analysis in chemistry.

Thermal and Fluid Engineering

Advanced Engineering Thermodynamics (Gima, S.)

The first and second laws of thermodynamics, effective utilization of energy resource and exergy.

Heat and Mass Transfer (Nosoko, T.)

Analysis of heat transfer and mass transfer, modeling of heat and mass transfer phenomena.

Computational Fluid Mechanics (Suzuki, M.)

Computational methods for incompressible flow and numerical grid generation.

Computational Fluid Mechanics (Suzuki, M.)

Computational methods for incompressible flow and applications.

Advanced Energy Conversion I (Yaga, M.)

Research an energy conversion between impinging high speed flow and thermal energy.

Advanced Energy Conversion II (Senaha, I)

Conversion of natural energy such as sunlight, solar heat and mass transfer.

Advanced Heat Transfer Engineering I (Kato, S.)

Study of heat transfer and its application.

Advanced Heat Transfer Engineering II (Kato, S.)

Study of heat transfer and its application following after I

Advanced Measurements of Turbulent Flow (Teruya, I.)

Measurements of turbulent flow by using sensors, Data acquisition.

Mechanics and Control Engineering

Advanced Control Engineering (Uezato, E.)

PID control, Regulator, Observer, Fuzzy control, GA., Intelligent control.

Soft Control Engineering (Kinjo, H.)

An intensive study of the intelligent control systems: fuzzy control system, neuro-control system, genetic algorithms, stochastic control system.

Neural Network Modeling (Kurata, K.)

Mathematical description of neural units is given, which will be used to construct theoretically or numerically tractable neural network models that can learn from failure, recall by association, self-organize topographic map of data space.

Advanced Partial Differential Equation I (Kondou, R.)

Advanced Partial Differential Equation

Advanced Partial Differential Equation II (Kondou, R.)

Advanced Partial Differential Equation

Advanced Signal Processing in Mechanical Engineering (Oshiro, N.)

Digital signal processing, Fast Fourier Transform, Wavelet, Image processing and feature extraction

Intelligent Control Engineering (Nakazono, K.)

Genetic Algorithms, Neural Network, Design for Nonlinear Systems.

Departmental Curriculum

Master's Thesis in Mechanical Systems Engineering ~

Civil Engineering and Architecture Course

Environmental Planning and Design Engineering

Advanced Regional Planning (Ando, T.)

Okinawa islands, Modernization, Development, Environment.

Advanced Architectural Planning (Irie, T.)

Architectural planning, Program and Process.

Environmental Biotechnology (Matsui, T.)

Biotechnology, Genetic engineering, Microbiology, Bioprocess engineering

Advanced Theory of Architectural Design (Ogura, N.)

Modernism, History, Environment, South-east Asia.

Advanced Community Space Planning (Shimizu, H.)

District planning, Neighborhood, Community.

Advanced Environmental Noise (Tokashiki, T.)

The analysis and the results of the research on environmental noise.

Advanced Thermal Environmental Engineering (Tsutsumi, J.)

Urban climate, Thermal environment, Thermal comfort natural energy, Renewable Energy.

Structural and Mechanical Engineering of Bridges and Buildings

Advanced Bridge Engineering (Arizumi, Y.)

Bridge engineering, Suspension bridge, Structural engineering, Finite element method.

Advanced Structural Engineering (Iraha, S.)

Finite element analysis, Concrete, Fracture mechanics.

Advanced Reinforced Concrete Design (Morishita, Y.)

Reinforced concrete, Steel reinforced concrete, Seismic safety, Strength, Ductility.

Advanced Computational Solid Mechanics (Tomiya, Jun.)

Numerical simulation method, Computational engineering and science.

Advanced Construction Materials (Yamada, Y.)

Durability of concrete, Salt attack, Alkali aggregate reaction, Fresh concrete.

Advanced Steel Structural Engineering (Shimozato, T.)

Steel structure, Structural design.

Environmental Disaster Prevention Engineering

Advanced Fluid Dynamics of Ocean (Nakaza, E.)

The atmosphere and the ocean, Kuroshio and other major ocean currents, Coastal circulation and estuarine circulation, Waves and currents induced by tropical typhoons, Sea-level changes.

Advanced Geotechnical Engineering (Hara, H.)

Compression and consolidation of soils, Shear strength of soil, Constitutive equation of soil.

Departmental Curriculum

Master's Thesis in Civil Engineering and Architecture ~

Special Seminar in Civil Engineering and Architecture ~

Electrical and Electronics Engineering Course

Electromagnetic Energy Engineering

Advanced Plasma Engineering (Yonesu, A.)

Characteristics of plasma, Plasma processing.

Advanced Magnetic Materials (Yamamoto, K.)

Ferromagnetic Materials, Magnetostriction, Magnetic Anisotropy.

Advanced Power System Engineering (Kaneko, E.)

Power system engineering.

Advanced Power Electronics (Senjyu, T.)

DC/DC converter, PWM inverter, Motor control, AC/DC converter, Energy conversion, FACTS devices in Power System, Advanced Control.

Advanced Electric Machinery (Urasaki, N.)

DC motors, AC motors, Variable frequency drives, Switching converters, Power conversion.

Advanced Power System Analysis (Harada, S.)

Computational Methods for Power System Load Flow, Optimal Power Flow and Stability Analysis.

Advanced Power Energy Conversion (Yona, A.)

Power energy conversion, Renewable energy, Optimal operation.

Electronic Materials Engineering

Physics and Chemistry of Electronic Materials (Yamazato, M.)

Semiconductor interface, Amorphous materials, CVD diamond.

Advanced Electronics Devices (Maehama, T.)

Semiconductor devices, Evaluation of semiconductor crystals.

Advanced Electronic Materials Engineering (Higa, A.)

Semiconductor, Carbon Materials, Electronic Materials Processing.

Advanced Quantum Computer Engineering (Kinjo, M.)

Quantum Algorithms, Quantum Gates, Quantum Devices.

VLSI System Design (Shimabukuro, K.)

VLSI architecture, VLSI layout, Circuit simulation, VLSI CAD tools.

Thin-film Semiconductor Process Technology (Noguchi, T.)

Important of device, the fabrication process of TFT and its application for LCD and new solar cells are described.

Advanced Vacuum Technology (Okada, T.)

Vacuum pumps and gauges, Phenomena in vacuum, Fabrication processes for semiconductor.

Organic Electronics Material Engineering (Kageyama, H.)

Organic Functional Materials, Organic Electronics Devices.

Electronic Systems Engineering

Advanced Mathematical Informatics (Nakao, Z.)

Computational intelligence, Neural networks, Evolutionary programming.

Advanced Modern Control Theory (Nagadou, T.)

Subject of control, Model error CAD system, Design method of controlling system.

Advanced Dependable Systems (Nagata, Y.)

Dependable computer systems, Fault-tolerant systems and error detecting/correcting Code

Advanced Optical Fiber Transmission Technology (Namihira, Y.)

Principle of optical fibers and photonic crystal fibers, optical fiber transmission characteristics, optical transmission technology.

Advanced Signal Processing Systems (Fujii, S.)

Digital signal processing, High-resolution spectral analysis in signal processing, Neural network application for signal processing.

Advanced Medical Electronics (Higa, H.)

Medical Instrumentation, Therapeutic and prosthetic devices.

Advanced Wireless Communication Systems (Saito, M.)

Deterministic and random signal analysis, Digital modulation schemes, Optimum receivers for AWGN channels, Multicarrier systems.

Advanced Nonlinear Control Theory (Hanba, S.)

Geometric properties of nonlinear control systems, stability, nonlinear control system Design.

Departmental Curriculum

Master's Thesis in Electrical and Electronics Engineering ~

Special Seminars in Electrical and Electronics Engineering ~

Information Engineering Course

Computer Systems

Computer Systems (Nakamura, M.)

Computer architectures, Network systems, Operating systems, Parallel processing, and Distributed systems.

Signal Processing Theory (Asharif, M.R.)

Studying of 2-D systems and mathematical characteristics of images, visual perception of human and stereo imaging, 2-D image transforms, image enhancement by histogram and filtering, image restoration, image compression, edge detection algorithms.

Software Systems (Kono, S.)

Software system development, Large program, Object oriented systems, Persistent object, Verification, Test.

Multimedia Information Processing (Nagayama, I.)

Digital Signal Processing, intelligent image processing, physiology and Cognitive science for human perception. Neural computing and algorithms for communication Systems are also discussed.

System Architecture (Wada, T.)

The lecture includes the digital hardware design methodology for large digital systems such as microprocessors and digital signal processors. Hardware description language such as VHDL might be also covered in the lecture if the attendees are interested in such real computer aided design tools.

Intelligent Systems

Speech Information Processing (Takara, T.)

Special lecture on speech analysis, speech synthesis and automatic speech recognition. Fundamentals and applications of the human-machine interface using spoken language are discussed.

Advanced Control Engineering (Tamaki, S.)

State-space description, Linear state-variable feedback, Observer and compensator design, Some algebraic complements, State feedback and compensator design, Optimal regulator theory, Robust control and its applications.

Intelligent Systems (Kang, D.)

Knowledge representation, Reasoning, Machine learning, Design and development of intelligent systems.

Complex Systems Engineering (Endo, S.)

Evolutionary Computation, Neural Networks, Cellular Automata, Design and development of Complex Systems.

System Analysis (Miyagi, H.)

Analyses on large scale systems, fuzzy systems, chaotic systems, decision-making systems. Stability of nonlinear systems and Lyapunov's theory.

Intelligent Robotics (Yamada, K.)

Lecture on intelligence of autonomous robot, especially on learning method and emergence of robot behaviors. Behavior based AI systems are also discussed.

Departmental Curriculum

Overview of Special Program for Engineering (Asharif, M.R.)

Education system in Japan, University of the Ryukyus, Graduate school of engineering, Courses in the graduate school, Researches of the faculty, Environmental engineering.

Master's Thesis in Information Engineering ~

Special Seminars in Information Engineering ~

Special Lecture ~

Special Lecture ~