

[2014]九州大学博士課程リーディングプログラムグリーンアジア国際戦略プログラム

<https://hdl.handle.net/2324/1904345>

出版情報：九州大学博士課程リーディングプログラムグリーンアジア国際戦略プログラムパンフレット.
2014, pp. 1-, 2014. 九州大学グリーンアジア国際リーダー教育センター事務局
バージョン：
権利関係：



Kyushu University Program for Leading Graduate Schools
Advanced Graduate Program in
Global Strategy for **Green Asia**



Kyushu University Program for Leading Graduate Schools
Advanced Graduate Program in
Global Strategy for **Green Asia**

■ Main Office

Room313 E-building 3F 6-1, Kasuga-koen, Kasuga, Fukuoka, 816-8580
TEL ▶ 092-583-7823/7825 FAX ▶ 092-583-8909

■ Ito Branch Office

Room 641 West Zone 2 Building, 744 Motoooka, Nishi-ku, Fukuoka 819-0395
TEL ▶ 092-802-6660 FAX ▶ 092-802-6660

U R L : <http://www.tj.kyushu-u.ac.jp/leading/en/>

E-mail : greenasia@ga.kyushu-u.ac.jp

November 2014





Kyushu University Program for Leading Graduate Schools
Advanced Graduate Program in Global Strategy for **Green Asia**



Program Director
Hideharu Nakashima

Dean/Professor
Department of Molecular and Material Sciences
Interdisciplinary Graduate School of Engineering Sciences
Kyushu University

The “Advanced Graduate Program in Global Strategy for Green Asia” is a new combined Masters/Ph.D. program. The purpose of the “Green Asia” program is to incubate leaders who can take on the challenges of balancing greening and economic development in the Asia region.

The entire world faces an inevitable demand of achieving sustainable economic growth while preventing mass consumption of fossil resources. With the ever-widening gap between rich and poor compounded by globalization, the rapid rise of energy consumption in Asia, and the fossil resources price hike, effective strategy and action is required to tackle the emerging environmental and resource issues.

Asia is a melting pot of diverse social and cultural structures, and it is also a vigorous region with fast paced economic development. Japan, as part of the Greater Asia community, needs to work with other nations and act upon to develop a global model which distinguishes from the Western-centric model to realize a Green Asia. Therefore, the training and formation of a global network of leaders is an indispensable part of this program. In addition, our program offers the first-rate education available, and trains individuals who have global vision to work across a wide spectrum of platforms in industrial, academia, and politics. We will execute our unique educational plan in Asia, and then extend our mission to be applied worldwide. With this approach, we are supporting a radical reformation of graduate school system in Japan, and promoting the formation of a future-oriented renowned educational institution in the world.



Program Coordinator
Akira Harata

Professor
Department of Molecular and Material Sciences
Interdisciplinary Graduate School of Engineering Sciences
Kyushu University

In order for Japan to become the world leader in science and technology, it is extremely favorable to construct a developing society that utilizes its strong leading edge industrial base and green technology in the international community, especially the Asian sphere, the Middle East and the Oceania region.

Asia is currently undergoing rapid economic development, as well as fast resources exhaustion and environmental pollution. However, these issues involve economic development, political system, history, culture, and other characters that are strongly bonded in each nation. Therefore, we need a momentum from leading edge science and technology with continuous innovation to develop a global society that can work beyond national boundary.

“Green Asia” is a phenomenal idea to ensure the coexistence of economic expansion and “greenification” (saving resources and environmental conservation). It is also an icon of understanding and cooperation among individuals who care about our environment and willing to contribute with extended knowledge in science. With the mission of “Green Asia” we have build a unique program. Graduate students who are in one of the three specialized majors: material science, system engineering, and resource engineering, will also study in the subjects of environmental science and basic sociology and economics. In addition, with the practical experience inside and outside Japan students can acquire the five abilities (research, practice, global perspective, system landscape and leadership) at the end of the program. As a result of the leadership development program individuals will map a human resource network in Asia.

The three departments at the Interdisciplinary Graduate School of Engineering Sciences (IGSES) and the Department of Earth Resources Engineering of Kyushu University, which are the pillars of this program, have been accepting students from a wide array of educational and cultural backgrounds to promote global education in graduate studies. Our university emphasizes the

educational innovation of graduate schools to develop human resources for the global field through the GP program (2005-2006: IGSES), the Global CEO program, Novel Carbon Resource Sciences (2008–2012: IGSES), Project Campus Asia (2011-2015: IGSES), and Support for the Formation of Collaboration Programs with ASEAN Universities (2012–2016: Faculty of Engineering) in recent years.

Program features

- 1) Development of the Education Systems: Accepting a wide range of domestic and international students, providing interdisciplinary graduate education, as well as promoting graduate school reform.
- 2) Curriculum: In addition to the science and engineering curriculum (including international and industrial internships, international exercise), humanities and other social science subjects are included in the curriculum (Green Asia research paper).
- 3) Mentoring Care Unit (MCU): Introducing an evolutionary guidance care unit.
- 4) Asia Collaboration Network & Government - Industry - Academia Partnerships: Bridging with over 30 research institutes in Asia, and working with 58 organizations locally in Japan. Constructing a framework of the Green Asia Industrial Theory through humanities and sciences.
- 5) Education Quality Assurance and External Assessment: Preparing an educational results and guidance portfolio by students.
- 6) Added-value Oriented Green Engineering: Training individual to have the abilities of upstream thinking, problem identification / analysis, and expansion / integration to accomplish the goal of “Green Asia.”
- 7) Establishment of the Center for the Advanced Graduate Program in Global Strategy for a Green Asia

The following training principles are the five necessary abilities for leaders in the fields of science and technology: research (creativity), practical (strategic thinking, collaborative and management skills), global perspective, system landscape and leadership.

- Research: Students are advised to take general education courses (environmental studies / energy & resources) at introductory level, and subsequently, leads to in-depth specialized subjects of students’ interests. In order to broaden knowledge in the specialized subjects, students are assigned to attend seminars of other research groups for a year. In addition, students are required to give an interim presentation including research progress and attended seminars in the second semester of the first year. Students are also required to defend their master’s

theses at the end of the second year, present the doctoral theses progress at the end of the fourth year.

- Practical: Based on the understanding of the Intellectual Property Theory and the Practical Theory from industrial researchers and technical experts (Intensive course), students are required to gain corporate internship experience in Japan from two ~ three weeks up to two months.
- Global Perspective: Lecturers are invited to hold debates (forums) allowing students to discuss problems and potential solutions on a given subject. Forums are held collaboratively with universities overseas every six months on a specific theme. Students are also required to intern at a partnered oversea university (2 months) and corporation (2 months).
- System Landscape: Economics, politics, philosophy, Asian cultures & international relations, and theory for corporate leadership related to the subject of environmental studies / energy & resources are required to shape a global leader. In addition, students are invited to domestic and overseas collaborating institutions (1 week) to observe the current affairs, and held seminars and debates to discuss those issues.

Our quality guarantee of the program

- Qualifying Exam: Evaluate basic knowledge and research ability upon program entrance.
- Accumulation Test: In the first half of the course, students are required to pass exams based on the course content given in three consecutive months. In the second half, students are to be evaluated on specialized knowledge given each month. Obtaining passing score is needed to fulfill degree requirement.
- Program Report: Students are asked to submit a report on the instruction they received in the program and attend an interview.
- Interim Presentation: Students are required to write an interim report and give an oral presentation on their doctoral thesis (one year prior to graduation).
- Degree Examination: Accumulation Test is given one year prior to acquisition of degree. The result of the course report and the abstract of doctoral thesis are assessed externally for degree evaluation. Lastly, completion and submission of doctoral thesis, public hearing (defense), and assessment are required for obtaining the Doctoral Degree of Engineering Sciences.

Education is our mission. We would like to invite you to witness how our program can shape individuals to take on the challenge of creating a true Green Asia.



Program for Leading Graduate Schools

The Program for Leading Graduate Schools seeks to recruit talented individuals with traits of creativity and foresight who can play an active role in government, industry, and academia on a global scale. Our program offers a first-rate education, and trains students to work across a wide spectrum of platforms. With this approach, we are supporting a radical reformation of the graduate school system in Japan, and promoting the formation of a future-oriented renowned educational institution.

Kyushu University Interdisciplinary Graduate School of Engineering Sciences (IGSES) and the Department of Earth Resources Engineering, Graduate School of Engineering, have teamed up to build a unique curriculum for this particular program. Graduate students who are engaged in one of the three specialized research fields: materials science, system engineering, and resources engineering, will also study environmental science, basic sociology and economics. In addition, with the knowledge and practical experience gained domestically and overseas students will be able to attain the five key competencies of research, practical understanding, global perspective, objective appraisal, and leadership, to build a human resource network in Asia, and to receive a doctoral degree with from the "Advanced Graduate Program in Global Strategy for Green Asia" at the end of their studies.

Energy Innovation from Asia to the World Leadership Program in Science and Technology

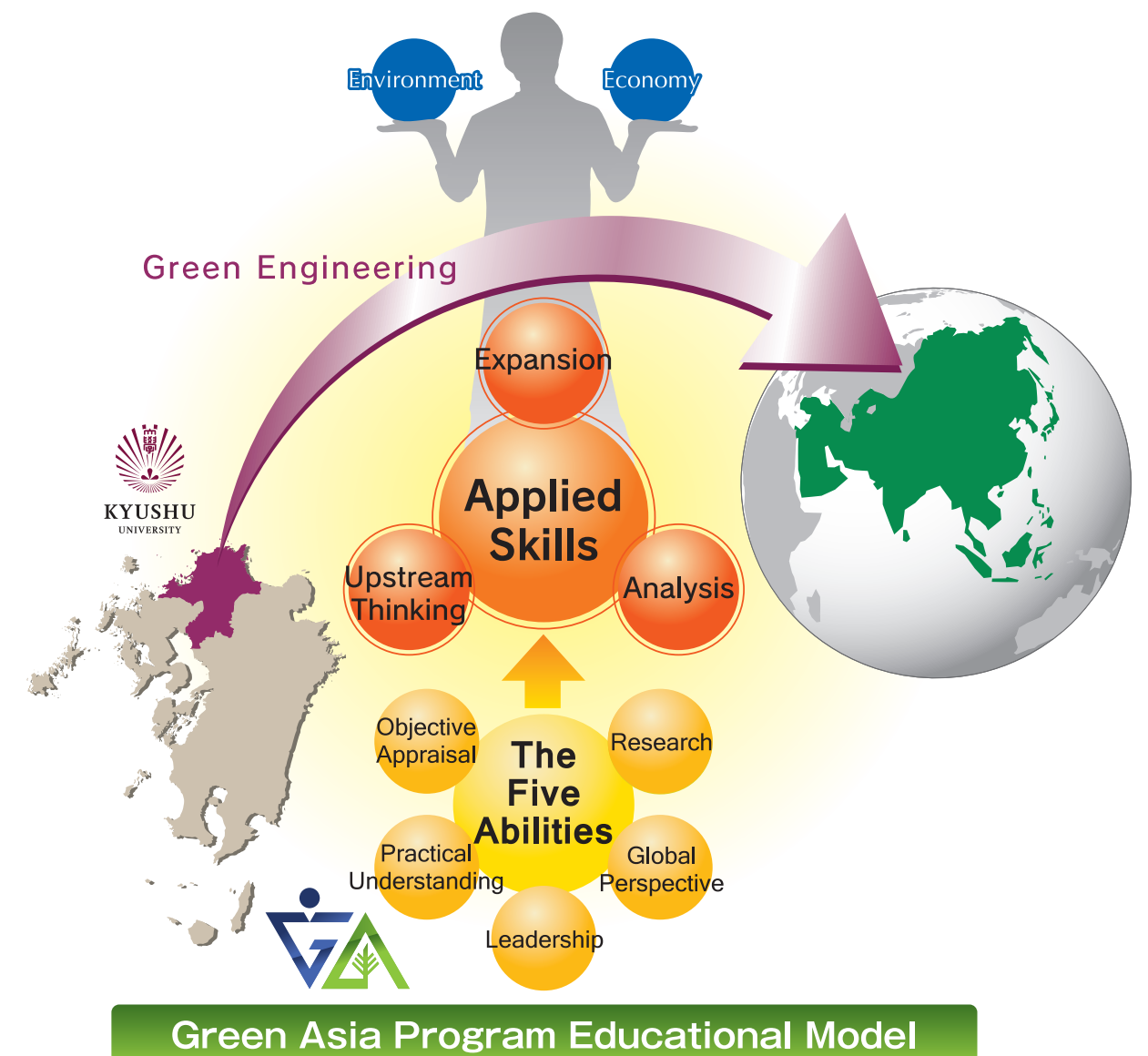
Our educational program aims at developing leadership in science and engineering to realize a balanced greening and economic growth in Asia. The entire world faces the challenge of maintaining positive economic growth, while drastically reducing resource consumption. Asia encompasses a large cultural and social diversity, and it is a typical melting pot model of an area with complex economic and environmental problems.

An effective strategy was never implemented for countries to accomplish sustainable economic growth while dealing with environmental and resource restrictions related to mass consumption of fossil fuels. In this century, the role of our country is to develop a global model, which distinguishes from the existing Western-centric model to realize a Green Asia. Negative influences from globalization have emerged, such as the ever-widening gap between the rich and poor, rapid energy consumption in Asia and fossil resources price hike. The Global Strategy for Green Asia is a flexible approach based on social, industrial, and economic factors that are derived from Asian and Oceanic history and culture. Such an approach with a strong global network may generate a synergistic effect between greening and growth.

Asia encompasses a large cultural and social diversity, and it is a typical melting pot model of an area with complex economic and environmental problems.

- Expanding Economy
- Attractive Market
- Fossil Resource Dependence Society
- Environmental Preservation
- Cultural and Historical Diversity

《Green Asia》 Economic Growth and Resource Preservation in Asia





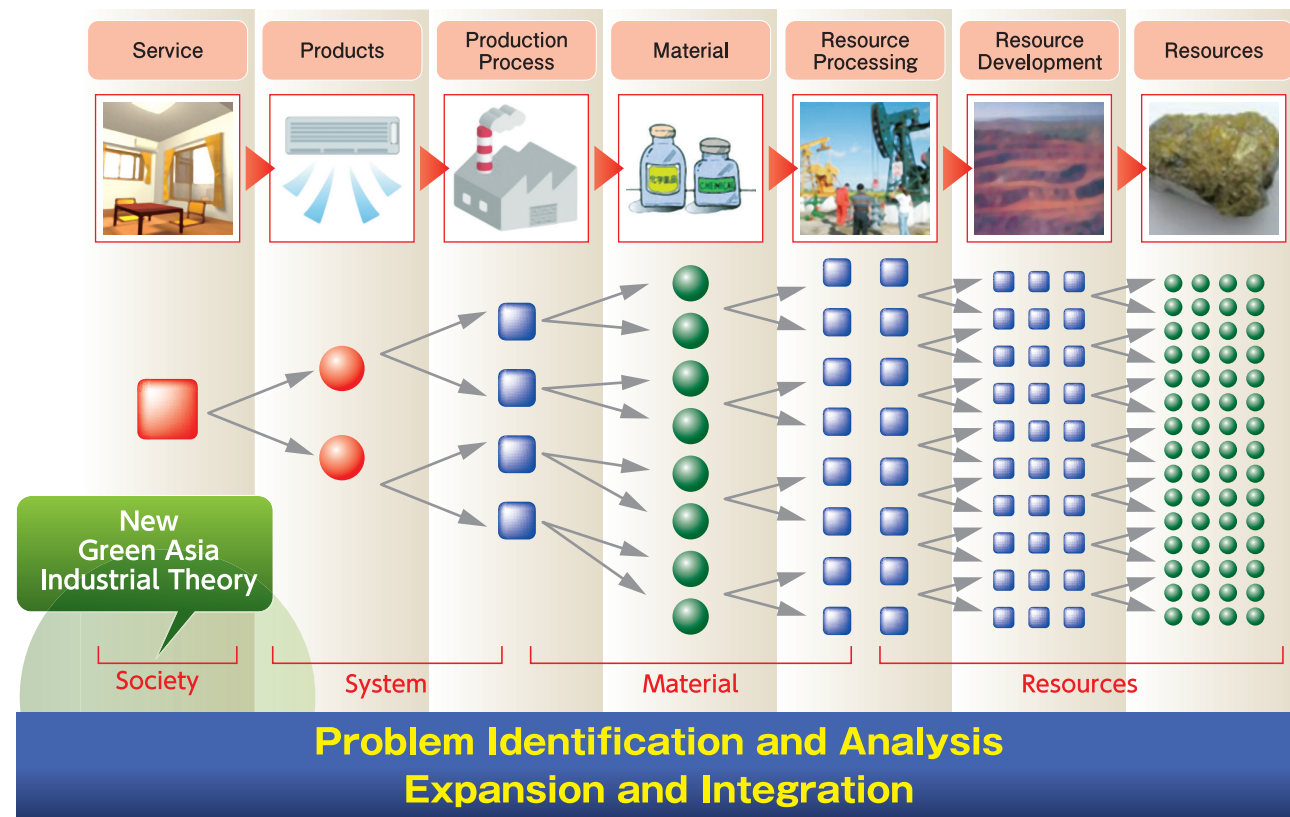
Candidate Cultivation

Cultivating leadership in science and engineering, with the concept of added-value-oriented green engineering, to ensure the coexistence of greening and economic growth (Green Asia).

Successful candidates have the opportunity to be trained in one of the program's three specialized fields: materials science, system engineering, and resources engineering, with additional lectures on environmental science, and basic sociology and economics. Furthermore, candidates can network with other professionals in Asia through educational training offered domestically and overseas. Candidates who have completed all the required training can assume leading roles in the field with the five key competencies: research, practical understanding, global perspective, objective appraisal, and leadership.

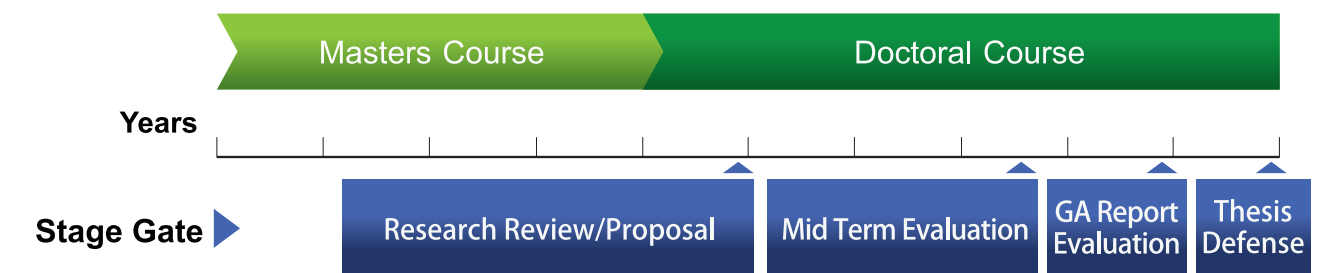
Added-Value-Oriented Green Engineering

Upstream Thinking Process : Service and Product



Program Features

1. Educational System Development: Accepting a wide range of domestic and international students, the program provides interdisciplinary graduate education in addition to promoting reform in the educational system.
2. Curriculum: Apart from the science and engineering studies (including international and industrial internships and international exercises), humanities and other social-science subjects are included in the curriculum (Green Asia research paper).
3. Mentoring Care Unit (MCU): An evolutionary guidance care unit is included.
4. Asia Collaboration Network and Government-Industry-Academia Partnerships: The program connects more than 30 research institutions across Asia and works with 58 organizations within Japan to construct an industrial system in Green Asia through the application of both humanities and sciences.
5. Education Quality Assurance and External Assessment: Preparing educational results and a guidance portfolio by students.
6. Added-Value-Oriented Green Engineering: The program trains individuals to acquire the abilities of upstream thinking, problem analysis, and solutions to accomplish the goal of a Green Asia.
7. Establishment of the Green Asia Education Center



5-year Consistent Doctorate Program

Learning and Growing Together

Enrollment Quota per Year : 10 Domestic students; 10 International students

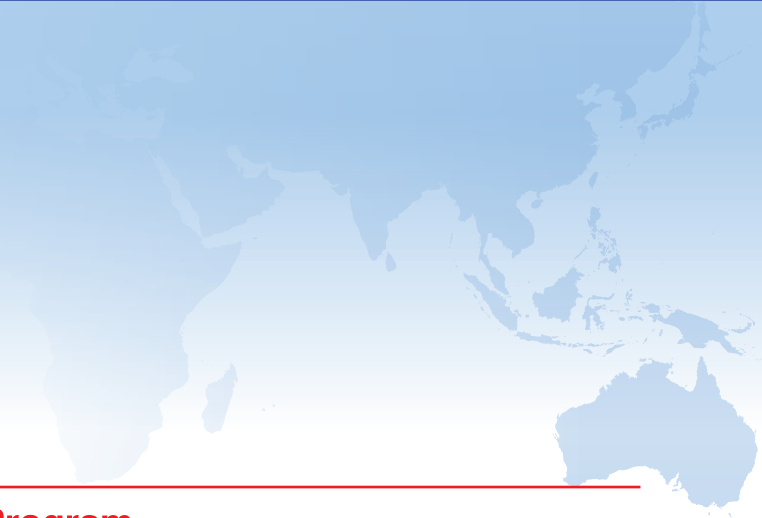
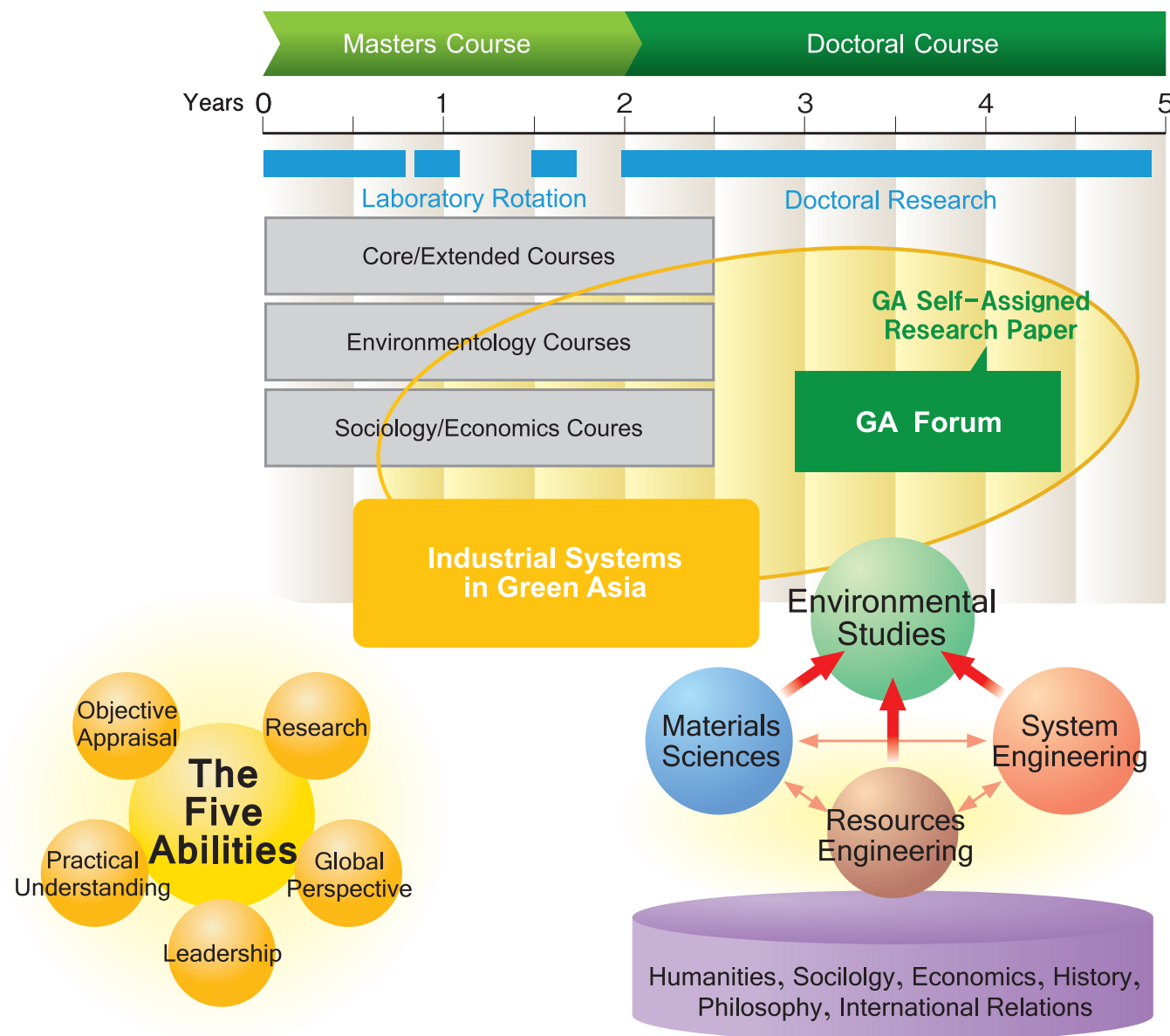
Financial Aid : **Scholarship is provided**



Degree Highlight (1)

An Interdisciplinary Liberal Arts and Scientific International Education Program

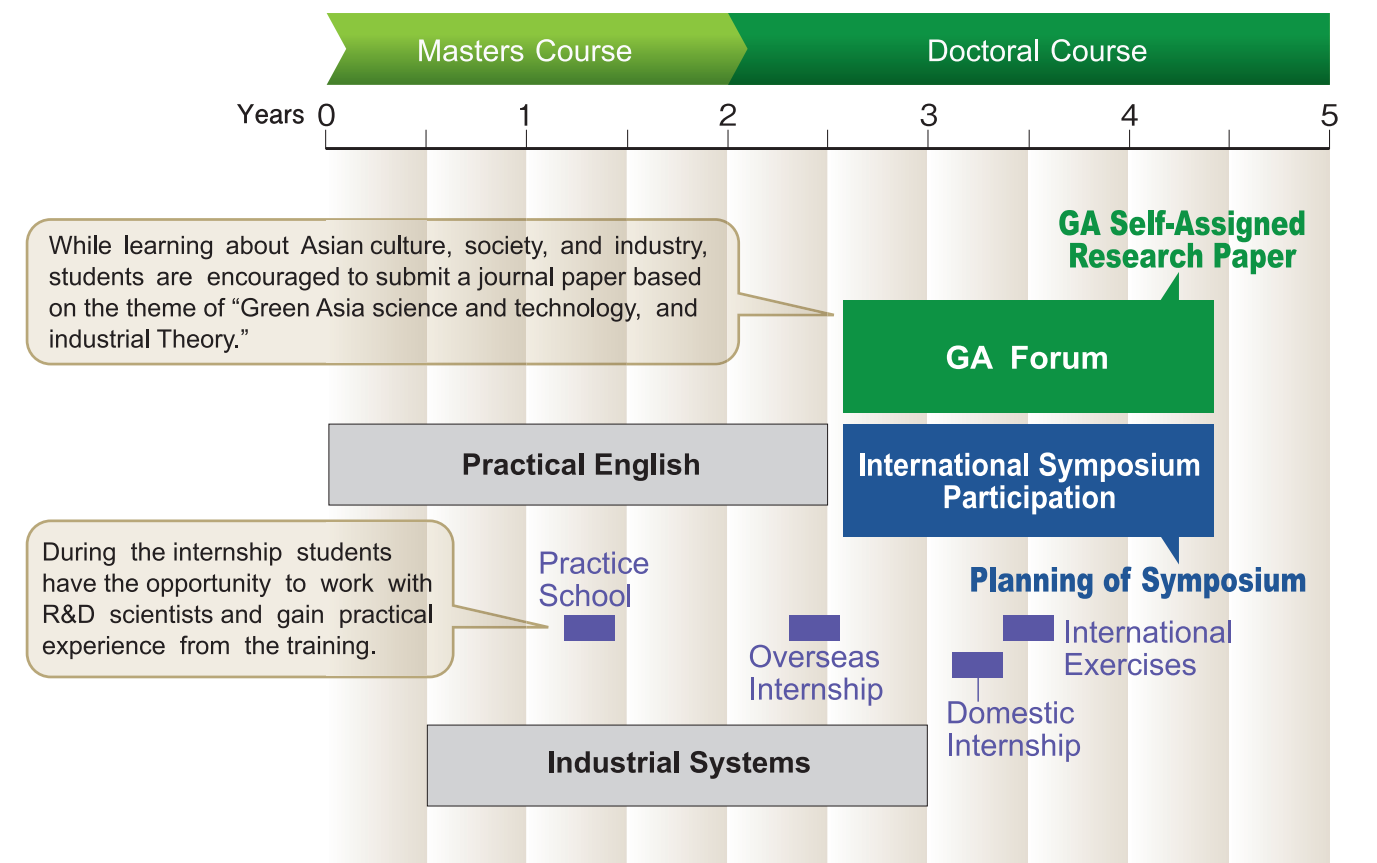
The five-year joint program is designed for students to develop the abilities of research, practical understanding, global perspective, objective appraisal, and leadership in a balanced way. The students with their mentors and tutors should be able to appreciate the apparent development in the learning process. The competency of research and the ability to make their own appraisal are developed by taking lectures from the core and extended courses in one of the three specialized majors of materials science, system engineering, and resources engineering. In addition, lessons from the topics of environmental science, basic sociology, economics, practical English, and industrial experience would also lay a concrete foundation for future development.



Degree Highlight (2)

Domestic and Overseas Internship Program

By participating in this internship program, the student will gain valuable work experience in industry and/or research institutes throughout Japan and in key overseas locations, thus fostering their practical abilities. The various activities will be organized as a sequence of practical schools lasting from 1 to 2 months, overseas internships lasting from 2 to 3 months, and finally a short domestic internship of a duration of 2 to 3 weeks. During the practical school, each student will be free to choose from a range of organizations and potential technical mentors, and then make detailed plans regarding the execution of the project under the guidance of their chosen mentors. After approximately 2 years, the student will have the opportunity to acquire a second period of work experience with the same host organization and technical mentors as chosen previously.



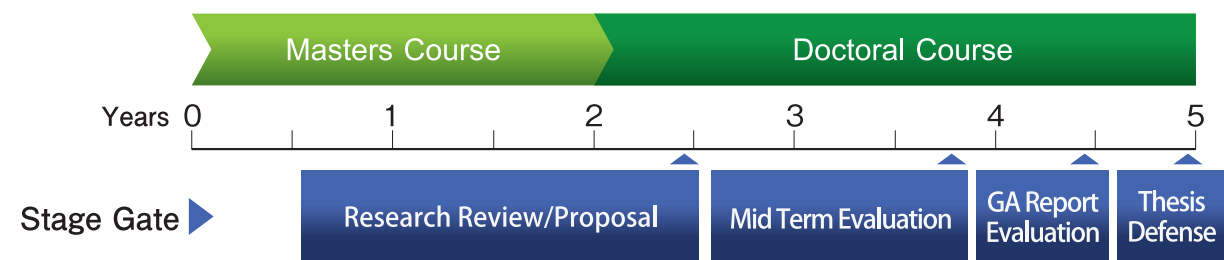


Degree Highlight (3)

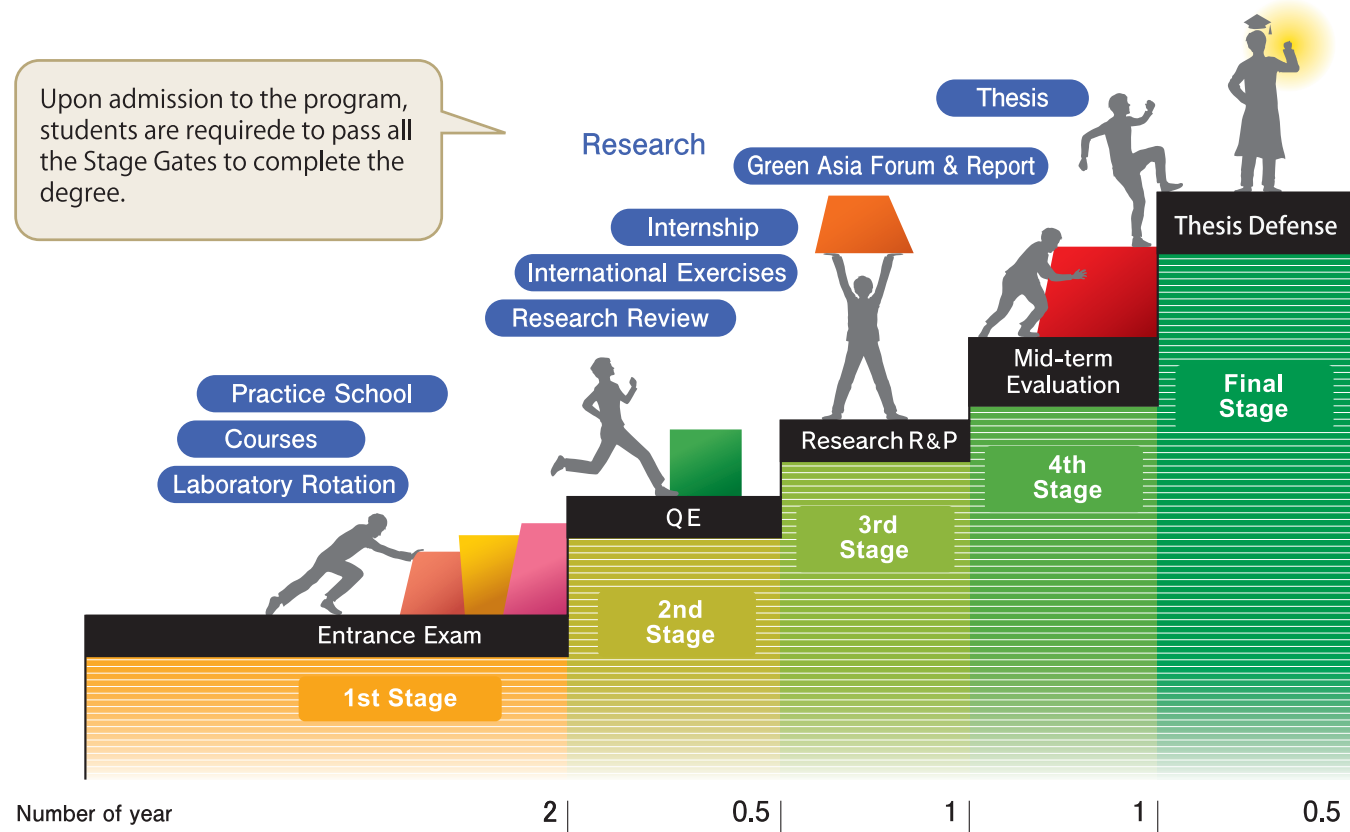
Stage Gate System

A five level Stage Gate System has been introduced to ensure the equality of our graduate program. Students are required to pass each Stage Gate to advance to the next level.

- Stage Gate 0: Entrance Examination
- Stage Gate 1: Qualifying Examination (QE)
- Stage Gate 2: Research Review and Proposal
- Stage Gate 3: Interim Report
- Stage Gate 4: Green Asia Thesis Evaluation
- Stage Gate 5: Thesis Defense



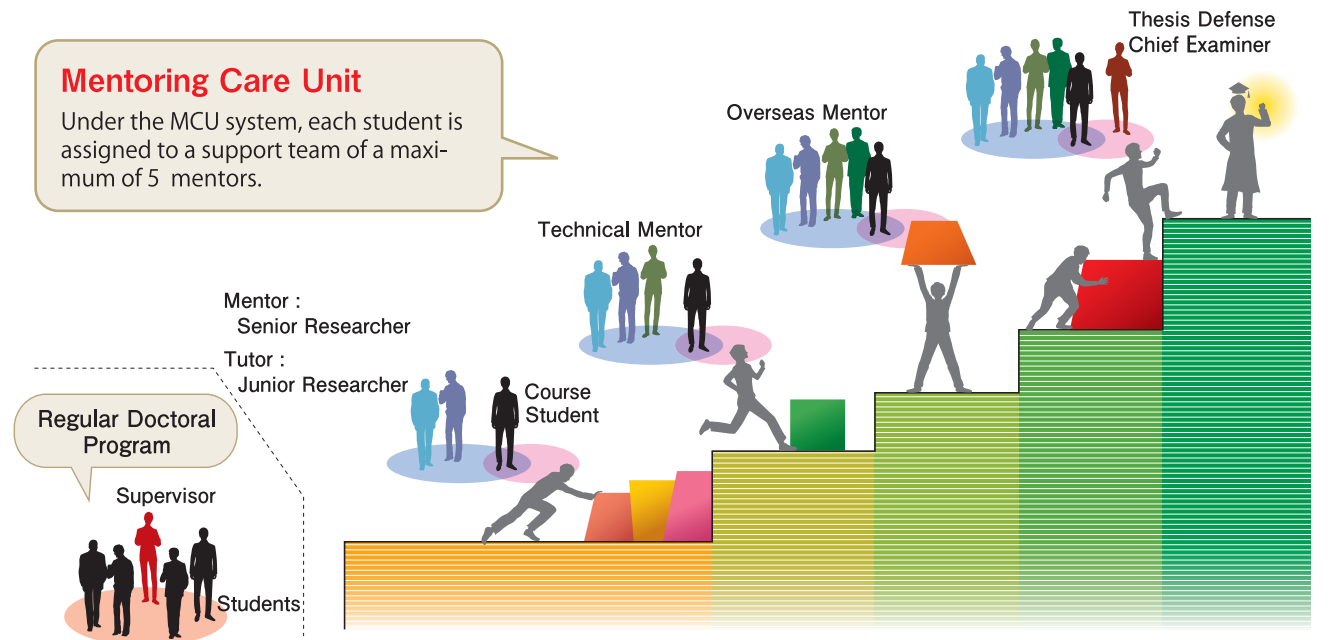
Upon admission to the program, students are required to pass all the Stage Gates to complete the degree.



Degree Highlight (4)

Mentoring Care Unit (MCU) Study Support

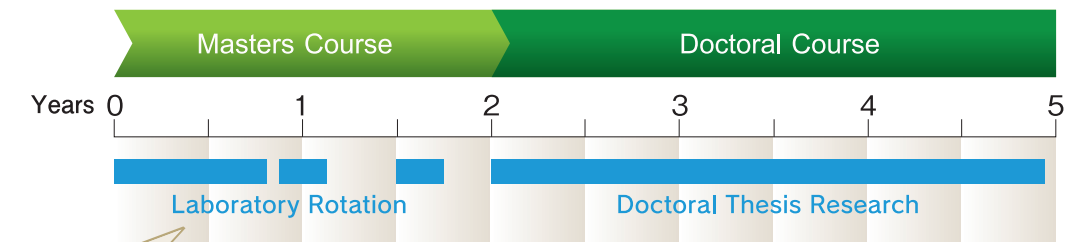
The MCU guidance system is supported by a group of professional personnel. The system is primarily composed of mentor (senior researcher: program leader), tutor (junior researcher: program assistant), overseas mentor and technical mentor (overseas internship and domestic practice school supervisors).



Degree Highlight (5)

Laboratory Rotation

The laboratory rotation system enables students to work in three different research environments for approximately three months at each location. Unlike the conventional master's program, students are encouraged to select multiple research fields and learn to approach problems from a diverse research perspective.



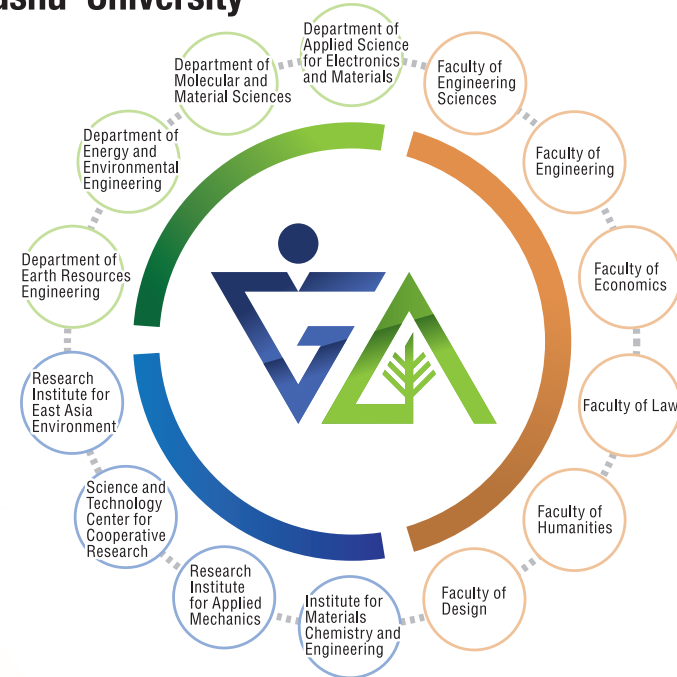
Laboratory Rotation
 Laboratory Rotation is another essential part of the program, which helps students to probe and understand their research interest and ultimately decides their thesis advisor.



Partner Organizations

The three departments (Applied Science for Electronics and Materials, Molecular and Material Sciences, and Advanced Energy Engineering Science) from the Interdisciplinary Graduate School of Engineering Sciences and the Department of Engineering Sciences and the Department of Earth Resources Engineering form the Graduate School of Engineering are the four pillars of this program, which partner with research institutions within Kyushu University, as well as private sectors, local governments, and academic institutions overseas. Moreover, we have an extensive partnership network with six collaborative institutions overseas and thirty collaborative institutions in the Asia/Oceania region, which is a significant characteristic of our program.

Kyushu University



Government-Industry-Academia Partnerships



Korea

- Seoul National Univ.
- Pohang Univ. of Sci. and Tech.
- Sejong Univ.
- Pusan National Univ.

Mongolia

- Mongolian Academy of Sciences
- Mongolian Univ. of Science and Technology

China

- Peking Univ.
- Tsinghua Univ.
- Shanghai Jiaotong Univ.
- The Chinese Academy of Sciences

Taiwan

- National Taiwan Univ.

Thailand

- Mahidol Univ.
- Suranaree Univ. of Tech.
- Chulalongkorn Univ.

Vietnam

- Hanoi University of Science and Technology(HUST)

Bangladesh

- University of Dhaka

India

- Indian Inst. of Tech.
- Central Electrochemical Research Inst.
- National Environmental Engineering Research Inst.

Philippines

- Univ. of the Philippines

Malaysia

- Malaysia-Japan Intl. Inst. of Tech.
- Univ. Teknologi Malaysia

Singapore

- National University of Singapore

Indonesia

- Institute Teknologi Bandung
- Gadjah Mada University

Australia

- The Australian National Univ.
- Monash Univ.
- Curtin University of Technology
- The University of Queensland
- The University of New South Wales
- Commonwealth Scientific and Industrial Research Organization



Program Personnel



Program Director

Hideharu Nakashima

Professor, Department of Molecular and Material Sciences
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Structural Materials Science

Research: High-temperature deformation mechanism of crystalline materials; Grain boundary structure in crystalline materials and their mechanical properties; Crystal orientation analysis and applications for structural materials

E-mail: nakashima.hideharu.792@m.kyushu-u.ac.jp

Home Page: http://www.mm.kyushu-u.ac.jp/lab_05/index.html



Program Coordinator

Akira Harata

Professor, Department of Molecular and Material Sciences
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Analytical Chemistry

Research: Ultra-high sensitivity environmental molecular measurement; Development of new spectroscopic measurement methods; Single particle detection; Dynamic behaviors of solvent molecules including liquid molecules; Substance, structure, and orientation of molecules in aqueous media, on the surface and at the interface

E-mail: harata@mm.kyushu-u.ac.jp

Home Page: http://www.mm.kyushu-u.ac.jp/lab_07/index_e.html



Program Vice-Cordinator

Jun Tanimoto

Professor, Department of Energy and Environmental Engineering
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Human, Environmental, and Societal Systems

Research: Human, environmental, and societal systems; Statistical physics; Evolutionary game theory; Statistical physics; Complex sciences; Literary composition, critiques, as well as painting

E-mail: tanimoto@cm.kyushu-u.ac.jp

Home Page: <http://ktlabo.cm.kyushu-u.ac.jp/e/index.html>



Program Vice-Cordinator

Jun-ichiro Hayashi

Professor, Department of Applied Science for Electronics and Materials
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Chemical and Reaction Engineering

Research: Simulation of contribution of multi-components complex molecular-level reactions and reaction design; Heatchemical reaction development for revolutionary carbon resource conversion and the realization of co-production; Meso- and micro-pores material solidification; Development of resource conversion methods for using polymer series gaps as reactionary sites; Development of radical-driven carbon-accelerating gas method; Hydrocarbon modification and carbon material synthesis through Chemical Vapor Deposition and Chemical Vapor Infiltration

E-mail: junichiro_hayashi@cm.kyushu-u.ac.jp

Home Page: http://www.cm.kyushu-u.ac.jp/hayashi/kn/index_en.html



Program Vice-Cordinator

Keiko Sasaki

Professor, Department of Earth Resources Engineering
Graduate School of Engineering, Kyushu University

Specialization: Environmental Remediation

Research: Remediation of groundwater and soil pollution; Biomineralization; Environmental materials

E-mail: keikos@mine.kyushu-u.ac.jp

Home Page: http://process.mine.kyushu-u.ac.jp/eng/index_eng.html



Kiichi Hamamoto

Professor, Department of Applied Science for Electronics and Materials
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Optoelectronics

Research: Research regarding ubiquitous optical sensing using optical waveguide gas cells; Active MMI dual-stabilizing laser accumulated memory components for optical RAM; Highoutput SLED from active MMI; Research regarding single-wavelength active MMI laser

E-mail: hamamoto@asem.kyushu-u.ac.jp

Home Page: <http://www.asem.kyushu-u.ac.jp/ep/ep02/eng/index.html>



Minoru Nishida

Professor, Department of Applied Science for Electronics and Materials
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Crystal Structure Engineering

Research: Microstructural analysis in phase transformation of crystalline materials; Development of functional materials using phase transformation; Mechanical properties and applications of shape memory alloys

E-mail: nishida@asem.kyushu-u.ac.jp

Home Page: <http://www.asem.kyushu-u.ac.jp/of/of01/page40/index.html>



Michitaka Ohtaki

Professor, Department of Applied Science for Electronics and Materials
Interdisciplinary Graduate School of Engineering Sciences

Specialization: Inorganic Material Chemistry, and Industrial Physics and Chemistry

Research: Energy-saving and environmentally-compatible oxide thermoelectric conversion material; Unused waste heat energy consuming thermoelectric device; Invention of uniform low-dimensional quantum structure semiconductor; New physical property manifested by nanostructure of single nm level; Light and energy converter material

E-mail: ohtaki@mm.kyushu-u.ac.jp

Home Page: http://www.mm.kyushu-u.ac.jp/lab_02/



Seong-Ho Yoon

Professor, Department of Applied Science for Electronics and Materials
Interdisciplinary Graduate School of Engineering Sciences

Specialization: Materials Engineering and Carbonic Materials

Research: Carbonic resource shift; Hydrogen production; Reactionary engineering related to carbonic materials production; Research for the production of environmental catalysts using carbon nano-fibers; Deep removal of heavy oil; Research on nitrogen and metals removal

E-mail: yoon@cm.kyushu-u.ac.jp

Home Page: <http://carbon.cm.kyushu-u.ac.jp/index-en.htm>



Hiroshi Nakashima

Professor, Department of Applied Science for Electronics and Materials
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Semiconductor Device Engineering

Research: Elemental research and development for the realization of high-performance Ge-CMOS; Elemental research and development for the realization of onboard high-performance power devices; Crystalline evaluation of thin semiconductor films on dielectric film

E-mail: nakasima@astec.kyushu-u.ac.jp

Home Page: <http://astec.kyushu-u.ac.jp/nakasima/english.htm>



Hirotsugu Kikuchi

Professor, Department of Applied Science for Electronics and Materials
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Functional Molecular Engineering

Research: Construction of fusion materials using advanced mechanisms of organic molecules; Substance and understanding of frustrated liquid crystals; New model investigation; Applications for device materials

E-mail: kikuchi@cm.kyushu-u.ac.jp

Home Page: <http://kikuchi-lab.cm.kyushu-u.ac.jp/eng/index.html>



Kungen Tei

Associate Professor, Department of Applied Science for Electronics and Materials
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Plasma Materials Engineering, Nonorganic Materials and Physics

Research: Materials analysis and production of dielectric film and semiconductor film for electric devices; Vapor phase synthesis of diamond, nano-carbon, nitrous-boron, and siliconcarbide films; Investigation of reactive plasma through mass spectrometry, probe methods, and optical methods

E-mail: tei@asem.kyushu-u.ac.jp

Home Page: http://www.asem.kyushu-u.ac.jp/ep/ep02/jp/electronics_group/



Kyushu University Program for Leading Graduate Schools
Advanced Graduate Program in **Green Asia**
Global Strategy for



Shigeto Okada

Professor, Department of Applied Science for Electronics and Materials
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Non-organic and Electrical Chemistry
Research: Next-gen electric storage systems and electric storage materials with low environmental burden; Intercalation reactions; Lithium batteries; Positive electrode active materials; "Rare metal free"

E-mail: s-okada@cm.kyushu-u.ac.jp
Home Page: <http://www.cm.kyushu-u.ac.jp/dv07/dv07e.html>



Hiroki Ago

Associate Professor, Department of Applied Science for Electronics and Materials
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Materials Engineering
Research: Graphene; carbon nano-tubes; nano-electronics; crystal synthesis; surface science and selforganization

E-mail: ago@cm.kyushu-u.ac.jp
Home Page: http://nano.cm.kyushu-u.ac.jp/ago/index_ago_e.html

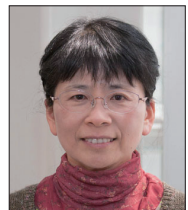


Seigi Mizuno

Professor, Department of Molecular and Material Sciences
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Surface Science
Research: Structural analysis of solid surfaces using low-energy electron diffraction and scanning tunneling microscopy; Growth of surface new materials; Fabrication techniques for atomically sharpened tips

E-mail: mizuno.seigi@kyudai.jp
Home Page: http://www.mm.kyushu-u.ac.jp/lab_01/surface/home/surfaceE.html



Yuriko Aoki

Professor, Department of Molecular and Material Sciences
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Quantum Theoretical Chemistry
Research: Development of highly-effective calculation method of the electronic state of macromolecules and solids; quantum chemistry for the material design of magnetism; conductivity and NLO properties; development of quantitative analysis method of stereoelectronic effect; theoretical chemistry on DNA and proteins

E-mail: aoki.yuriko.397@m.kyushu-u.ac.jp
Home Page: http://aoki.cube.kyushu-u.ac.jp/index_top-e.html

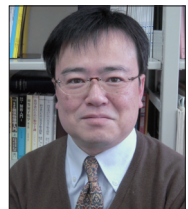


Hideo Nagashima

Professor, Department of Molecular and Material Sciences
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Organic and Polymer Synthesis chemistry
Research: Environmental harmonic chemistry; development of process use high efficiency catalyst; Organic metal compound; Carbon-metal bonding; Synthesis and analysis of dinuclear complex

E-mail: nagasima@cm.kyushu-u.ac.jp
Home Page: <http://www.cm.kyushu-u.ac.jp/dv04/english.html>

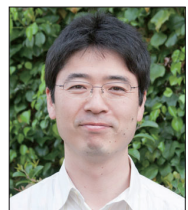


Hiroshige Matsumoto

Professor, Department of Molecular and Material Sciences
International Institute for Carbon-Neutral Energy Research

Specialization: Solid State Ionic Engineering
Research: Ion conductive solid material; Development and applied research on functional material that especially employs proton conductive solid material

E-mail: matsumoto@i2cner.kyushu-u.ac.jp
Home Page: http://www.inamori-frontier.kyushu-u.ac.jp/environment_e/



Satoshi Hata

Associate Professor, Department of Molecular and Material Sciences
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Metal Materials Engineering
Research: Microscopic analysis on structural material and superconducting material by transmission electron microscopy; Electron tomography

E-mail: hata.satoshi.207@m.kyushu-u.ac.jp
Home Page: http://www.mm.kyushu-u.ac.jp/lab_05/en/topE.html



Shigeru Koyama

Professor, Department of Energy and Environmental Engineering
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Mechanical Engineering and Thermal Engineering
Research: Development of next generation type energy conversion system; Modification of heat pump system; Heat transfer property of carbon dioxide in supercritical and sub-critical region

E-mail: koyama@cm.kyushu-u.ac.jp
Home Page: http://www.cm.kyushu-u.ac.jp/dv10/Koyama_lab/index_e.html



Kazuhide Ito

Associate Professor, Department of Energy and Environmental Engineering
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Environmental Engineering and Public Health Engineering
Research: Indoor environmental physics; indoor environment chemistry; indoor environment microbiology; public health engineering

E-mail: ito@kyudai.jp
Home Page: <http://www.phe-kyudai.jp/>



Aya Hagishima

Associate Professor, Department of Energy and Environmental Engineering
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

Specialization: Urban Environmental Engineering
Research: Numerical analysis by urban canopy model, Heat island phenomenon, Ecological environmental mitigation effect, Investigation of the exchange process of heat and molecule in the atmosphere of one city, Microatmosphere observation in urban space, Wind tunnel model experiment related to the air flow pattern in urban space, Evaluation methods of sustainable designs in architecture and cities

E-mail: ayahagishima@kyudai.jp
Home Page: <http://ktlabo.cm.kyushu-u.ac.jp/e/index.htm>



Tsuyoshi Hirajima

Professor, Department of Earth Resources Engineering
Graduate School of Engineering, Kyushu University

Specialization: Resource Disposal Engineering
Research: Advanced carbon resource disposal and recycling; Reuse of hollow spherical particles from coal emissions; Changing wood biomass and unused, low-quality carbonized hydrogen resources into fuel; Complete recycling of concrete emissions through pyro-processing method; Development of wastewater selection processes

E-mail: hirajima@mine.kyushu-u.ac.jp
Home Page: http://process.mine.kyushu-u.ac.jp/eng/index_eng.html



Koichiro Watanabe

Professor, Department of Earth Resources Engineering
Graduate School of Engineering, Kyushu University

Specialization: Resource Geology
Research: Construction of geographical databases; Surveys for geological damage from earthquakes; Environmental impact of resource development

E-mail: wat@mine.kyushu-u.ac.jp
Home Page: http://xrd.mine.kyushu-u.ac.jp/index_e.html



Naoko Okibe

Associate Professor, Department of Earth Resources Engineering
Graduate School of Engineering, Kyushu University

Specialization: Resource Disposal Engineering and Environmental Remediation Engineering
Research: Isolation and use of micro-organisms for biomineralization; Development of bio-remediation technology using eosinophilic bacteria; Immobilization of arsenic using thermophilic iron-oxide bacteria

E-mail: okibe@mine.kyushu-u.ac.jp
Home Page: http://process.mine.kyushu-u.ac.jp/eng/index_eng.html



Yuji Ohya

Professor, Wind Engineering, Department of Aeronautics and Astronautics
Graduate School of Engineering

Specialization: Wind Engineering
Research: Research and development of sea-based floating compound wind farms; Research and development of small high-efficiency hydroelectric systems using lens watermills; Research on effective utilization of wind energy; Research on local wind condition prediction methods

E-mail: ohya@riam.kyushu-u.ac.jp
Home Page: http://www.riam.kyushu-u.ac.jp/windeng/en_index.php



Kyushu University Program for Leading Graduate Schools
Advanced Graduate Program in Global Strategy for **Green Asia**



Yuji Tsuburaya

Professor, Department of Philosophy
Graduate School of Humanities, Kyushu University

Specialization: Environmental Theory and Scientific Philosophy

Research: Contemporary and near-modern Western philosophy; Contemporary and near-modern German and French philosophy

E-mail: tsuburaya.yuji.527@m.kyushu-u.ac.jp

Home Page: <http://hyoka.ofc.kyushu-u.ac.jp/search/details/K000046/index.html>



Toshiyuki Fujita

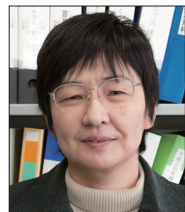
Professor, Department of Economic Engineering
Graduate School of Economics, Kyushu University

Specialization: Environmental Economics

Research: Environmental economics based on microeconomic theory; Game Theory analysis of global environmental problems; Effects of uncertainty and irreversibility in environmental policy; Self-restriction in international environmental conventions; Game Theory

E-mail: tfujita@econ.kyushu-u.ac.jp

Home Page: <http://hyoka.ofc.kyushu-u.ac.jp/search/details/K000641/english.html>



Kayoko Kondo

Associate Professor, Department of Design
Graduate School of Design, Kyushu University

Specialization: Asian Regional Environmental Policy

Research: Regional development through biomass; Environmental policy in the countries of Asia; Civil environmental activism; Consumer activism research regarding sustainable living environments

E-mail: kondo.kayoko.162@m.kyushu-u.ac.jp

Home Page: <http://kondolab.exblog.jp/>



Yukihiko Shimatani

Professor, Department of Urban and Environmental Engineering
Graduate School of Engineering, Kyushu University

Specialization: River and Watershed Environmental Engineering

Research: Landscape engineering research regarding water abundance and cleanliness in the waterspace of rivers, watersheds, etc.

Home Page: <https://sites.google.com/site/shimataniyukihiko/>

Green Asia Education Center

The "Green Asia Education Center" is established as an educational research facility, which conducts the "Advanced Graduate Program in Global Strategy for Green Asia". The task of this center is accomplished through the activities of following committees:

The committees of the Green Asia Education Center

Steering Committee

The Steering Committee is charged with making decisions concerning the operation of this program. It consists of a chair, vice-chairs, professors and associate professors from within the Green Asia Education Center as well as professors who are elected from each of the participating graduate schools in the program. Based upon the various reports of the committee by its members, problems will be addressed and improvements, and be made to the management and operation of the program. Specific directions will then be passed forward to the relevant sub-committees.

International Advisory Board

Members from the Steering Committee, International Core Cooperating Organizations and program director will be assembled. Based upon the various progress reports, the board will give advice to the center regarding the contents, management and system of the program with a view to global leadership.

Planning and Coalition Committee

Responsibilities include the management of student activities both on and off campus, management of the Practice School (Long and short term internships in domestic companies, overseas internships at partner institutions and the Green Asia seminars). Under the direction of the Steering Committee, it also supports a plan to manage the annual "Green Asia Global Strategy Meeting" as well as the student meetings in the "International Exercise" classes. Furthermore, it is also charged with planning the student activities and colloquia.

Publicity and Publication Committee

This committee oversees public relations as well as other publication matters of this program, under the instructions of the Steering Committee it publishes;

- Program brochures
- Public relations magazines
- Journals which detail the results of the Green Asia Forum and students thesis
- Flyers of the Green Asia Global Strategy Meeting
- Conference proceedings

Academic Affairs Committee

The academic affairs of the "Advanced Graduate Program in Global Strategy for Green Asia" program will be determined by this committee. Responsibilities include setting the Entrance Examination, Qualifying Examination, the guidelines for the Research Review & Proposal, Interim Report and Academic Dissertation. It also formulates and improves the course guidelines and system of credit recognition regarding taking classes, off campus activities and internships and fundamental research (I~III the research based on the laboratory rotation in the Masters course).

Personnel Affairs Committee

The personnel affairs related to the "Advanced Graduate Program in Global Strategy for Green Asia" will be managed by this committee. Based upon the direction of the Steering Committee, it will advertise for vacant positions, undertake all paperwork regarding staff employment and run interviews for potential candidates.

Budget Committee

Following the direction of the Steering Committee, it takes necessary measures for proper execution of expenses of the "Advanced Graduate Program in Global Strategy for Green Asia". During each fiscal year, after the awarding of a grant, a breakdown of expenses will be made with reference to the original budget plan in cooperation with each of the other committees. It controls the expenses with the approval of Steering Committee.



Kyushu University Program for Leading Graduate Schools
Advanced Graduate Program in **Green Asia**
Global Strategy for **Green Asia**

Green Asia Education Center, Kyushu University



Yasuyuki Nakao

Research Professor, Green Asia Education Center, Kyushu University
Ph.D. in Engineering
Specialization: Nuclear Science, Fusion Plasma Science
Research: Structure of the universe and relations with the energy, Strategy for Green Asia, Educational program for science and engineering leaders
E-mail : nakao@nucl.kyushu-u.ac.jp Home Page : <http://hyoka.ofc.kyushu-u.ac.jp/search/details/K001245/english.html>



Bidyut Baran Saha

Professor, Green Asia Education Center, Kyushu University
Ph.D. in Engineering
Specialization: Thermal Engineering, Heat Transfer Engineering, Engineering of Refrigerating and Air-conditioning
Research: Thermally powered adsorption cooling and desalination systems; Energy efficiency assessment
E-mail : saha.baran.bidyut.213@m.kyushu-u.ac.jp Home Page : <http://sess.mech.kyushu-u.ac.jp/index.html>



Hiroshi Furuno

Associate Professor, Green Asia Education Center, Kyushu University
Ph.D. in Science
Specialization: Organic Chemistry
Research: Fine organic synthesis; Asymmetric catalysis; Rare earth metal complex catalyst; Environmentally-friendly synthetic method; Reusable catalyst; Self-organized polymeric complex catalyst; Ionic liquid as reaction media; Chirality sensing and probing
E-mail : furuno.hiroshi.770@m.kyushu-u.ac.jp Home Page : <http://hyoka.ofc.kyushu-u.ac.jp/search/details/K000790/english.html>



Yuuichi Orimoto

Assistant Professor, Green Asia Education Center, Kyushu University
Ph.D. in Science
Specialization: Quantum Chemistry, Theoretical Chemistry
Research: Development of highly-efficient calculation method for the electronic structure of huge bio-molecules; Development of quantitative analysis method of intra-molecular orbital interactions (stereoelectronic effects etc.); Quantum chemistry based design of conductive, magnetic, and non-linear optical organic materials
E-mail : orimotoyuuichi.888@m.kyushu-u.ac.jp Home Page : http://aoki.cube.kyushu-u.ac.jp/index_top-e.html



Andrew Spring

Assistant Professor, Green Asia Education Center, Kyushu University
Ph.D. in Materials Chemistry
Specialization: Polymer Chemistry and non-Linear Optics
Research: Design and preparation of high Tg poly(norbornene) derivatives by Ring Opening Metathesis Polymerization (ROMP) for use as electro-optic (EO) polymer hosts for high molecular hyperpolarizability chromophores.
E-mail : Spring@cm.kyushu-u.ac.jp Home Page : http://www.cm.kyushu-u.ac.jp/dv15/Yokoyama_Labo_Eng.html



Hajime Miki

Assistant Professor, Green Asia Education Center, Kyushu University
Ph.D. in Engineering
Specialization: Mineral Processing Engineering
Research: Leaching and flotation behavior of sulfide mineral with electrochemical method
E-mail : miki@mine.kyushu-u.ac.jp Home Page : http://process.mine.kyushu-u.ac.jp/eng/index_eng.html



Keisuke Yamamoto

Assistant Professor, Green Asia Education Center, Kyushu University
Ph.D. in Engineering
Specialization: Semiconductor Device Engineering
Research: Development of elementary process technology for realizing high-performance Ge-CMOS, SiC power device. Electrical evaluation of semiconductor structures.
E-mail : yamamoto.keisuke.380@m.kyushu-u.ac.jp Home Page : <http://astec.kyushu-u.ac.jp/nakasima/english.htm>



Takashi Watanabe

Assistant Professor, Green Asia Education Center, Kyushu University
Ph.D. in Literature
Specialization: Modern western philosophy
Research: Environmental philosophy concerning scientific uncertainty and ignorance; Philosophy of science
E-mail : watanabe.takashi.280@m.kyushu-u.ac.jp Home Page : <http://hyoka.ofc.kyushu-u.ac.jp/search/details/K004918/english.html>



Tomoaki Watanabe

Assistant Professor, Green Asia Education Center, Kyushu University
Master in Law
Specialization: Comparative Environmental Politics, International Relations
Research: International Environmental Politics, Basel Convention on Transboundary Movement of Hazardous Waste, Global Governance on Environmental Standard
E-mail : watanabe.tomoaki.384@m.kyushu-u.ac.jp Home Page : <http://hyoka.ofc.kyushu-u.ac.jp/search/details/K002708/english.html>



Naoko Mae

Assistant Professor, Green Asia Education Center
Ph.D. in Earth Environmental Studies
Specialization: Sociology, Environmental System
Research: Development of methods for energy and environmental assessment, Design of community for low carbon recycle-based society, Theory of internet community
E-mail : mae.naoko.065@m.kyushu-u.ac.jp Home Page : <http://hyoka.ofc.kyushu-u.ac.jp/search/details/K005365/english.html>

(listed in Alphabetical order of nations)

Overseas Mentors

Prof. Md.Sekul Islam

Dean & Professor, Faculty of Engineering and Technology
University of Dhaka, Bangladesh

Prof. Nilesh J. Vasa

Professor, Department of Engineering Design
Indian Institute of Technology Madras, India

Prof. Rudy Sayoga Gautama

Professor, Faculty of Mining and Petroleum Engineering
Institut Teknologi Bandung, Indonesia

Prof. Megat Johari Megat Mohd Noor

Professor, Malaysia Japan International Institute of Technology (MJIT)
Universiti Teknologi Malaysia, Malaysia

Prof. Kim Choon Ng

Professor, Faculty of Engineering
National University of Singapore, Singapore

Prof. Taweechai Amornsakchai

Associate Professor, Faculty of Science
Mahidol University, Thailand

(listed in Alphabetical order of institutions)

Technical Mentors

Mr. Shinya Okada

Senior Executive Officer, General Manager of Shiga Plant
Deputy General Manager of Airconditioning Manufacturing Division
Daikin Industries, Ltd.

Mr. Takahiro Tsuneyoshi

Director, Strategic Comprehensive Special Zone Promotion Division
Fukuoka Prefectural Government

Dr. Tatsuro Harada

Professor, Research and Education Center of Carbon Resources,
Kyushu University

Dr. Manabu Takahashi

Fellow, General Manager, Head of Sheet & Coil Laboratory, Steel Research Laboratories
Technical Research & Development Bureau
Nippon Steel & Sumitomo Metal Corporation

Dr. Yoshiaki Mori

Deputy General Manager of Planning & Administration Department, Technology Division
Sumitomo Metal Mining Co., Ltd.

Dr. Yasushi Nakamoto

Administration & Planning Dept.
Corporate Research & Development
Ube Industries, Ltd.

Access



Ito Campus

[Route 1]
Fukuoka Airport → (Subway Kuko Line) → [Meinohama Station → (Transfer to JR Chikuhui Line)] → Kyudai-Gakkentoshi Station → (Transfer to Showa Bus) → Ito Campus

* Take the Fukuoka City Subway going toward "Meinohama" or "Karatsu" from Hakata Station.
Take the JR Chikuhui Line going toward "Karatsu" at Meinohama Station, and get off at Kyudai-Gakkentoshi Station.

[Route 2]

Fukuoka Airport → (Subway Kuko Line) → Hakata Station or Tenjin Station → (Transfer to Nishitetsu Bus) → Ito Campus

Chikushi Campus

[Route 1]
Fukuoka Airport → (Subway Kuko Line) → Hakata Station → (Transfer to JR Kagoshima Line) → Onojo Station → Chikushi Campus

[Route 2]

Fukuoka Airport → (Subway Kuko Line) → Tenjin Station → (Transfer to Nishitetsu Tenjin-Omuta Line. Nishitetsu-Fukuoka Station) → Shirakibaru Station → Chikushi Campus